DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES - VOLUME III – INITIAL STUDY

CARPINTERIA, SANTA BARBARA COUNTY

Project No. 2002-5211

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OCTOBER 2021

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1.0 ENVIRONMENTAL ANALYSIS

The following initial study provides an assessment of potential environmental impacts associated with the proposed decommissioning and remediation of the Carpinteria Oil and Gas Plant. A detailed Project Description has been provided in Volume I of this submission, and supporting technical appendices are included within Volume II of this submission. This preliminary Initial Study (Volume III) is intended to assist the City of Carpinteria (City) in reviewing the potential environmental impacts of the proposed Project under the California Environmental Quality Act (CEQA). As outlined within the City's environmental review guidelines, City of Carpinteria thresholds of significance have been utilized to determine potential impacts in cases where thresholds have been provided, and CEQA Guidelines Appendix G have been utilized in areas where there are no thresholds provided. Based on this preliminary assessment, resource areas that have the potential to be affected by the proposed equipment removal and remediation activities include the following:

X	Aesthetics	X	Land Use and Planning
	Agricultural Resources		Mineral Resources
X	Air Quality	X	Noise
X	Biological Resources		Population and Housing
X	Cultural Resources		Public Services
	Energy		Recreation
X	Geology/Soils	X	Transportation
X	Greenhouse Gas Emissions	X	Tribal Cultural Resources
X	Hazardous and Hazardous Materials	X	Utilities and Service Systems
X	Hydrology and Water Quality		Wildfire

Potential impacts associated with the Project are addressed within Sections 1.2.1 through 1.2.21. All identified impacts would be reduced to less than significant levels with implementation of applicant proposed mitigation measures. A long-term beneficial impact to aesthetics would result from removal of surface equipment at the Onshore Facility and pipelines from the beach crossing area.

1.1 EXISTING ENVIRONMENTAL SETTING

1.1.1 Regional Setting

As noted within Volume I (Project Description), the Project site is located along a stretch of coastal bluffs in the eastern portion of the City of Carpinteria (Figure 1.1-1) in Santa Barbara County, California. The City is bordered by the shoreline of the Santa Barbara Channel to the south and the steeply rising Santa Ynez Mountains to the north. Highway 101 and the Union Pacific Railroad pass through the City, which is located approximately halfway between the City of San Buenaventura to the east and the City of Santa Barbara to the west. Several streams transverse the City, including Carpinteria, Franklin, and Santa Monica Creeks. The City can be

described as a small, rural beach town. Scenic mountains, hills, coastline, and natural habitat areas provide abundant visual and recreational amenities and fertile soils allow productive agriculture.

For the purposes of this analysis, the Project site includes the Onshore Processing Facility and bluff area, the nearshore beach crossing corridors, and offshore pipeline removal areas which extend to the three-mile State waters limit (Figure 1.1-2).

1.1.2 Project Site

The Project site encompasses seven parcels (APN Nos. 001-170-003, 001-170-004, 001-170-014, 001-170-021, 001-170-022, and 001-170-023), that total approximately 64.28 acres. The Project site is located on a relatively flat coastal terrace, and slopes slightly downward to the south and west. Coastal bluffs of between 35 and 50 feet in height descend from the terrace to a narrow sand beach (Tar Pits Park at Carpinteria State Beach) and the Pacific Ocean.

Access to the Project site is from U.S. Highway 101 to Bailard Avenue and west onto Carpinteria Avenue to Dump Road. The site is bisected by Dump Road (a private, two-lane roadway) from west to east, and by the Union Pacific Railroad from north to south. The eastern portion of the Project site remains predominantly developed by oil and gas processing equipment, ancillary equipment, and other support facilities/buildings. A large above-ground tank (Tank 861) is the predominant feature onsite. The western portion of the site is primarily open space. The southern third of the site is open space along the bluffs, and two large parking areas utilized in support of the Casitas Pier operations.

The nearshore beach area along Tar Pits Park/Carpinteria State Beach provides public recreational access. A known harbor seal rookery is located approximately 70 feet to the east of Casitas Pier. The City of Carpinteria closes public access to the beach from December 1st to May 31st per ordinance 12.24.090 to avoid human interference with harbor seal pupping at the rookery. However, during the open season, the beach is accessible to the public at low tides from both the west and east. The pipelines and utilities that cross the beach in this area are in some cases above ground, on risers, or are seasonally exposed to view. Offshore water depths range up to 148 feet out to Federal waters.

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

1.1.2.1 Status of Oil and Gas Activities Onsite

Currently, the Onshore Processing Facility is supporting marine service vessel operations and natural gas supplied to Platforms Grace and Gail. A number of other offshore pipelines that enter the site are inactive and have been previously idled. Prior to equipment removal, all structures/equipment will be inspected to confirm they have been properly vented, drained, and cleaned of any residual hydrocarbons.

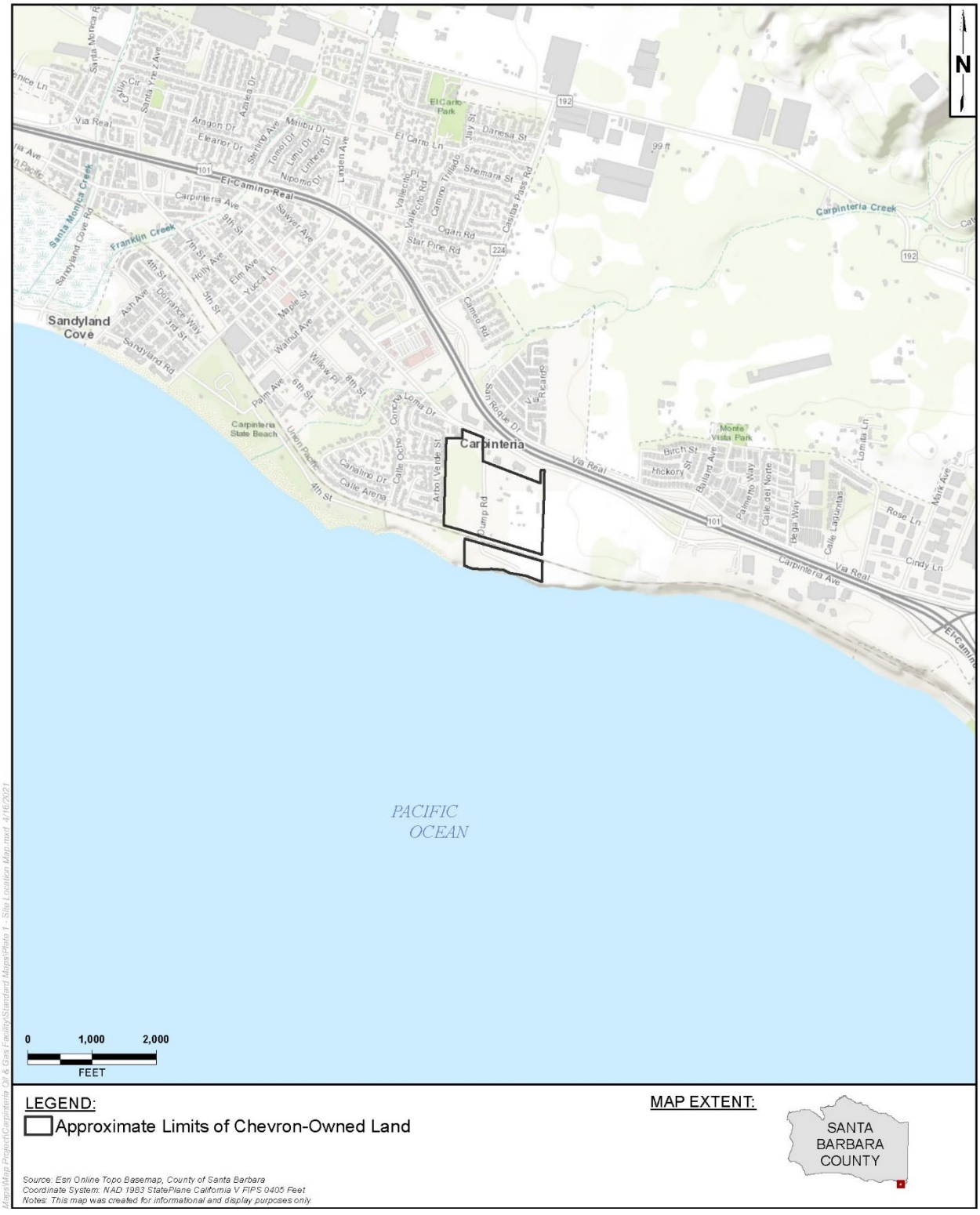


Figure 1.1-1. Site Location Map

Figure 1.1-2. Project Areas of Disturbance

1.2 POTENTIAL IMPACTS OF FACILITY REMOVAL AND REMEDIATION

A summary of potential impacts resulting from the proposed equipment removal and remediation activities are provided in Sections 1.2.1 through 1.2.21 below. Technical studies supporting this analysis are included within Volume II. Please refer to Appendix J (Policy Consistency Analysis) in Volume II (Technical Appendices) for a discussion of the Project's consistency with State and local policies.

1.2.1 Aesthetics

AESTHETICS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?				X
c) In non-urban areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?		X		

1.2.1.1 Setting

As described in the City's General Plan/Coastal Land Use Plan, the City of Carpinteria is afforded views of the Santa Barbara Channel and Santa Ynez Mountains, including outstanding panoramic views of the Channel Islands. Other features contributing to the City's visual environment include marshes, creeks, bluffs, beaches, parks and agriculture. As identified in the City's General Plan and Local Coastal Plan (2003), the Carpinteria Bluffs are considered an important viewing area, including trails along the bluffs. In addition, broad unobstructed views from the nearest public street to the ocean (including Linden Avenue, Bailard Avenue, Carpinteria Avenue and U.S. Highway 101) are considered important visual resources by the City. Preservation of these views is important to the City to establish community identity and provide visual access to landforms, urban forms and environments that are familiar to local residents and unique to the City.

The onshore Project site is located along a stretch of coastal bluffs in the eastern portion of the City of Carpinteria, California between U.S. Highway 101 and the Pacific Ocean. The offshore Project site is located in the Santa Barbara Channel. Dump Road bisects the western portion of the onshore Project site from the eastern portion. Additionally, the Union Pacific Railroad tracks and easement bisects the southern portion of the Project site along the bluffs from the northern portion. The onshore facilities north of the Union Pacific Railroad easement contain an oil and gas processing facility; including buildings, piping, and tanks associated with former operations and current leased uses.

The western portion of the Chevron property (Buffer Zone) is primarily open space (previously restored with vegetation) and vacant. Several prominent tall windrows and clusters (primarily consisting of blue gum eucalyptus trees) are present along the western and eastern boundaries and interior of the Project site. Representative photographs depicting the Project site are included in Section 4 of the Project Description (Demolition and Remediation Project Areas).

Adjacent land uses include City of Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north; the City's Tar Pits Park, the Casitas Pier, and Pacific Ocean to the south; low-density single-family residential homes to the west; and a golf driving range, open space, and agricultural development to the east.

Public views of the Project site are available from the existing Carpinteria Coastal Vista Trail system parallel and south of the Union Pacific Railroad easement, Amtrak passengers on the railroad corridor, from some portions of Carpinteria Avenue, from Tar Pits Park Beach/Carpinteria State Beach, and from immediately offshore. U.S. Highway 101 has been designated by the State as an eligible scenic highway.

1.2.1.2 Environmental Thresholds

The City provides the following thresholds to determine the significance of impacts to aesthetics. The City's guidelines are based on the CEQA Guidelines Appendix G checklist, which provides criteria for determining the potential significance of visual impacts. A project is considered to have a significant effect on the environment if it would alter important visual resources, obstruct public views, remove significant amounts of vegetation, substantially alter the natural character of the landscape or involve extensive grading visible from public areas. Based on criteria contained in the City's and County's Guidelines, the proposed project would result in a significant visual impact if it would result in one or more of the following conditions:

Views. Projects that would impair public views from designated open space (public easements and right-of-way), roads, or parks to significant visual landmarks or scenic vistas (Pacific Ocean, downtown skyline, mountains, waterways) are considered to have a significant aesthetics impact. To meet this significance threshold, one or more of the follow conditions must apply:

- The project would substantially impair a view through a designated public view corridor as shown in an adopted community plan, the General Plan or the Coastal Plan. Minor view blockages would not be considered to meet this condition. In order to determine whether this condition has been met, consider the level of effort required by the viewer to retain the view.
- The project would cause "substantial" view impairment of a public resource (such as the ocean) that is considered significant by the applicable community plan.
- The project exceeds the allowed height or bulk regulations, and this excess caused unnecessary view impairment.
- The project would have an architectural style or use building materials in stark contrast to adjacent development, where the adjacent development follows a single or common architectural theme.

- The project would result in the physical loss or degradation of a community identification symbol or landmark (e.g., a stand of trees, coastal bluff, historic landmark) which is identified in the General Plan, applicable community plan or Local Coastal Program.
- The project is located in a highly visible area (e.g., adjacent to an interstate highway) and would strongly contrast with the surrounding environment through excessive bulk, signage, or architectural projections.
- The project would have a cumulative effect by opening up a new area for development, which will ultimately cause "extensive" view impairment. View impairment would be considered "extensive" when the overall scenic quality of a resource is changes, for example, from an essentially natural view to a largely man-made appearance.

Neighborhood Character/Architecture. Projects that severely contrast with the surrounding neighborhood character are considered to have a significant aesthetic impact. To meet this significance threshold, one or more of the following conditions must apply:

- The project exceeds the allowed height or bulk regulations and existing patterns of development in the surrounding area by a significant margin.
- The project would have an architectural style or use building materials in stark contrast to adjacent development, where the adjacent development follows a single or common architectural theme.
- The project would result in the physical loss or degradation of a community identification symbol or landmark (e.g., a stand of trees, coastal bluff, historic landmark) which is identified in the General Plan, applicable community plan or Local Coastal Program.
- The project is located in a highly visible area (e.g., adjacent to an interstate highway) and would strongly contrast with the surrounding environment through excessive bulk, signage, or architectural projections.
- The project would have a cumulative effect by opening up a new area for development or changing the overall character of the area (e.g., rural to urban, single-family to multi-family).

1.2.1.3 Impact Analysis

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

Less Than Significant

Views from the Carpinteria Bluffs and Carpinteria Avenue may be considered important scenic vistas in the Project area. No new structures would be constructed as part of the proposed Project; therefore, there would be no permanent degradation or obstruction of these scenic vistas or other public views.

The Project includes removal of approximately four percent of the trees on the Project site (62 of 1,500 present). Tree removal would be limited to the southeastern corner of the Main Plant Area and southern portion of the Chevron Pipeline Area, with 40 of the trees to be removed part

of the north-south oriented windrow along the eastern Project site boundary. This windrow is composed of two parallel rows of trees, with the outer row (eastern) unaffected by the Project. Therefore, the visual barrier along the eastern Project site boundary would be retained. The relatively small amount of tree removal proposed would not substantially degrade views of or from the Carpinteria Bluffs, or other public views of the Project site including the Carpinteria Coastal Vista Trail system, passengers on passing trains, Carpinteria Avenue, Tar Pits Park, Carpinteria State Beach, or recreational users immediately offshore.

Exposed soils, soil stockpiles and construction equipment would be visible intermittently over the three-year Project duration. During this time, public views may be temporarily adversely affected. However, most Project-related activities that may degrade public views (removal of structures and surface material, soil remediation) would be hidden by windrow trees or other vegetation, and public views would be focused on the ocean and adjacent open space areas (Carpinteria Bluffs, Tar Pits Park). Therefore, the potential temporary degradation of scenic vistas and other public views by Project-related activities would be less than significant.

During offshore pipeline removal operations, large work vessels or barges will be visible from onshore during offshore pipeline removal operations. Such vessel operations will result in a short-term intensification of offshore activities which may periodically impact coastal views. No long-term impacts will result from these activities. Therefore, the potential temporary degradation of scenic vistas and other public views by Project-related activities would be less than significant.

Section 30251 of the Coastal Act indicates that “the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be cited and designed to protect view to and along the ocean and scenic coastal areas, and where feasible, to restore and enhance visual quality in visually degraded areas”. One of the primary objectives of the Project is to remove all facilities from the Project site and return the site to natural contours. In accordance with Section 30251, once the above-ground structures have been removed from the Project site; a permanent beneficial impact to aesthetics would result.

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

No Impact

The Project site is visible from U.S. Highway 101 (eligible State scenic highway) however such views are limited by intervening trees. Proposed decommissioning operations will involve low profile equipment which will not be readily visible from moving vehicles. Therefore, less than significant impacts to public views from this roadway would occur. Impacts to other scenic resources are addressed under checklist items a) and c).

c) In non-urban areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant

The Project site is located along the bluffs within the City of Carpinteria. The Project site is currently zoned as Coastal Industry District (M-CD), and Recreation (REC), subject to site-

specific zoning provisions in City Ordinance No. 75 (May 12, 1969). The Project would remove existing equipment, buildings, tanks, and piping/infrastructure from the facility and return the Project areas to undeveloped conditions. Areas south of the Union Pacific Railroad easement would be restored to match existing native vegetation and open space conditions. However, during construction, the presence of construction equipment intermittently for 3 years to remove equipment and remediate the Project site would be visible at the onshore facility while working in open areas not shielded by existing vegetation or windrow trees or on taller facility components; or within areas south of the UPRR along the bluffs, at Tarpits Park, and offshore. During this time, decommissioning activities may have a temporary impact to aesthetics from the viewshed along U.S. Highway 101 and Carpinteria Avenue, to passengers on Amtrak, and to recreational users along the bluff trails, Tarpits Park, or vessels offshore. Following demolition, Project activities would not conflict with existing zoning and would improve the scenic quality of the Project site. A less than significant impact would result.

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

Less Than Significant with Mitigation

Onshore. Project work activities would be conducted predominantly during daytime hours, such that lighting would be limited to short periods during critical work activities. Intervening trees within the Buffer Zone would attenuate any lighting from the Project site such that nighttime views of the adjacent residential area (Concha Loma neighborhood) would not be substantially degraded. It is not anticipated that Project activities requiring lighting would be visible from Carpinteria Avenue or U.S. Highway 101 due to existing vegetation and fencing located on the northern boundary of the Project site that would block views of any lighting.

Beach/Nearshore. Some evening or nighttime operations will be required to take advantage of tidal and weather conditions and may include offshore lighting associated with safe vessel operations or portable light towers on the beach to facilitate safe working conditions. Therefore, beach and nearshore lighting may degrade nighttime views of the adjacent residential area (Concha Loma neighborhood). Potential short-term degradation of nighttime views may be significant unless mitigated.

1.2.1.4 Recommended Mitigation Measures

MM AES-1: Beach/Nearshore Night-Lighting Minimization. Project lighting in beach/nearshore work areas shall be as low an intensity as allowed by safety requirements and located, designed, and equipped to provide shielding and minimize lighting visible from residential areas. Plan Requirements/Timing: A beach/nearshore lighting plan shall be submitted to the City and approved prior to initiation of any beach or nearshore Project activities. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the site supervisor.

1.2.2 Agricultural and Forest Resources

AGRICULTURAL AND FOREST RESOURCES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
c) Conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non- agricultural use or conversion of forest land to non-forest use?				X

1.2.2.1 Setting

The Project site is located within an area that has been historically utilized for agricultural production and oil and gas development support activities. Historical agricultural production activities documented at the Project site from the 1920's through 1959 included dry farming, row crop production, orchards (fruit trees and nuts), and commercial flower production (plant nursery).

Currently, the Project site is not utilized or zoned for agricultural operations. The western portion of the Project site (west of Dump Road) is currently open space and would not be disturbed as part of the proposed Project. The eastern portion of the Project site is occupied by oil and gas processing facility equipment, buildings, tanks, and infrastructure. The area south of the Union Pacific Railroad is currently occupied by the Pier Parking Lot Area which is partially paved with asphalt and gravel base material, the Former Sandblast Area, and the Pipeline Bluff Crossing Area, which are both primarily open space.

According to the Soil Survey of Santa Barbara County, California, Coastal Part (Shipman, 1981) soils within the northern portion of the facility (approximately ½ way down Dump Road) are classified as GcA (Goleta fine sandy loam), and soils within the southern portion of the site to the bluff edge are XA (Xerorthents, cut and fill areas). Undisturbed soils along the bluffs are MeC (Milpitas-Positas fine sandy loams), and soils along the shoreline are associated with BE (Beaches). Goleta fine sandy loam is classified as prime farmland if irrigated. MeC soils are considered farmland of statewide importance. Xerorthents and Beaches are not prime farmland.

The California Department of Conservation (2018) classifies the Project site as Urban and Built-Up Land. The Project site does not contain and is not adjacent to any parcels enrolled in Williamson Act contracts. The nearest enrolled Williamson Act parcels are located north of U.S. Highway 101.

1.2.2.2 Environmental Thresholds

The City's CEQA Guidelines provide the following thresholds to determine the significance of impacts to agricultural resources. This threshold is based in part upon the State CEQA Guidelines Appendix G, the policies of the City's General Plan/Local Coastal Land Use Plan, and the "Criteria for Agricultural Preserves" adopted by the Santa Barbara County Board of Supervisors.

CEQA Section 15064 states that:

The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

The following general thresholds may apply to agricultural lands:

- Development proposed on any property five acres or greater in size with a Prime Agricultural Soils designation may represent a significant environmental impact.
- Development proposed on any property in an Agricultural Preserve would represent a significant environmental impact.
- Development proposed on any property which in the past five years has been in agricultural production and which is agriculturally zoned may represent a significant environmental impact.
- Development of 10 or more acre non-prime parcels may be significant due to historical use or surroundings (conversion may make adjacent agricultural land ripe for conversion).

The CEQA Guidelines, Appendix G states that a project will have a significant impact on the environment if it will:

- (a) Conflict with adopted environmental plans and goals of the community where it is located.
- (b) Convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land.

1.2.2.3 Impact Analysis

a) Would the project convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact

The Project site formerly supported agricultural activities and contains soils within the northern portion that may be suitable if irrigated. However, the Project site does not currently support farmland and has not been identified by the California Department of Conservation Farmland Mapping and Monitoring Program as containing Prime, Unique, Statewide Importance or other important farmland. Therefore, no conversion of farmland would occur.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

The Project site is not currently zoned for agricultural use and is not located within or adjacent to parcels enrolled in Williamson Act contracts. No impact would result.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact

The Project site is not currently zoned in support of forest lands or timberlands and is not located within or adjacent to forest land as defined in the PRC Sections noted above. No loss or conflicts to forest land would result.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

The Project site does not currently support forest land and Project implementation would not result in the conversion of forest land.

e) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact

The proposed Project would facilitate re-zoning and future change in land use but would not result in the conversion of farmland or forest land to other uses.

1.2.3 Air Quality

AIR QUALITY Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?				X

1.2.3.1 Setting

Climatological Setting. The Project area is characterized by cool winters and moderate summers typically 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 Carpinteria, where the maximum average monthly temperature is 76 degrees Fahrenheit (^{o}F) in August, and the minimum average monthly temperature is 46 ^{o}F in January. The average monthly maximum precipitation is 3.80 inches in February, and the average monthly minimum is 0.02 inches in July, with an average annual precipitation of 17.35 inches. Air quality in the County is directly related to emissions and regional topographic and meteorological factors.

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 ($PM_{2.5}$).

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 the 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 shows compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively.

Operating Permits. The existing Carpinteria Oil and Gas Processing facility currently operates under Permit to Operate No. 7996 and Part 70 Operating Permit No. 7996 issued by the SBCAPCD and last updated on March 1, 2012. However, proposed decommissioning and remediation activities are not addressed under these operating permits.

Air Quality 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.

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.

A 2001 Clean Air Plan was prepared by the SBCAPCD to address the requirements of the CAA to demonstrate how the County will maintain attainment of the Federal 1-hour ozone standard. The Federal 1-hour ozone standard was revoked in 2005, and an 8-hour ozone standard was implemented. The 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.

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas to achieve and maintain attainment with the California ambient air quality standards by the earliest possible date. The CCAA mandates that every three years areas update their clean air plans to attain the State ozone standard. The SBCAPCD Board adopted the 2019 Ozone Plan in December 2019. The 2019 Ozone Plan is the ninth triennial update to the initial 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 SBCAPCD clean air plan updates have recommended implementation of "every feasible measure" to ensure continued progress toward attainment of the State ozone standards.

Since 1992, Santa Barbara County has adopted or amended rules implementing more than 25 control measures aimed at reducing emissions at stationary sources. These measures have substantially reduced ozone precursor pollutants (NO_x and reactive organic carbon [ROC]). Air quality improvement is also seen in the declining number of State 1-hour and 8-hour ozone exceedances that have occurred in the 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 documents progress toward the State 1-hour and 8-hour ozone standards. Although Santa Barbara County violates the State 8-hour standard, recent data show that the County continues to attain the State 1-hour standard of 0.09 ppm.

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.

The SBCAPCD regulates operation of the Oil and Gas Processing Facilities through Permit to Operate and Part 70 Operating Permit No. 7996. Permitted emission sources include seven natural gas-fired internal combustion engines, one diesel-fired internal combustion engine (Casitas pier crane), three process heaters, three pig launcher/receivers, five sumps, three oi/water separator vessels, four wastewater tanks, one glycol dehydration unit, and one floating roof oil storage tank. Permitted annual facility emissions are 59.12 tons NO_x, 83.32 tons ROC and 1007.38 tons CO. The majority of these emissions sources are currently not in operation.

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 but would apply to the diesel engine used to drive electrical generators (if needed).

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.

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 Carpinteria station, located approximately 2.9 miles to the east-northeast. The nearest air quality monitoring station providing particulate matter data is the Santa Barbara station, located approximately 10.7 miles to the west-northwest of the Project site. As shown in Table 1.2-1, State

and Federal 8-hour ozone standards were exceeded on only one day at the Carpinteria station from 2017 through 2019. Concentrations of PM_{10} and $PM_{2.5}$ monitored at the Santa Barbara station periodically exceed the State standards but exceeded Federal standards primarily as a result of smoke generated by the regional Thomas Fire in December 2017.

Table 1.2-1. Summary of Ambient Air Pollutant Data Collected at the Carpinteria and Santa Barbara Monitoring Stations

Parameter	Standard	Year		
		2018	2019	2020
Ozone – parts per million (ppm): Carpinteria				
Maximum 1-hr concentration monitored		0.084	0.086	0.103
Number of days exceeding CAAQS	0.09	0	0	2
Maximum 8-hr concentration monitored		0.070	0.071	0.086
Number of days exceeding 8-hour ozone NAAQS & CAAQS	0.070	0	1	2
PM_{10} – micrograms per cubic meter ($\mu g/m^3$): Santa Barbara				
Maximum 24-hour average sample (California sampler)		128.3	72.1	84.0
Number of samples exceeding CAAQS	50	11	4	11
Number of samples exceeding NAAQS	150	0	0	0
$PM_{2.5}$ – micrograms per cubic meter ($\mu g/m^3$): Santa Barbara				
Maximum 24-hour sample		37.7	22.5	63.0
Number of samples exceeding NAAQS	35	1	0	6

Sensitive Receptors. Some land uses are considered more sensitive to air pollution than others due to population groups and/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.

Residential land uses occur immediately west of the Project site. Users of the adjacent Tar Pits Park and the Carpinteria Bluffs Trail (traverses the Project site) may be considered sensitive receptors.

1.2.3.2 Environmental Thresholds

The City uses the significance thresholds developed by the SBCAPCD, as documented in Scope and Content of Air Quality Sections in Environmental Documents (updated 2017) including:

- 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 (2016 Ozone Plan).

The following threshold is taken from SBCAPCD Rule 202:

- 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.

1.2.3.3 Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact

The proposed Project does not involve any new development that may generate emissions or induce population growth that may be inconsistent with the projections used in the SBCAPCD's Clean Air Plan.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant forwhich the project region is in non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant

Peak year and peak day decommissioning/remediation-related air pollutant emissions were estimated for comparison to the SBCAPCD's thresholds of significance. Air pollutant sources and emissions factors sources are listed below:

- Onshore equipment (excavator, wheeled loader, dozer, backhoe, grader, soil compactor, boom lift, welders, etc.): OFFROAD 2017 model (CARB, 2021)
- Offshore equipment and vessels (pipe flush pump, Toyo pump, air compressor, dive compressor, derrick barge crane and winch, derrick barge tug, materials barge tug, crew/support vessel, dive support vessel, survey vessel): San Pedro Bay Ports Emissions Inventory (Starcrest Consulting Group, 2019) and outboard motor Federal emissions standards (survey vessel).
- On-road vehicles (worker vehicles, heavy-duty trucks); EMFAC 2021 model (CARB, 2021)

Air pollutant emissions were estimated for each major Project phase (See Appendix E) to identify the peak 12-month period for comparison to the SBCAPCD's Rule 202 threshold. Air

pollutant emissions were also estimated for two peak day scenarios: peak day total emissions and peak day motor vehicle emissions for comparison to the SBCAPCD's CEQA thresholds.

Table 1.2-2 provides a summary of the air pollutant emissions estimates in comparison to SBCAPCD thresholds, and represents higher emissions associated with the option to dispose of offshore pipe at Port Hueneme instead of the Port of Long Beach. Decommissioning/ remediation-related air pollutant emissions would not exceed the SBCAPCD thresholds and are considered a less than significant impact to air quality.

Table 1.2-2. Decommissioning Emissions Summary

Scenario	NO_x	ROC	PM_{10}
Peak 12-month period (tons)	8.35	0.72	0.37
SBCAPCD Rule 202 threshold	*25*	*25*	*25*
Peak day: total (pounds)	228.2	20.1	10.8
SBCAPCD CEQA threshold	*240*	*240*	*80*
Peak day: motor vehicles only (pounds)	13.6	0.2	0.2
SBCAPCD CEQA threshold	*25*	*25*	--

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant

A residential area is located west of the facility and as close as 300 feet to proposed decommissioning and remediation activities (Former Marketing Terminal Area). Emissions in this area would be relatively small (approximately 18 pounds per day NO_x, 1.7 pounds per day ROC and 0.8 pounds per day PM_{10}) and be limited to about 90 working days. In addition, dense trees are located between proposed work areas and this residential area which would serve to filter particulate emissions. Other proposed work areas are located at least 500 feet away, and large marine-based sources (vessels, barges) would be over 1,000 feet away from these sensitive receptors. Overall, distance to emissions sources, wind dispersion and intervening dense trees are anticipated to prevent significant impacts to sensitive receptors.

d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?

Less than Significant

The proposed Project may result in the generation of hydrocarbon related odors during demolition of pipelines and storage tanks, as well as during soil excavation activities. Prior to demolition, all pipelines and tanks will be flushed to remove residual hydrocarbons. Flush water and residual hydrocarbons will be contained in storage vessels and disposed of in accordance with project related discharge permits or transported offsite to approved disposal facilities.

Demolition of larger tanks (Tank 861) may result in the release of some residual hydrocarbon odors however no active venting of tank contents is proposed. During soil remediation operations, excavation of impacted soil and subsequent loading of trucks may result in the release of volatile hydrocarbon odors. These activities are located at least 300 feet from

residential areas and such odors should rapidly disperse as they leave the source. All trucks hauling impacted soil will be covered to reduce potential dispersion during transport. The release of odors will be monitored onsite during demolition and remediation operations to limit dispersion to within the Project site boundaries.

1.2.4 Biological Resources

BIOLOGICAL RESOURCES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

1.2.4.1 Onshore Setting

The following discussion provides a summary of the biological resources located on and adjacent to the Project Site. Detailed descriptions of these resources are provided in Appendix C1 – Biological Resource Studies, Appendix C2 – Tree Report, Appendix C4 – Essential Fish Habitat Assessment, and Appendix C6 – Wetland Delineation. Field work conducted in support of this analysis includes biological surveys and monitoring conducted by Padre biologists since 1998 associated with past remediation activities, as well as an updated tree survey, botanical survey and wetland delineation conducted in 2021.

Vegetation. The majority of the Project site has been historically or recently cleared for industrial, agricultural or municipal purposes, including planting fruit/nut trees and landscaping

trees (Buffer Zone) or nursery stock (Former Nursery Area), and more recent removal of contaminated soil (Former Nursery Area, Buffer Zone). Vegetation, where present, primarily consists of stands of non-native trees and non-native mostly invasive grasses and herbs, with the exception of several native plant restoration areas within Drainage Area No. 4, the southern end of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, and at the Former Sandblast Area. Native scrub and non-native iceplant mats are also present along the bluffs to the east and west of the Pier Parking Lot. The following paragraphs describe on-site vegetation, classify each vegetation type to the extent feasible according to the Manual of California Vegetation, Second Edition (Sawyer et al. 2009), and identify plant species of which they are composed. Figures 1.2-1 through 1.2-3 provide a vegetation map of the Project site.

Tree Windrows. Vegetation mapped under this classification generally fit classifications used in the Manual of California Vegetation, including *Eucalyptus globulus* or *camaldulensis* Semi-Natural Woodland Stands (Eucalyptus groves); *Tamarix* spp. Semi-natural Shrubland Stands (Tamarisk thickets). Tree windrows comprised mostly of blue gum (*Eucalyptus globulus*), and to a lesser degree of athel tamarisk (*Tamarix aphylla*), occur between the Buffer Zone and Former Marketing Terminal Area, along both sides of Dump Road, on both sides of the MSRC Lease Area, and along the east edge of the entire Project site from the Peninsula Area, south along the Main Plant Area. The eastern edge of the Former Marketing Terminal Area also supports a row of Chinese elm (*Ulmus parvifolia*) trees. Tree windrows were first introduced at the Project site as windbreaks for agricultural fields, and later to screen oil and gas facilities.

Mixed Woodland. Vegetation mapped under this classification generally fit classifications used in the Manual of California Vegetation, including *Quercus agrifolia* Woodland Alliance (Coast live oak woodland); *Platanus racemosa – Quercus agrifolia* Woodland Alliance (California sycamore woodlands). This plant community primarily occurs within the Buffer Zone. Dominant tree species include coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*), but Monterey pine (*Pinus radiata*), and Monterey cypress (*Hesperocyparis macrocarpa*) trees are present. Open areas between tree clusters support perennial rye grass (*Festuca perennis*), slender wild oats (*Avena barbata*), and hare barley (*Hordeum murinum*). This area was planted to provide a buffer between the Former Marketing Terminal and the Concha Loma residential neighborhood to the west. Smaller, more isolated patches of mixed woodland occur along the margins of the Shop and Maintenance Area, supporting coast live oak, Oregon ash (*Fraxinus latifolia*) and non-native dawn redwood trees (*Metasequoia glyptostroboides*) abutting the tamarisk and eucalyptus windrows. Stands of non-native trees are labeled as Ornamental on Figures 1.2-1 through 1.2-3.

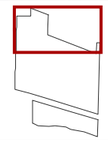
Coastal Scrub and Chaparral. Vegetation mapped under this classification generally fit classifications used in the Manual of California Vegetation, including *Artemisia californica* Shrubland Alliance (California sagebrush scrub); *Atriplex lentiformis* Shrubland Alliance (Quailbush scrub); *Baccharis pilularis* Shrubland Alliance (Coyote brush scrub); *Baccharis salicifolia* Shrubland Alliance (Mulefat thickets); *Isocoma menziesii* Shrubland Alliance (Menzies's golden bush scrub); *Heteromeles arbutifolia* Shrubland Alliance (Toyon chaparral); *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub); *Sambucus nigra* Shrubland Alliance (Blue elderberry stands).

LEGEND:

Operational Area

Vegetation Types
- AG - Annual grassland or mustards
- CB - Coyote brush scrub
- CS - California sagebrush scrub
- CYP - Monterey cypress trees
- DEV - Developed (pavement, gravel, structures)
- EUC - Eucalyptus groves or windrows
- OAK - Coast live oak woodland
- ORN - Ornamental trees
- SYC - California sycamore woodland

MAP EXTENT:



0 50 100 FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: July 2021

VEGETATION MAP

FIGURE 1.2-1

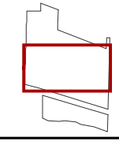
Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2021.mxd, 7/6/2021

LEGEND:

Operational Area

Vegetation Types
- AG - Annual grassland or mustards
- AG/DIST - Disturbed annual grassland or mustards
- CS - California sagebrush scrub
- DEV - Developed (pavement, gravel, structures)
- ELD - Blue elderberry stands
- EUC - Eucalyptus groves or windrows
- EUC/TAM - Eucalyptus and Tamarisk thickets or windrows
- MF - Mulefat thicket
- OAK - Coast live oak woodland
- ORN - Ornamental trees
- SYC - California sycamore woodland
- TOY - Toyon Chaparral
- WIL - Arroyo willow thickets

MAP EXTENT:



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Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
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DATE: July 2021

VEGETATION MAP

FIGURE 1.2-2

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LEGEND:

Operational Area

Vegetation Types

AG - Annual grassland or mustards
BARE - Bare ground
CB - Coyote brush scrub
CS - California sagebrush scrub
CYP - Monterey cypress trees
DEV - Developed (pavement, gravel, structures)
EUC - Eucalyptus groves or windrows
GB - Golden bush scrub
IP - Iceplant mats
LB - Lemonade berry scrub
SB - Saltbush (Quailbush) scrub
SYC - California sycamore woodland
WIL - Arroyo willow thickets

MAP EXTENT:

0 50 100
FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: This map was created for informational and display purposes only.

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PROJECT NAME: CHEVRON CARPINTERIA
OIL AND GAS PROCESSING FACILITY PROPERTIES
SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: July 2021

VEGETATION MAP

FIGURE 1.2-3

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2021.mxd 7/6/2021

Portions of the southern end of the Project site support remnant natural stands and planted areas of coastal scrub and chaparral communities, including Drainage Area No. 4, the southernmost portion of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, Former Sandblast Area, and Pipeline Bluffs Crossing Area. Dominant or co-dominant species in these areas include coyote brush (*Baccharis pilularis*), bush sunflower (*Encelia californica*), purple sage (*Salvia leucophylla*), toyon (*Heteromeles arbutifolia*), quailbush (*Atriplex lentiformis*), California sagebrush (*Artemisia californica*), Menzies' golden bush (*Isocoma menziesii*), blue elderberry (*Sambucus nigra ssp. caerulea*) and lemonade berry (*Rhus integrifolia*).

Notably, stands in the Pipeline Bluffs Crossing Area are monotypic and mixed stands of quailbush scrub, mixed stands of coyote brush scrub and Menzies' golden bush scrub, which all have undergone some level of disturbance. In Drainage Area No. 4 are a planted mulefat thicket, toyon chaparral, and naturally colonized California sagebrush scrub. The southern portion of the Former Marketing Terminal Area supports a mature thicket of blue elderberry, lemonade berry and California sagebrush.

Iceplant Mat. Vegetation mapped under this classification fits the classification used in the Manual of California Vegetation (*Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands). The Pipeline Bluffs Crossing Area supports large mats of non-native freeway iceplant (*Carpobrotus edulis*), which, where present, has frequently become a naturalized and typically dominant component of bluff scrub communities.

Annual Grasslands and Ruderal Vegetation. Vegetation mapped under this classification generally fit classifications used in the Manual of California Vegetation, including *Brassica* (*nigra*) and Other Mustards Semi-Natural Herbaceous Stands (Upland mustards) and *Bromus diandrus* or *hordaceous* Semi-Natural Herbaceous Stands (Annual brome grasslands). The Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area, which were all formerly graded, bermed, or degraded asphalt, supports patches of predominantly non-native herbaceous species such as summer mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis* ssp*. rubens*), ripgut brome (*Bromus diandrus*), red-stem filaree (*Erodium cicutarium*), onionweed (*Asphodelus fistulosis*), bristly ox-tongue (*Helminthotheca echioides*), cheeseweed (*Malva parviflora*), perennial ryegrass, freeway iceplant, terracina spurge (*Euphorbia terracina*), smilo grass (*Stipa mileacea*), bur-clover (*Medicago polymorpha*) and English plantain (*Plantago lanceolata*). Native species were also observed throughout these areas, but in lesser concentration, including horseweed (*Erigeron canadensis*), telegraph weed (*Heterotheca grandiflora*), coyote brush, and small-flowered evening primrose (*Camissoniopsis micrantha*).

The Former Nursery Area supports an assemblage of weedy non-native species typical of area with repeated disturbance. Dominant species originally observed in 2004 included cheeseweed, wild radish (*Raphanus sativus*) and summer mustard. The Former Nursery Area was hydroseeded with a native herbaceous seed mix following removal of pesticide-affected soils in 2012 but has since become mostly recolonized with its former non-native dominants, in addition to the emergence of succulent lupine (*Lupinus succulentus*) and California poppy (*Eschscholzia californica*) included in the seed mix. Similar conditions supporting non-native annual grasses and other herbaceous cover (e.g., English plantain and terracina spurge, but little or no native species) are present in the Former Marketing Terminal Area immediately south of its developed portion.

Arroyo Willow Thicket. Vegetation mapped under this classification fits the classification used in the Manual of California Vegetation (*Salix lasiolepis* Shrubland Alliance [Arroyo willow thickets]). The Project site supports three small patches of arroyo willow thicket with arroyo willow (*Salix lasiolepis*) as the dominant tree species in the overstory. Understory vegetation typically includes western ragweed (*Ambrosia psilostachya*), tall flatsedge (*Cyperus eragrostis*, in wetter years), bristly ox-tongue (*Helminthotheca echioides*), and/or curly dock (*Rumex crispus*) or is bare of understory vegetation due to a thick, closed canopy.

Site Flora. A botanical inventory was prepared in May 2011 in support of soil remediation activities conducted within the Buffer Zone, Drainage Area No. 4, Former Nursery Area, Former Sandblast Area, and Railroad Ditch Area. A botanical survey of the entire Project site was conducted in April 2021 to update the inventory and include all potential impact areas. A total of 163 vascular plant species were observed, including 51 (31 percent) native species and 112 (69 percent) non-native or introduced species. Of the 112 non-native species identified, 54 are considered invasive by the California Invasive Plant Council, including five species rated as highly invasive, 27 species rated as moderately invasive, and 22 species rated as limited invasiveness.

Native Trees. The City considers loss of trees of biological value as a potentially significant impact. Such trees include native trees and non-native trees where they provide valuable wildlife habitat potentially including tree windrows and large eucalyptus trees used for roosting. A tree inventory was completed in 2004 for the interim remediation measures conducted within the Buffer Zone (including Drainage Area No. 4) and Former Nursery Area. To obtain an accurate tally of all the trees currently present within the Project site, a follow-up inventory of all the remaining operational areas was completed in April 2021. Table 1.2-3 provides the current totals of live tree quantities per species at the Project site.

Table 1.2-3. Tree Inventory of the Project site

Common Name	Scientific Name	Number (2021)	Origin
Blue gum	*Eucalyptus globulus*	677	Non-native, planted, some on-site reproduction
Monterey pine	*Pinus radiata*	42	Introduced, planted
Aleppo pine	*Pinus halepensis*	2	Non-native, planted
Monterey cypress	*Cupressus macrocarpa*	38	Introduced, planted
Coast live oak	*Quercus agrifolia*	225	Native, colonized site, planted, on-site reproduction
Western sycamore	*Platanus racemosa*	84	Native, planted, on-site reproduction
Arroyo willow	*Salix lasiolepis*	51	Native, colonized site
Mexican fan palm	*Washingtonia robusta*	4	Non-native, colonized site
Norfolk Island pine	*Araucaria heterophylla*	1	Non-native, planted
Victorian box	*Pittosporum undulatum*	31	Non-native, planted
Myoporum	*Myoporum laetum*	10	Non-native, planted
Brazilian pepper	*Schinus terebinthifolius*	5	Non-native, planted
Oregon ash	*Fraxinus latifolia*	9	Introduced, planted
Athel tamarisk	*Tamarix aphylla*	93	Non-native, planted

Common Name	Scientific Name	Number (2021)	Origin
Dawn redwood	*Metasequoia glyptostroboides*	7	Non-native, planted
Avocado	*Persea americana*	5	Non-native, planted
Sydney golden wattle	*Acacia longifolia*	12	Non-native, planted
Chinese elm	*Ulmus parvifolia*	7	Non-native, planted
Toyon	*Heteromeles arbutifolia*	135	Native, planted, on-site reproduction
Various fruit	*Not specified*	6	Non-native, planted
Other ornamental	*Not specified*	4	Non-native, planted
Blue elderberry	*Sambucus nigra ssp. Caerulea*	52	Native, planted, on-site reproduction
Total		**1,500**	

Wildlife Observations. The majority of these wildlife sightings occurred in the Buffer Zone, with much lower biodiversity observed in the more developed portions of the Project site.

Amphibians and Reptiles. Baja California tree frogs were observed in the drainage within the Buffer Zone in May 1998 (Padre, 2002a), were heard calling from the Project site during the November 2004 field survey, and heard again in February 2012. Western toad was also observed in the Buffer Zone in 2012. Both species are expected to currently occur at the Project site, particularly in lesser developed areas. Western fence lizard and side-blotched lizard are commonly observed throughout the Project site, typically using gopher and ground squirrel burrows as refugia. Other reptiles less commonly observed within the Buffer Zone included gopher snake, alligator lizard, and ring-necked snake. California king snake may also be expected to occur at the Project site.

Birds. Tree windrows at the Project site are known to be areas of high avian diversity. Grasslands in the Project site are used for foraging and hunting by several species as well. Birds observed during numerous surveys from 1998 to 2021 by Padre collectively included a total of 58 species. Bird activity primarily occurs in the trees or areas of scrubby vegetation. Birds commonly observed included (in order of decreasing abundance) yellow-rumped warbler, bushtit, Anna's hummingbird, mourning dove, northern flicker, black phoebe, Hutton's vireo, northern mockingbird, American crow, and red-tailed hawk. Evidence of roosting by great horned owl was observed within the Buffer Zone in 1998 (ADL, 1999), owl pellets were found onsite in 2012, and a great horned owl fledgling was observed in the Buffer Zone in 2019 (C. Dunn pers. obs., 2019). Cooper's hawk and red-shouldered hawk have also been commonly observed roosting and foraging in the Buffer Zone.

Observations of nesting activity by passerines have included Anna's hummingbird, California towhee, cliff swallow, and house finch, some of which were on manufactured structures or equipment, or in trees nearby. Hawks are commonly observed roosting in large trees within the Buffer Zone and adjacent portions of the Former Nursery Area. At least three raptor nests of varying sizes (one of which was active as recently as 2021) have been observed at the Project site in various years. A pair of mating red-tailed hawks was observed in the eucalyptus treetop above the MSRC Lease Area in April 2021. Other species known from the area (e.g., Carpinteria Bluffs) include white-tailed kite, sharp-shinned hawk, barn owl, turkey vulture, and loggerhead shrike, which may forage at the Project site.

Mammals. Ground squirrel and pocket gopher burrows were commonly observed throughout the Project site. Raccoon, coyote, and domestic dog tracks have been observed within the Buffer Zone during numerous field surveys. An individual coyote was also directly observed in November 2020 within the Buffer Zone. Red fox has been commonly observed in the Buffer Zone and Chevron Pipeline Area over several years. Domestic cats are also frequently observed in the Buffer Zone, returning to homes along Arbol Verde Drive. A single, big-eared woodrat nest is present in the arroyo willow thicket at the bluff's edge within the Former Sandblast Area. Other mammals expected to occur at the Project site include black rat, deer mouse, and house mouse.

Environmentally Sensitive Habitat Areas (ESHA). Sections 30230, 30231, and 30233 of the Coastal Act of 1976 require protection of marine resources and estuaries. The City's General Plan/Local Coastal Land Use Plan identifies the following areas within or adjacent to the Project site as ESHA:

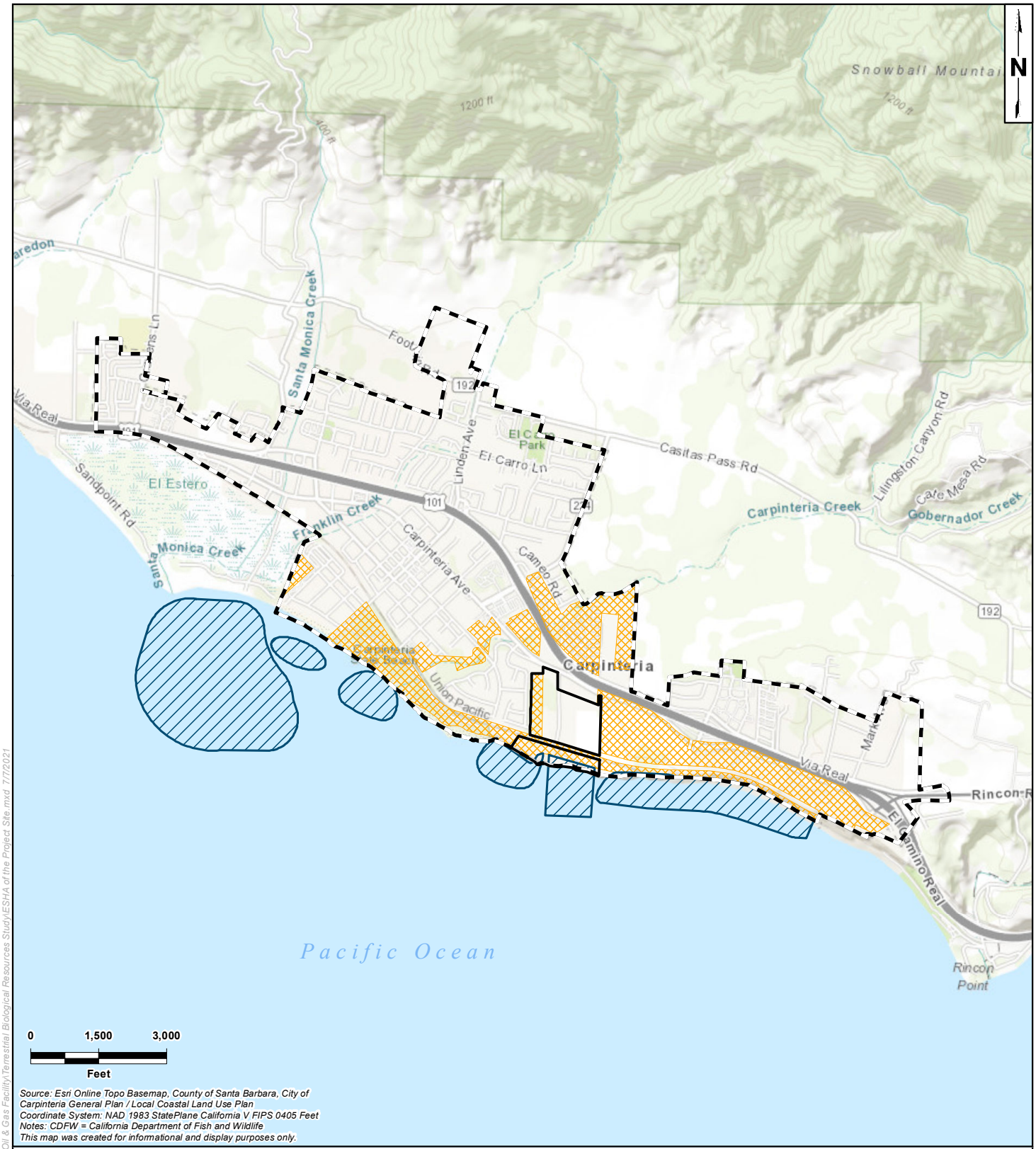
- Monarch butterfly roost at the Project site
- Buffer Zone
- Harbor seal rookery near the Casitas Pier
- Onshore areas seaward of the Union Pacific Railroad tracks (Carpinteria Bluffs)
- Intertidal and nearshore areas (including rocky reefs and kelp beds) near the Project site, extending up to about 3,000 feet offshore

Policies OSC-1a through OSC-1d of the City's General Plan/Local Coastal Land Use Plan provide protection for ESHA within the City. A map of City-designated ESHAs is provided as Figure 1.2-4.

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. Regulatory agencies with jurisdiction over wetlands include the U.S. Army Corps of Engineers (Corps) 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 Quality Control Board that enforces compliance with the Federal Clean Water Act (Section 401) regulating water quality and 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).

Under Corps 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."



Source: Esri Online Topo Basemap, County of Santa Barbara, City of Carpinteria General Plan / Local Coastal Land Use Plan
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: CDFW = California Department of Fish and Wildlife
This map was created for informational and display purposes only.

LEGEND:

- Environmentally Sensitive Habitat Overlay
- Offshore Environmentally Sensitive Habitat Overlay
- Project Site
- City of Carpinteria Boundary

MAP EXTENT:

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: July 2021

ENVIRONMENTALLY SENSITIVE HABITAT AREAS OF THE PROJECT SITE

FIGURE 1.2-6

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\ESHA of the Project Site.mxd 7/7/2021

The Coastal Commission'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. (14 CCR Section 13577).*

The Coastal Commission'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.
- The boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or
- 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 (14 CCR Section 13577).

A coastal wetlands delineation was completed for the Project in June 2021. 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 Figure 1.2-5 and the area of each wetland polygon is quantified in Table 1.2-4. A total of 1.67 acres of coastal wetlands were found within the survey area.

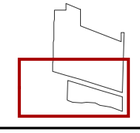
Table 1.2-4. Coastal Wetlands Delineation Results

Wetland No.	Location	Area (acres)
W-1	Chevron Pipeline Area	0.17
W-2	Drainage No. 4 Area	0.02
W-3	Drainage No. 4 Area	0.03
W-4	Former Sandblast Area	0.08
W-5	Pier Parking Lot Area	0.65
W-6	Pier Parking Lot Area (in part)	0.13
W-7	Pier Parking Lot Area	0.11
W-8	Tar Pits Park/Bluffs	0.05
W-9	Tar Pits Park/Bluffs	0.11
W-10	Tar Pits Park/Bluffs	0.08
W-11	Tar Pits Park/Bluffs	0.03
W-12	Tar Pits Park/Bluffs	0.07
W-13	Tar Pits Park/Bluffs	0.10
W-14	Tar Pits Park/Bluffs	0.04
Total		**1.67**

LEGEND:

- Wetland Sampling Point
- Coastal Wetland
- Operational Area
- Project Boundary

MAP EXTENT:



0 75 150
FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA
PROJECT NUMBER: 2002-5211
DATE: July 2021

COASTAL WETLAND MAP

FIGURE 1.2-5

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Special-Status Plant Species. Special-status plant species are either listed as endangered, threatened or rare under the Federal or California Endangered Species Acts, or rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies, professional organizations (California Native Plant Society), and the scientific community. Special-status plant species have not been reported at the Project site and were not observed during biological and botanical surveys conducted in 1998, 2002, 2004, 2005, 2011 and 2021. Table 1.2-5 identifies the current regulatory status and nearest known location of each special-status plant species reported from the Carpinteria, Santa Barbara, White Ledge Peak, and Pitas Point 7.5-minute USGS quadrangle maps by the California Natural Diversity Data Base (CNDDB). Two special-status plant species (spiny rush, yerba mansa) were observed within the Pipeline Bluff Crossing Area.

Table 1.2-5. Special-Status Plant Species of the Carpinteria Area

Common Name (*Scientific Name*)	Habitat Associations	Status	Nearest Known Location	Potential to Occur
Coulter's saltbush (*Atriplex coulteri*)	Coastal bluff scrub, coastal dunes, coastal scrub, ocean bluffs, ridgetops, as well as alkaline areas	SBBG, CRPR 1B.2	Carpinteria, along ocean bluff (CNDDB, 2021)	Low, potential habitat (quail bush scrub) is highly disturbed, not observed during botanical survey
Nuttall's scrub oak (*Quercus dumosa*)	Closed-cone coniferous forest, chaparral, coastal scrub	SBBG, CRPR 1B.1	Toro and Santa Monica Canyons, northwest of Carpinteria (CNDDB, 2021)	Low, potential habitat (coastal scrub) is highly disturbed, not observed during botanical survey
Late-flowered mariposa lily (*Calochortus fimbriatus*)	Chaparral, dry, open coastal woodland.	SBBG, CRPR 1B.3	Franklin Canyon, north of Carpinteria (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Sonoran maiden fern (*Thelypteris puberula var sonorensis*)	Meadows and seeps, along streams	SBBG, CRPR 2.2	Romero Canyon, Santa Ynez Mountains (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Southern tarplant (*Centromadia parryi ssp australis*)	Marshes and swamps, valley and foothill grassland, often in disturbed sites near the coast.	SBBG, CRPR 1B.1	Alongside rail lines, Pitas Point area (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Cliff malacothrix (*Malacothrix saxitilis ssp. saxitilis*)	Coastal bluff scrub, coastal scrub	CRPR 4.2	Carpinteria Bluffs (Padre, 2004)	Low, potential habitat (quail bush scrub) is highly disturbed, not observed during botanical survey
Woolly sea-blite (*Suaeda taxifolia*)	Margins of salt marshes	SBBG, CRPR 4.2	Carpinteria Bluffs (Padre, 2004), berms in the Carpinteria Salt Marsh (SBCFCWCD, 2003);	None, suitable habitat lacking, not observed during botanical survey
Southern California black walnut (*Juglans californica*)	Chaparral, cismontane woodland, coastal scrub/alluvial	SBBG, CRPR 4.2	Carpinteria Creek (Padre, 2005)	Low, potential habitat (coastal scrub) is highly disturbed, not observed during botanical survey
Salt marsh bird's beak (*Chloropyron maritimum ssp. maritimum*)	High marsh habitats with sandy substrate	SBBG, FE, SE, CRPR 1B.2	Carpinteria Salt Marsh (Padre, 2020a)	None, suitable habitat lacking, not observed during botanical survey
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)	Margins of salt pans	SBBG, CRPR 1B.1	Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003);	None, suitable habitat lacking, not observed during botanical survey

Common Name (*Scientific Name*)	Habitat Associations	Status	Nearest Known Location	Potential to Occur
Estuary sea-blite (*Suaeda esteroa*)	Coastal salt marshes	SBBG, CRPR 1B.2	Presumed extirpated from Carpinteria Salt Marsh (SBCFCWCD, 2003)	None, suitable habitat lacking, not observed during botanical survey
Red sand verbena (*Abronia maritima*)	Sand dune habitats	SBBG, CRPR 4.2	Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003)	None, suitable habitat lacking, not observed during botanical survey
Southwestern spiny rush (*Juncus acutus ssp. leopoldii*)	Fringes or transition habitats in salt or brackish marshes	SBBG, CRPR 4.2	Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003)	None, suitable habitat lacking, not observed during botanical survey
Watson's saltbush (*Atriplex watsonii*)	Transition habitats along edges of marshes	SBBG	Carpinteria Salt Marsh (SBCFCWCD, 2003)	None, suitable habitat lacking, not observed during botanical survey
Alkali barley (*Hordeum depressum*)	Salt marsh transition and grassland habitats	SBBG	Carpinteria Salt Marsh (SBCFCWCD, 2003)	None, suitable habitat lacking, not observed during botanical survey
Seaside arrowgrass (*Triglochin coccina*)	High salt marsh habitats	SBBG	Carpinteria Salt Marsh (SBCFCWCD, 2003)	None, suitable habitat lacking, not observed during botanical survey
Ventura marsh milk-vetch (*Astragalus pycnostachys var. lanosissimus*)	Coastal salt marshes, rarely near seeps on sandy bluffs	FE, SE, CRPR 1B.1	Introduced to the Carpinteria Salt Marsh (Meyer, 2012)	None, suitable habitat lacking, not observed during botanical survey
Davidson's saltscale (*Atriplex serenana var. davidsonii*)	Coastal bluff, coastal scrub	SBBG, CRPR 1B.2	Hendry's Beach (aka, Arroyo Burro Beach) (CNDDB, 2021)	Low, potential habitat (bluff scrub, coastal scrub) is highly disturbed, not observed during botanical survey
Santa Barbara morning glory (*Calystegia sepium ssp. binghamiae*)	Coastal marsh	SBBG, CRPR 1A	Burton Mound, Santa Barbara, extirpated (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Umbrella larkspur (*Delphinium umbraculorum*)	Cismontane woodland, mesic sites, 1,300 to 5,300 ft elevation	SBBG, CRPR 1B.3	Escondido Canyon, Los Padres National Forest (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Ojai fritillary (*Fritillaria ojaiensis*)	Broadleaf forest, chaparral, lower montane coniferous forest	SBBG, CRPR 1B.2	Santa Ynez Mountains, west of Ojai (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Mesa horkelia (*Horkelia cuneata ssp. puberula*)	Chaparral, cismontane woodland, coastal scrub, 230 to 2,700 ft elevation	SBBG, CRPR 1B.1	Cold Spring Trail, near Santa Barbara (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Santa Barbara honeysuckle (*Lonicera subspicata var. subspicata*)	Chaparral, cismontane woodland, coastal scrub, 110 to 3,300 ft elevation	SBBG, CRPR 1B.2	San Roque Canyon, Los Padres National Forest (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Gambel's water cress (*Nasturtium gambelii*)	Freshwater and brackish marshes at the edges or lakes or streams	FE, ST, CRPR 1B.1	Historically mapped in vicinity of Santa Barbara, but extirpated (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Peninsular nolina (*Nolina cismontana*)	Chaparral and coastal scrub, 460 to 4,200 ft elevation	CRPR 1B.2	Coyote Creek in vicinity of Lake Casitas (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Southern jewel-flower (*Streptanthus campestris*)	Chaparral, lower montane coniferous forest, pinyon-juniper forest	SBBG, CRPR 1B.3	Divide Peak, Santa Ynez Mountains (CNDDB, 2021)	None, suitable habitat lacking, not observed during botanical survey
Santa Ynez false lupine (*Thermopsis macrophylla*)	Chaparral	SBBG, CRPR 1B.3	Camino Cielo Road & La Cumbre Lookout Road, Santa Ynez	None, suitable habitat lacking, not observed during botanical survey

Common Name (*Scientific Name*)	Habitat Associations	Status	Nearest Known Location	Potential to Occur
			Mountains (CNDDB, 2021)	
Spiny rush (*Juncus acutus* ssp. *leopoldii*)	Riparian scrub, coastal scrub, grassland	CRPR 4.2	On-site (Pipeline Bluff Crossing Area)	Present
Yerba mansa (*Anemopsis californica*)	Marsh, other wetlands	SBBG	On-site (Pipeline Bluff Crossing Area)	Present

Special-Status Wildlife Species. Special-status wildlife species are either a candidate for or listed as endangered or threatened under the Federal or California Endangered Species Acts, designated as a species of special concern by the California Department of Fish and Wildlife (CDFW), or protected under the California Fish and Game Code. Table 1.2-6 identifies the current regulatory status and nearest known location of each special-status wildlife species reported from the Carpinteria, Santa Barbara, White Ledge Peak, and Pitas Point 7.5-minute quadrangle maps by the CNDDB, by Lehman (2019) or eBird.org.

Table 1.2-6. Special-Status Invertebrate, Fish and Wildlife Species Reported from the Carpinteria Area

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project site	Potential to Occur
Invertebrates			
Monarch butterfly (*Danaus plexippus*)	FC, USFS-S	Buffer Zone autumnal aggregation site (on-site) (Padre, 2012)	Present
Fish			
Southern California steelhead (*Oncorhynchus mykiss*)	FE	Carpinteria Creek below State Route 192, 0.2 miles to the northwest (Stoecker et al., 2002)	None, suitable habitat is absent
Tidewater goby (*Eucyclogobius newberryi*)	FE, CSC	Carpinteria Creek, 0.2 miles to the west (Padre, 2016)	None, suitable habitat is absent
Amphibians			
California red-legged frog (*Rana draytoni*)	FT, CSC	Santa Monica Creek, 2.7 miles to the north-northwest (Z. Abbey, personal observation, 2020)	None, suitable habitat is absent
Coast Range newt (*Taricha torosa*)	CSC	Santa Monica Creek, 2.7 miles to the north-northwest (Z. Abbey, personal observation, 2020)	None, suitable habitat is absent
Reptiles			
Western pond turtle (*Emys marmorata*)	CSC, USFS-S	Lower Carpinteria Creek, 0.2 miles to the west (Padre, 2016)	None, suitable habitat is absent
Southern California legless lizard (*Anniella stebbinsi*)	CSC, USFS-S	Near Carpinteria Salt Marsh Nature Park (1983), 1.1 miles to the west (CNDDB, 2021)	Low-Moderate, potential scrub habitat is highly disturbed
San Bernardino ring-neck snake (*Diadophis punctatus modestus*)	USFS-S	Ringneck snake observed on-site in Buffer Zone (C. Dunn, personal observation, 2021)	Present
Two-striped garter snake (*Thamnophis hammondii*)	CSC, USFS-S	Carpinteria Creek, 0.3 miles to the north (Padre, 2016)	None, suitable habitat is absent
Birds			
Belding's savannah sparrow *(Passerculus sandwichensis beldingi*)	SE	Carpinteria Salt Marsh, 1.2 miles to the northwest (Padre, 2020a)	None, suitable habitat is absent

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project site	Potential to Occur
Brown pelican (*Pelecanus occidentalis*)	FP, USFS-S	Observed flying over the Project site (Padre, 2020b)	None, suitable habitat is absent
Western snowy plover (*Chardrius alexandrinus nivosus*)	FT, CSC, BCC	Winters on the beaches in the Carpinteria area (Lehman, 2019). Observed at Carpinteria State Beach in 2021 (eBird.org). Nearest breeding site is near the Santa Clara River mouth, approximately 17.7 miles to the southeast.	Moderate, may forage on nearby beaches
Common loon (*Gavia immer*)	CSC (nesting)	Fairly common fall transient and winter visitor in the region (Lehman, 2019), occasionally reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
California gull (*Larus californicus*)	WL (nesting)	Common transient and winter visitor in the region (Lehman, 2019). Reported from the Carpinteria Salt Marsh. Observed from Tar Pits Park in 2021 (eBird.org).	Low, suitable habitat is absent
Elegant tern (*Sterna elegans*)	WL (nesting)	Common summer and fall visitor in the region (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Caspian tern (*Sterna caspia*)	BCC (nesting)	Fairly common transient and summer visitor in the region (Lehman, 2019). Observed from Tar Pits Park in 2021 (eBird.org).	None, suitable habitat is absent
California least tern (*Sternula antilarum browni*)	FE, SE, FP	Transient, post-breeding visitor in the region (Lehman, 2019), nearest breeding at McGrath State Beach.	None, suitable habitat is absent
Double-crested cormorant (*Phalacrocorax auritus*)	WL (nesting)	Known to breed near Summerland. Observed from Tar Pits Park in 2021 (eBird.org).	None, suitable habitat is absent
Redhead (*Aythya americana*)	CSC (nesting)	Uncommon to fairly common but local transient and winter visitor in the region, occasionally reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Great blue heron (*Ardea herodias*)	CDF-S (nesting)	Reported to nest along the southern perimeter of the Carpinteria Salt Marsh (Santa Barbara Audubon Society, 2018). Observed from Tar Pits Park in 2021 (eBird.org).	Low, suitable habitat is absent
Great egret (*Ardea alba*)	CDF-S (nesting)	Fairly common transient and winter visitor in the region (Lehman, 2019). Observed from Tar Pits Park in 2021 (eBird.org).	Low, suitable habitat is absent
White-faced ibis (*Plegadis chihi*)	WL (nesting)	Rare transient in the region (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Fulvous whistling duck (*Dendrocygna bicolor*)	CSC (nesting)	Casual visitor in the region (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Brant (*Branta bernicla*)	CSC (winter, staging)	Common to abundant spring transient in the region (Lehman, 2019). Observed from Tar Pits Park in 2021 (eBird.org).	Low, could forage near the Project site
Osprey (*Pandion haliaetus*)	WL (nesting), CDF-S	Rare fall/winter transient in the region (Lehman, 2019), Observed from Tar Pits Park in 2021 (eBird.org).	None, suitable habitat is absent
White-tailed kite (*Elanus leucurus*)	FP (nesting)	Uncommon resident in the region, (Lehman, 2019), Observed at Carpinteria Bluffs in 2021 (eBird.org).	Moderate, may forage near the project site
Northern harrier (*Circus hudsonius*)	CSC (nesting)	Uncommon transient and winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Sharp-shinned hawk (*Accipiter striatus*)	WL (nesting)	Fairly common transient and winter visitor in the region, (Lehman, 2019). Observed at Carpinteria Bluffs in 2019 (eBird.org).	Low, could forage near the project site
Cooper's hawk (*Accipiter cooperi*)	WL (nesting)	On-site (Buffer Zone) (C. Dunn, personal observation, 2021	Present
Peregrine falcon (*Falco peregrinus*)	FP, CDF-S, BCC (nesting)	Uncommon fall/winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Merlin (*Falco columbarius*)	WL (wintering)	Very uncommon winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project site	Potential to Occur
Long-billed curlew (*Numenius americanus*)	WL (nesting), BCC	Uncommon fall migrant in the region, (Lehman, 2019), Observed at harbor seal haul-out near the Project site in 2021 (eBird.org).	Low, could forage near the project site
Black skimmer (*Rhynchops niger*)	CSC (nesting), BCC	Rare winter migrant and summer visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Vaux's swift (*Chaetura vauxi*)	CSC (nesting)	Uncommon migrant in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh	None, suitable habitat is absent
Loggerhead shrike (*Lanius ludovicianus*)	CSC (nesting), BCC	Rare and irregular breeder in the Project area (Lehman, 2019). Observed at Carpinteria Bluffs in 2021 (eBird.org).	Low, could forage near the project site
California horned lark (*Eremophila alpestris actia*)	WL	Uncommon migrant in the region (Lehman, 2019)	None, suitable habitat is absent
Yellow warbler (*Setophaga petechia brewsteri*)	CSC (nesting)	Summer resident in Carpinteria Creek (Cachuma Resource Conservation District et al., 2005)	None, suitable habitat is absent
Mammals			
Townsend's big-eared bat (*Corynorhinus townsendi*)	CSC, USFS-S, WBWG-H	Carpinteria Salt Marsh (historic, 1941) (CNDDB, 2021)	None, suitable habitat is absent
Yuma myotis (*Myotis yumanensis*)	WBWG-LM	Night roost under the Carpinteria Avenue bridge, 0.2 miles to the north (Padre, 2016)	Low, could forage near the project site
Big free-tailed bat (*Nyctinomops macrotis*)	CSC, WBWG-MH	Santa Barbara area (non-specific) (CNDDB, 2021)	None, suitable habitat is absent
San Diego desert woodrat (*Neotoma lepida intermedia*)	CSC	Pitas Point, 4.4 miles to the southeast (CNDDB, 2021)	None, suitable habitat is absent

BCC	Birds of Conservation Concern (USFWS)
CDF-S	California Department of Forestry and Fire Protection-sensitive
CSC	California Species of Special Concern (CDFW)
FC	Federal Candidate (USFWS)
FE	Federal Endangered (USFWS)
FT	Federal Threatened (USFWS)
FP	Protected under the California Fish & Game Code (CDFW)
USFS-S	U.S. Forest Service-sensitive
SE	State Endangered (CDFW)
WBWG-H	Western Bat Working Group-high priority
WBWG-LM	Western Bat Working Group-low to medium priority
WBWG-MH	Western Bat Working Group-medium to high priority
WL	Watch List (CDFW)

Special-status wildlife species observed within or near the Project site or have a high potential to occur are discussed below.

Monarch butterfly. This is the only insect species in the world that is known to exhibit long-distance, seasonal migrations. Due to recent drastic regional declines in population numbers, this species has been designated as a candidate for listing as endangered or threatened under the Federal Endangered Species Act. Since at least 1990, Monarch butterflies have been regularly observed at the Project site during the fall. They also occur in the winter but may be a result of dispersion from the Carpinteria Creek overwintering site.

In fall 2011, Monarch butterflies were observed patrolling the Buffer Zone and began aggregating in October 2011. By January 2012, Monarch butterflies were observed aggregating in at least two trees (blue gum and pine) in excess of approximately 5,000 individuals (by visual estimation). Observations were made of the aggregations moving north (further into the Buffer

Zone from its more exposed, southern end) before beginning their dispersal (and potential mating activity) in February 2012 (Padre, 2012). Conversely, in winter 2020/2021, observations were limited to very few patrolling Monarchs and no aggregations at the Buffer Zone or other locations within the Project site (Padre, 2020b and Padre, 2021a), which is consistent with the recent (2018-2020) drastic decline in the population abundance in coastal California as evidenced by the Western Monarch Thanksgiving Count sponsored by The Xerces Society.

Southern California Legless Lizard. The CNDDB includes multiple historical records of this species in the Montecito-Carpinteria area. Legless lizards typically occur in moist, loose soil beneath sand dune vegetation and the duff layer of oak woodlands. This species has not been observed during past decommissioning and soil remediation activities conducted throughout the facility, including excavation, backfilling and habitat restoration within the Buffer Zone. However, there may be a low to moderate potential for legless lizard to occur in sandy bluff areas in the western portion of the Pier Parking Lot Area and the Former Sandblast Area.

Ringneck Snake. This species has been observed on the Project site in the Buffer Zone. The San Bernardino subspecies has been designated by the U.S. Forest Service as a sensitive species. However, no other Federal, State or local agency or organization considers this species as needing protection. Therefore, the San Bernardino ringneck snake may not meet the definition of rare or endangered under Section 15380 of the State CEQA Guidelines. According to the subspecific designations and geographic distributions developed in 1942 (including six subspecies in California), the Project site is located in an intergradation area between the San Bernardino ringneck snake and the Monterey ringneck snake. More recent research (Fontanella et al., 2021) indicates this species should be separated into only three subspecies in California, with the Project area included within the western California subspecies, which does not include the formerly designated geographic distribution of the San Bernardino ringneck snake. Therefore, ringneck snakes found on the Project site do not have any special-status. In any case, this species is anticipated to occur primarily in the Buffer Zone which would not be impacted by the proposed Project.

Western Snowy Plover. This species inhabits sandy beaches, especially in areas with low foredunes that are not inundated at high tide. Western snowy plovers are an occasional winter visitor to Carpinteria area beaches and have been observed on the beach below the Carpinteria Bluffs and at Carpinteria State Beach. It is possible this species may forage on beaches adjacent to the Project site.

White-Tailed Kite. White-tailed kite breeding sites are uncommon in southern Santa Barbara County, but this species regularly forages along the coast during fall and winter, especially in grasslands in the vicinity of nocturnal communal roost sites in willow groves, oaks, avocado and citrus orchards, and eucalyptus (Lehman, 2019). White-tailed kite has been observed along the Carpinteria Bluffs and may forage in the vicinity of the Project site.

Cooper's Hawk. This species is a very uncommon, local breeder in foothill riparian habitats in Santa Barbara County (Lehman, 2019). Cooper's hawk may be seen regularly in spring and summer in the Carpinteria area, suggesting that nesting may occur in Santa Monica Canyon to the north of the Project area. This species was observed foraging at the Project site in April 2021 and may be expected to forage and possibly nest at the Project site.

Loggerhead Shrike. This species is a rare and irregular breeder in the area (Lehman, 2019), and has been observed at the Carpinteria Bluffs and may forage at the Project site.

Sharp-shinned Hawk. This species is a transient and winter visitor (non-breeder) in the area (Lehman, 2019). Sharp-shinned hawk has been observed at the Carpinteria Bluffs and may forage at the Project site.

Wildlife Corridors. Highly mobile species such as larger mammals and birds are expected to move between coastal areas and the Santa Ynez Mountains. Carpinteria Creek is located near the Project site and provides a means for wildlife to traverse U.S. Highway 101, developed areas, dense vegetation and steep slopes. Therefore, Carpinteria Creek may be an important wildlife movement corridor in the area. The Project site is mostly developed, supports little native vegetation and does not connect two habitat areas. Therefore, substantial or focused wildlife movement is not anticipated to occur within or adjacent to the Project site.

1.2.4.2 Nearshore and Offshore Setting

Intertidal Habitat and Resources. 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. In addition, the Casitas Pier pilings provide submerged artificial substrates in the intertidal zone. 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 includes 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*), polychates (*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*).

Subtidal Habitats and Resources. 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 ornate*), sand dollars (*Dendraster excentricus*), and various species of crabs, sea stars, snails, and demersal fish. The Casitas Pier is located within soft substrate habitat; therefore, the seafloor beneath the Pier and adjacent areas is expected to be dominated by soft substrate species. In addition, the pier pilings provide man-made structure for subtidal organisms to attached to including mussels,

barnacles, tunicates, bryozoa, porifera, anemones (*Anthopleura elegantissima*), decorator crabs (*Loxorhynchus grandis* and *L. crispatus*), sea stars (*Pisaster* sp., *Patiria miniata*) red rock crabs (*Cancer* spp.), and rock scallop (*Crassedoma giganteum*).

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. Recent site visits and a historic review of satellite imagery (June 2002 through March 2020), as well as kelp bed data from CDFW identified a kelp bed located approximately 470 feet east from the offshore end the Casitas Pier (Figure 1.2-6).

Common fish species may utilize the kelp bed and near-by pier structure and shallow rock reefs for foraging and breeding. Species that are likely to occur include surfperches (*Embiotoca jacksoni*, *Rhacochilus vacca*), wrasses (*Oxyjulis californica, Halichoeres semicinctus)*, and adult and young-of-year-rockfish (*Sebastes* spp.).

Pelagic Habitats and Resources. The offshore environment adjacent to the Project site consists of a relatively flat and shallow continental shelf, which dips so gently (about 0.4° to 0.5°) that water depths at the 3-nautical-mile limit of California's State Waters are 130 to 150 feet. The seafloor is predominately covered by sediment composed of sand and mud, with small sedimentary bedrock exposures (USGS, 2013). The largest of these local bedrock exposures is Carpinteria Reef, located approximately three miles west of the Project site. Other hard bottom habitat is the rocky area off Rincon Point, located approximately 1.8 miles southeast of the Project site.

Remote operated vehicle surveys have reported that the majority of the Platform Gail/Grace pipeline bundle is buried under soft sediments from approximately -45 to -140 feet and then intermittently exposed to the State waters limit (-148 feet) (Aqueos, 2019). Epifauna of deeper waters in sedimentary habitats and those species found growing on or foraging near exposed pipeline segments include plumose anemone (*Metridium senile*), bat stars (*Patiria miniate*), and rockfish.

Based on fish trapping conducted at the former sites of four oil production platforms as close as 2.6 miles from the Project site, common open water fishes in the Project area include blue-banded ronquil (*Rathbunnella hypolecta*), brown rockfish (*Sebastes auriculatus*), calico rockfish (*Sebastes dalli*), lingcod (*Ophiodon elongatus*), sarcastic fringehead (*Neoclinus blanchardi*) and white croaker (*Genyonemus lineatus*) (ERM, 2011).

Fish surveys were conducted at eight oil production platforms in the region (Platforms Henry, Hogan and Houchin, located as close as 2.9 miles from the Project site) using scuba and a remotely operated vehicle identified the highest density fish species at these three platforms as half-banded rockfish (*Sebastes semicinctus*), square-spot rockfish (*Sebastes hopkinsi*), calico rockfish, olive rockfish (*Sebastes serranoides*), lingcod and painted greenling (*Oxylebius pictus*) (Love et al., 2015).

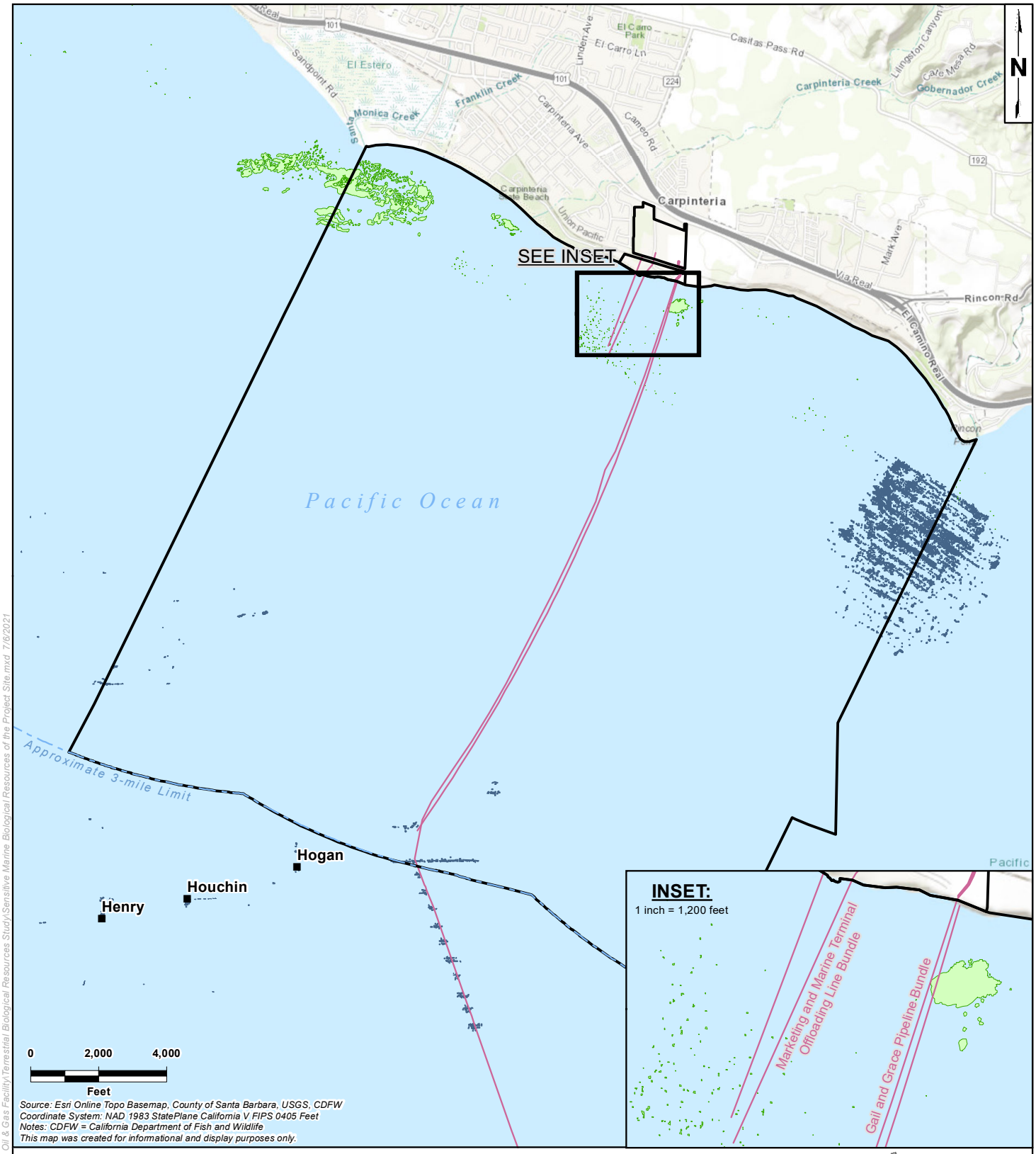
Special-Status Marine Species. Special-status marine species that may occur in nearshore and offshore waters in the Project area include birds foraging and/or breeding offshore

and marine mammals protected under the Federal Marine Mammal Protection Act (MMPA). Table 1.2-7 lists special-status marine species reported from the Santa Barbara Channel in the Carpinteria region, including marine mammals observed during aerial surveys conducted in support of oil production platform removal (42 surveys over a 15-month period).

Table 1.2-7. Special-Status Marine Species Reported from Offshore the Carpinteria Area

Common Name (*Scientific Name*)	Status	Nearest Reported Occurrence to the Project Site
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	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island. Seasonally observed immediately offshore of project site
Bottle-nose dolphin (*Tursiops truncatus*)	MMPA	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
Risso's dolphin (*Grampus griseus*)	MMPA	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
Pacific white-sided dolphin (*Lagenorhychus obliquidens*)	MMPA	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
California gray whale (*Eschrichtius robustus*)	MMPA	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island. Seasonally observed immediately offshore of project site.
Blue whale (*Balaenoptera musculus)*	Federal Endangered, depleted (MMPA)	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
Minke whale (*Balaenoptera acutorostrata)*	MMPA	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
Humpback whale (*Megaptera novaeangliae)*	Federal Threatened (Mexico DPS), depleted (MMPA)	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
California sea lion (*Zalophus californianus*)	MMPA	Observed during aerial surveys conducted between Carpinteria and Santa Cruz Island
Pacific harbor seal (*Phoca vitulina richardsi*)	MMPA	Haul-out and pupping area adjacent to the Casitas Pier at the Project site

MMPA: Protected under the Marine Mammal Protection Act



LEGEND:

- Platform Location
- Approximate 3-mile Limit
- Oil Pipeline
- Project Site
- CDFW Kelp Bed
- Hard Bottom

MAP EXTENT:

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA
OIL AND GAS PROCESSING FACILITY PROPERTIES
SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: July 2021

SENSITIVE MARINE BIOLOGICAL RESOURCES OF THE PROJECT AREA

FIGURE 1.2-6

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Sensitive Marine Biological Resources of the Project Site.mxd 7/6/2021

Marine Wildlife Movement. Some marine mammal movements are migratory, such as the gray whale (*Eschrichtius robustus*), or seasonal, such as the humpback whales (*Megaptera novaeangliae*) and are more abundant during specific months. Large, baleen whales are known to spend the summer months feeding in northern latitudes building up fat stores to sustain them through the winter and then migrating to warmer, sheltered waters in Baja California, Mexico, Hawaii, and/or Central America for calving and breeding during winter months. Large baleen whales may be present in the study area during their migrations through the Santa Barbara Channel in areas where convergence zone produce large aggregations of prey, such as krill, small schooling fish, and squid.

The Channel Islands provide essential nesting and feeding grounds for 99 percent of breeding seabirds in Southern California (Argonne National Laboratory, 2019), and many species regularly fly between offshore foraging and island nesting areas, which may include traversing proposed offshore pipeline removal areas.

Pinniped Haul-Outs. The California south coast provides a diversity of haul-out locations such as rocky shorelines, sandy beaches, estuaries and mudflats. California sea lion and harbor seals have several haul-outs in the region along beaches and on shallow, rocky outcroppings. The Carpinteria Harbor Seal Rookery and Preserve (rookery) is located adjacent to the Project site approximately 160 feet east of the Casitas Pier. The rookery is accessible to the public during low tides to the west from Carpinteria Beach State Park and from Rincon Point to the east. The bluffs overlooking the colony are on private property now owned by the applicant, who continues to allow public access for viewing of the harbor seal rookery. In addition to year-round Federal and State protections, the City of Carpinteria closes the beach surrounding the rookery for 750 feet to the east and west of the colony from December 1 through May 31 of each year to minimize disturbance of breeding seals and seal pups. Public access and projects related to oil field operations are not allowed on this part of the beach during the seasonal closure. In addition, waters out to 1,000 feet offshore from the closed beach area is restricted to personalized watercraft; however, offshore oil-field related crew and supply vessels are exempt from this requirement.

Essential Fish Habitat (EFH). The Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq.) requires Federal agencies to identify EFH for any fish species included under a Federal Fishery Management Plan (FMP). EFH is defined as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (National Oceanic and Atmospheric Administration, 1997).

Under the Magnuson-Stevens Fishery Conservation and Management Act, "waters" are defined to include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat elements required to support a sustainable fishery and the managed species' contribution to a health ecosystem; and "spawning, breeding, feeding, or growth to maturity" cover a species' full life cycle. For anadromous species, such as salmon, EFH includes freshwater streams used for spawning and rearing.

West coast stocks of over 90 fish species are managed under the Pacific Coast Groundfish FMP. EFH for Pacific coast groundfish is defined as the aquatic habitat necessary to allow for

groundfish production to support long-term sustainable fisheries for groundfish and for groundfish contributions to a healthy ecosystem. Groundfish EFH encompasses all waters and substrate in the Project area up to the mean higher-high water level, including areas seaward of the bluffs at the Project site.

Four types of habitats are considered Habitat Areas of Particular Concern (HAPC) within the Pacific Coast Groundfish FMP, including seagrass beds (eelgrass, widgeon grass, surfgrass), kelp beds, rocky reefs and estuaries. Surfgrass and kelp beds occur in the vicinity of the Project site. In addition, discrete areas of interest within EFH are included as HAPC. The Carpinteria Salt Marsh is considered an estuary HAPC.

West coast stocks of certain finfish (Pacific sardine, Pacific mackerel, northern anchovy, jack mackerel), market squid and krill (primarily eight dominant species) are managed under the Coastal Pelagic Species FMP. These stocks are treated as a species complex because of similarities in their life histories and habitat requirements. EFH for coastal pelagic species is defined as all marine and estuarine waters from the shoreline along the coasts of California, Oregon and Washington, including the nearshore area near the Project site.

West coast stocks of economically important species of tunas, billfish and sharks are managed under the U.S. West Coast Fisheries for Highly Migratory Species FMP. EFH for these highly migratory species is species-specific.

At least 46 species listed under the Pacific Coast Groundfish FMP, seven species listed under the Coastal Pelagic Species FMP, and two species under the Highly Migratory Species FMP frequent kelp beds, rock reefs, benthic, and open water habitats and could be present during some life stages in nearshore and offshore areas near the Project site. The pelagic species could be present for short-time periods as schooling adults whereas many of the groundfish species could be present for longer time periods as both juveniles and adults.

The juveniles of many rockfish species use the shallow-water algae and kelp canopies during early development before settling over deeper water or to the bottom. Benthic rockfish juveniles could be found in Sargassum and algae beds. Cabezon, lingcod, and greenlings could be present as adults, in egg masses (nests) on substrate, and as settled juveniles in adjacent kelp beds.

California Coastal National Monument. The California Coastal National Monument managed by the Bureau of Land Management provides unique habitat for marine-dependent species on more than 20,000 rocks, islands, exposed reefs, and pinnacles, as well as 7,924 acres of public land at six onshore units: Trinidad Head, Waluplh-Lighthouse Ranch, Lost Coast Headlands, Point Arena-Stornetta, Cotoni-Coast Daires, and Piedras Blancas. The rocky headlands within the California Coastal National Monument provide foraging and roosting areas, nesting habitat for breeding seabirds and haul-outs for marine mammals. The offshore rocks included in the Monument are those exposed above mean high tide within 12 nautical miles of the California mainland. Approximately seven rock features of Monument land, are present within the Project area. The Monument rock features partially correspond with the protected harbor seal haul-out and rookery and intertidal habitat located within the surf zone.

Marine Life Protection Act. California adopted the Marine Life Protection Act (MLPA) in 1999 to provide improved protection for the diversity and abundance of California's ocean habitats

through a network of marine protected areas (MPAs) with the goals of sustaining, conserving and protecting marine life populations; protecting marine ecosystems; improving recreational, educational and study opportunities provided by marine ecosystems; and protecting marine natural heritage. There is strong scientific evidence that marine protected areas restore and protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems.

The closest MPA's to the Project Site include Anacapa Island to the south and Campus Point to the west. No project activities will occur within these MPA's.

1.2.4.3 Environmental Thresholds

The City's CEQA Guidelines provide the following guidance to determine the significance of impacts to biological resources that may occur on the Project site.

Biological Habitats of Significance. Habitats of significance are equivalent to ESHA and include marine mammal habitats, Tar Pits Park, rocky intertidal and subtidal areas, coastal sage scrub on the Carpinteria Bluffs, isolated remnant wetlands, the Carpinteria Salt Marsh and Carpinteria Creek.

Tree Removal Guidelines. Specimen trees are defined in the City's Municipal Code as "any tree, shrub, or other planting which has been so designated by resolution of the City council as having a high degree of value due to its type, age, size, conformation or location." Specimen trees are defined as those with a diameter of at least six inches measured four feet above the ground with a minimum height of at least six feet. For trees such as willows, which do not have a single trunk, the diameter of all upright woody stems should be combined for the measurement of the diameter.

For standard Subdivision, Development Plans or Conditional Use Permits, the loss of 10 percent or more of the trees of biological value on a Project Site is considered potentially significant. All native tree species, regardless of size, should be considered to be biologically valuable. Non-native trees which may be valuable include window and individual eucalyptus and other horticultural species. Eucalyptus trees can be significant resources where trees in general are rare, where they provide roosting habitat, and where they provide some wildlife habitat, their inherent biological value is generally limited due to the high level of disturbance of such areas. The loss of any specimen tree of particularly remarkable size or quality or the loss of any tree with historic value may be considered potentially significant even if the above criteria are not met.

Listed Species or Species Eligible for Listing. All State or Federally-listed species or species meeting the criteria for listing are considered significant resources sensitive to development. Any impact to the habitat of such species, or any direct taking or harassment of such a species would be considered a significant biological impact.

Sensitive Species. Sensitive species are rare or declining species that have been identified by any one of a number of private groups and public agencies. In determining whether an impact to the habitat of a sensitive species is significant the following factors should be considered:

a. Sensitivity of the species (is the species very uncommon or has there been a serious decline in the abundance of the species?).

b. Biological value (significance) of the habitat (i.e. does it support native wildlife, does it provide a wildlife corridor, etc.?).

c. Sensitivity of the site to the proposed development (would the proposed development retain all or most of the biological value of the site?).

d. Extent and degree of the proposed impact.

Wildlife Corridors. Development may sever connections between habitat areas that may be used by wildlife for migration or dispersal. To be considered biologically important, the area with habitat value to which the site is connected must be at least 10 acres in size. The loss of a connection between two habitat areas is usually considered a significant impact. Factors to consider when making the determination of whether or not the impact is significant include:

a. Importance of the corridor to wildlife (does the corridor provide a valuable and well used connection?).

b. Size of the habitat areas joined by the corridor (are the areas that are connected big enough to be of biological value as long as there is a connection, or even if the connection were to be severed?).

c. Availability of an alternative corridor.

d. The nature of the impact (Would it be temporary? Would the barrier prevent all movement, or just the movement of some species?).

Oak Woodlands. In areas where several specimens of characteristic dominant species are present, an impact to this community, or the wildlife supported by this community, is usually considered significant. In areas where one or two individuals of characteristic dominant species occur in isolation, impact may or may not be considered significant, depending upon the values associated with the surrounding community and the importance of the individual specimens to the community. Factors to consider in determining the sensitivity and significance of the resources include:

a. Diversity of plant and animal present.

b. Presence of sensitive species.

c. Function of the woodland component (i.e., do they provide nesting sites for birds).

d. Effect of the project on the biological values (some projects may be able to incorporate specific components of the biological community into their design, thereby eliminating or minimizing the impact).

Coastal Wetlands. These lands include salt marsh habitats, surfgrass, mudflats, intertidal zones, and other wetlands occurring within the coastal zone. Coastal wetlands are extremely rich biological resources and are also very sensitive to development. Direct impacts to coastal wetlands, or to the wildlife occurring within coastal wetlands are always considered significant.

Riparian Woodlands. Riparian woodlands support a large number of bird species and are considered significant biological resources because of the richness. The extent of riparian woodlands has declined dramatically therefore this community is considered sensitive to

development. Where riparian woodlands occur within wetlands, impacts to the community, or to wildlife supported by the community, are considered significant. Where riparian species are not associated with wetland soil or hydrology, a determination of the significance of impacts to the community depends on the following factors:

a. Extent and value of the riparian community (i.e. diversity of plant and animal life, connection to other areas with habitat value, etc.

b. Presence or utilization by sensitive species.

c. Importance of the riparian community to the surrounding community.

d. Function as a stop-over place for native bird species.

e. Extent and degree of the impact.

Marshes. This community occurs where the water table is at or just above the ground surface and usually support a number of sensitive amphibians, reptile, and bird species. Natural freshwater marshes are considered significant biological resources. Freshwater marsh habitat has declined dramatically over the past few years. It is considered a sensitive habitat type. Direct impacts to naturally occurring freshwater marshes, or to wildlife occurring within the marshes, are considered significant. Human activities have resulted in the creation of marshes. Impacts to these marshes may be considered significant when the man-made marshes display biologically valuable functions, such as providing habitat to a diversity of native wildlife.

Urban Drainages. Runoff from urban areas can result in the degradation of natural drainages and the creation of waterways where non naturally occurred. These drainages are frequently channelized or partially channelized. These drainages are only considered significant biological resources when they support native species or act as wildlife movement corridors.

Coastal Sage Scrub and Coastal Mixed Chaparral. These communities are considered sensitive because they have declined as a result of development and have limited ranges. They support unusual and distinctive plant communities and are considered biologically significant resources. Impacts to these communities, or the wildlife supported by them, often are considered significant. When the site is small, isolated, and of limited biological value, impacts may not be considered significant. The extent and degree of the impact should be weighed against the biological value of the site in making this determination.

Native Grassland. The term refers to areas where native grasses occur. Where natives coexist with exotic grasses, the site should usually be considered "Native Grassland," and not "Disturbed Grassland." Impacts to native grasslands are usually considered significant. Even small, isolated sites are often considered significant because so little of the resource remains.

Marine Habitats. These include areas dominated by eelgrass, deep subtidal areas, and open ocean water areas. Marine habitats are extremely rich habitats. Many ocean-going species, including edible fish and shellfish species spend all or a portion of their lives in the marine areas immediately off the coast. Marine systems, like many terrestrial systems, exist in a intricate balance. They are extremely fragile and are very sensitive to human impacts. Impacts to marine systems are always considered significant.

Chaparral and Disturbed Grasslands. These habitats include a variety of types of chaparral and grass communities. Small patches of these communities (five acres or less) that

support no sensitive species are not considered sensitive. However, these communities often form integral links with other habitat areas and therefore act as wildlife corridors. They also frequently provide habitat for sensitive species. Under these circumstances these communities could be considered significant biological resources. The following factors should be considered to determine if the impact of a project on these community types would be significant:

a. Size and connection of the site to areas with habitat value.

b. Number (if any) and degree of sensitivity of the sensitive species present.

c. Condition and defensibility of the site (has a lot of disturbance occurred, and could that disturbance be prevented in the future?).

d. Extent and degree of the impact.

e. Species diversity present on the site.

1.2.4.4 Impact Analysis

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less than Significant with Mitigation

Monarch Butterfly. The fall aggregation area at the Project site within the tree windrow on the eastern boundary of the Buffer Zone has not been active in the past few years due to the drastic regional decline in the western population of this species. However, this analysis is based on the potential use of this area by Monarch butterflies during proposed decommissioning-remediation activities and future years (post-Project). Removal of trees that comprise the aggregation area is not proposed. Proposed tree removal would be located at least 800 feet from the aggregation area and would not substantially modify the micro-environment within the aggregation area (wind, temperature). However, Project-related heavy equipment activity would occur immediately adjacent to the aggregation area, which may disturb roosting Monarch butterflies and result in some mortality. Due the avoidance of direct impacts and distance from potential work areas this potential impact is less than significant. Regardless, **MM BIO-1** has been proposed to ensure potential impacts to Monarch butterflies are avoided.

Southern California Legless Lizard. This species may be present in the bluff areas overlying the Gail and Grace pipeline bundle and Marketing and Marine Terminal pipeline bundle. These pipelines would be abandoned in place with only the portion near the bluff face removed. Disturbance of potentially occupied legless lizard habitat would be about 0.3 acres and considered temporary as vegetation is anticipated to recolonize the backfilled excavations. Ground-borne noise and vibration associated with excavation and removal of pipelines is anticipated to prompt any individuals present to move away from impact areas. Given the presence of hundreds of acres of suitable habitat along the Carpinteria Bluffs, this small temporary loss of habitat would not significantly affect the local legless lizard population.

Western Snowy Plover. This species does not breed in the region but may forage on beaches adjacent to the Project site and proposed removal of surf zone portions of offshore

pipelines may reduce foraging opportunities. However, proposed surf zone pipeline removal activities would only preclude foraging on less than 200 linear feet of beach at any one time. Due to the presence of miles of suitable beach foraging habitat in the Project area, Project-related loss of foraging opportunities would not result in any increased mortality or decreased reproduction of the local snowy plover population.

Cooper's Hawk. This species forages in the Project area and may breed in the tree windrows on the Project site. Although only 62 of the approximately 1,500 trees at the Project site would be removed, the potential exists for impacts to nesting activities. To avoid such impacts all tree removals will be occur outside of the active nesting period, therefore potential impacts would not be significant. However, **MM BIO-2** includes a survey for nesting birds if work activities are scheduled between February 1 and August 31 (general nesting bird season). If any active nests are discovered within or adjacent to work limits, an appropriate buffer (i.e., 500 feet for raptors and 250 feet for other birds, or at the discretion of a qualified biologist based on biological or ecological reasons) shall be established to protect the nest until a qualified biologist has determined that the nest is no longer active and/or the young have fledged.

White-tailed Kite, Loggerhead Shrike and Sharp-shinned Hawk. These species are known to forage along the Carpinteria Bluffs and may occasionally forage within the Project site. Project-related habitat loss would consist of small areas of fragmented low quality habitat, with most of the higher quality habitat areas (tree windrows) preserved. Overall, the local populations of these species would not be significantly affected.

Scripp's Murrelet, Ashy Storm Petrel and Black Storm Petrel. These species may forage for fish, squid and crustaceans in the Santa Barbara Channel in the vicinity of offshore pipeline removal activities, which may preclude foraging opportunities nearby. The Project would only reduce foraging opportunities for these species over a few acres, of the many square miles of available foraging habitat. Overall, the local populations of these species would not be adversely affected.

Marine Mammals. Common dolphin, bottlenose dolphin, Risso's dolphin, Pacific white-sided dolphin, California gray whale, blue whale, minke whale, humpback whale, California sea lion and Pacific harbor seal have the potential to be encountered during offshore pipeline removal activities. Although highly unlikely, the Project-related use of vessels (including anchors), cranes, divers and remotely operated underwater vehicles has the potential to result in adverse impacts to marine mammals possibly including entanglement, harassment or vessel strikes. Impacts are considered potentially significant unless mitigated. **MM BIO-3** and **MM BIO-4** have been proposed for protection of marine mammals during Project activities.

Pacific Harbor Seal Haul-out/Rookery. The Carpinteria harbor seal rookery is located approximately 270 feet from the east side of the Gail and Grace pipeline bundle and approximately 1,200 feet east of the Marketing and Marine Terminal Offloading Line Bundle beach, surf zone and bluff pipeline removal areas. Project decommissioning activities, including excavation, removal of cement armaments, removal of rip rap, cutting of the pipe into sections and pulling of pipe sections offshore, have the potential to cause a significant disturbance to harbor seals if they are hauled-out on the beach during Project activities. Although no injury or mortality is expected to occur, even Project-related foot traffic on the beach may cause hauled-out harbor seals to

startle and flush into the water, which could qualify as a Level B harassment as defined by National Marine Fisheries Service (disrupting behavioral patterns).

As stated in the Project Description (see Section 7.2.3.3), surf zone pipeline removal operations would be scheduled to avoid periods (December 1 through May 31) when the haul-out area is in use by harbor seals. However, work conducted in adjacent areas when harbor seals are present may result in significant disturbance of this rookery. **MM BIO-4** has been proposed for protection of marine mammals during Project activities. A preliminary version of this measure has been included in Appendix C5 (Harbor Seal Protection Plan) of the Technical Appendices (Volume II).

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation

Riparian Habitats. A small patch of willows occurs in the Drainage No. 4 area (see Figure 1.2-2) and may be considered a riparian habitat. This area would not be affected by proposed decommissioning and remediation activities.

Environmentally Sensitive Habitat Areas (ESHA). Potentially affected ESHA includes the Monarch butterfly roost, harbor seal rookery, rocky intertidal and nearshore areas and the Carpinteria Bluffs. Potential impacts to the Monarch butterfly roost and harbor seal rookery are addressed above under checklist item a). Rocky intertidal and nearshore areas are addressed under Essential Fish Habitat below. Project impacts to the Carpinteria Bluffs would be limited to temporary habitat disturbance associated with removing pipe from the bluff face, as the balance of the pipelines south of the Union Pacific Railroad tracks would be abandoned in place. The gravel parking lot near the Casitas Pier would be restored with native vegetation (see Section 7.1.5 of the Project Description). Following Project-related soil disturbance, an increase in sediment laden run-off from the Project site and accelerated bluff erosion may occur and adversely impact the habitats of the Carpinteria Bluffs. These impacts may be potentially significant unless mitigated; however a stormwater management plan and habitat restoration plan (See Appendix C3) will be implemented as part of the project.

Essential Fish Habitat (EFH). Offshore pipeline removal would be conducted in sediments using limited hand jetting, underwater cutting, placement of flotation on the pipe and lifting pipe sections to the surface. Impacts to EFH would be limited as hard bottom habitat would be avoided. Turbidity generated by hand jetting would be very localized and temporary and not substantially affect EFH. Seafloor depressions caused by pipe removal would be filled by natural sediment transport processes caused by currents and wave energy. All project vessel anchor placement/retrieval and pipe removal in proximity to the intertidal and nearshore areas will be conducted in accordance with a project specific anchoring plan that avoids areas of known kelp beds and rocky reef habitats. Impacts to EFH will therefore be less than significant.

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

Less than Significant with Mitigation

Coastal Wetlands. Based on the coastal wetlands delineation conducted for the Project, two components would result in the loss or disturbance of coastal wetlands protected under the California Coastal Act:

- Removal of Tank 861 and related earthwork within the Chevron Pipeline Area: Wetland W-1 (0.17 acres)
- Pipeline removal from the bluff face in the western portion of the Pier Parking Lot Area: Wetland W-5 (approximately 0.1 acres of 0.65 acres)

The impact to Wetland W-1 would be permanent because the containment berm around Tank 861 that impounds storm run-off and provides adequate soil moisture for wetland development and persistence would be removed. The impact to Wetland W-5 would be temporary because the hydrophytic vegetation comprising these wetlands (quailbush) is expected to re-colonize the backfilled excavation at the bluff face. Impacts to coastal wetlands are considered potentially significant unless mitigated. **MM BIO-7** includes proposed mitigation for coastal wetlands replacement.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant

Onshore. The Project site is mostly developed, supports little native vegetation and does not connect two habitat areas. Excluding two small areas where pipes would be removed from the bluff face, Project-related vegetation removal and disturbance would be limited to developed areas. Overall, the proposed Project is not anticipated to significantly affect wildlife movement.

Offshore. Offshore pipeline removal activities would be limited to a small, focused work area (about five acres) within the 20-mile-wide Santa Barbara Channel. Therefore, the proposed Project would not preclude any fish, marine mammal or seabird movements. Impacts to specific special-status marine species are addressed under checklist item a).

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

Less than Significant

Excavation associated with soil remediation would result in the removal of 62 non-native trees, including 60 blue gum and two Monterey cypress trees. Tree removal would not occur within City-designated Open Space or ESHA. Trees on the Project site are considered to have biological value as they support a Monarch butterfly fall aggregation area and provide nesting habitat for raptors and other birds. Project-related tree removal represents four percent of the 1,500 trees on the Project site, which is less than the City's threshold of significance of 10 percent.

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

No Impact

The Project site is not subject to a habitat conservation plan, natural community conservation plan, or other habitat conservation plan.

1.2.4.5 Recommended Mitigation Measures

Implementation of the following mitigation measures would reduce impacts to special-status species, nesting birds, ESHA, Essential Fish Habitat and coastal wetlands to less than significant levels.

MM BIO-1: Monarch Butterfly Avoidance. A qualified biologist shall conduct twice monthly surveys of the aggregation area at least 30 days prior to any planned heavy equipment activity from October through December near the aggregation area. If roosting Monarch butterflies are found, work within 50 feet of the aggregation area tree canopy perimeter shall be postponed until the Monarch butterflies have abandoned the aggregation area. Plan Requirements/Timing: A compliance plan shall be submitted to the City and approved prior to the initiation of work and implemented for all work from October through December. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated biological monitor.

MM BIO-2: Nesting Bird Survey. If Project activities are scheduled between February 1 and August 31 (general nesting bird season), nesting bird surveys shall be completed by a qualified biologist no more than seven days prior to the start of work. The survey area shall include a minimum of 500 feet from all planned ground disturbance and vegetation removal. If any active nests are discovered within or adjacent to work limits, an appropriate buffer (i.e., 500 feet for raptors and 250 feet for other birds, or at the discretion of a qualified biologist based on biological or ecological reasons) shall be established to protect the nest until a qualified biologist has determined that the nest is no longer active and/or the young have fledged. Plan Requirements/Timing: A compliance plan shall be submitted to the City and approved prior to the initiation of work and implemented for all work between February 1 and August 31. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated biological monitor.

MM BIO-3: Marine Wildlife Contingency and Training Plan Implementation. A Marine Wildlife Contingency and Training Plan shall be developed and implemented during all offshore Project activities to reduce or eliminate potential impacts of the proposed decommissioning activities on marine mammals and birds (marine wildlife). The Plan shall include monitoring vessel transit, anchoring, underwater surveys and pipe removal operations by a designated monitor trained to detect marine wildlife. The monitor shall have the authority to halt marine operations that may adversely affect marine wildlife. Plan Requirements/Timing: The Marine Wildlife Contingency and Training Plan shall be submitted to the City and approved prior to the initiation of offshore work. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated marine wildlife monitor.

MM BIO-4: Harbor Seal Rookery Monitoring and Protection. The Carpinteria Harbor Seal Rookery Monitoring and Protection Plan (Appendix C5) or equivalent plan approved by the City shall be fully implemented during all Project-related activities within 1,000 feet of the haul-out/rookery. Plan Requirements/Timing: The Carpinteria Harbor Seal Rookery Monitoring and Protection Plan shall be approved by the City and implemented during periods when the haul-

out/rookery is active (December 1 through May 31). Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated marine wildlife monitor.

MM BIO-5: Habitat Restoration. The Preliminary Restoration/Revegetation Plan (Appendix C3) or equivalent plan approved by the City shall be fully implemented to address adverse impacts to ESHA. Plan Requirements/Timing: The Preliminary Restoration/Revegetation Plan shall be approved by the City and implemented on schedule as per the approved Plan including hydroseeding exposed soils prior to each rainy season. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated biological monitor.

MM BIO-6: Essential Fish Habitat Avoidance. No more than 90 days prior to commencement of offshore activities, a pre-decommissioning marine biological survey of nearshore pipeline corridors shall be conducted. Anchor pre-plots shall be developed and implemented to avoid kelp beds, rocky habitats and seagrass beds. Anchors shall be lowered vertically to the bottom and retrieved using a crown line as needed to avoid kelp beds, rocky reefs and seagrass beds. Plan Requirements/Timing: The results of the pre-decommissioning marine biological survey and anchor pre-plots shall be submitted to the City for review and fully implemented. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated marine wildlife monitor.

MM BIO-7: Coastal Wetlands Replacement. Wetland W-1 shall be replaced on a 1:1 basis by expansion of existing wetlands in the Drainage No. 4 Area. This requirement may be met by the following actions; however, alternative measures may be proposed as part of development of a coastal wetlands mitigation plan:

- The 36-inch high-density polyethylene pipe that bypasses storm run-off from Dump Road and the Former Marketing Terminal Area to the Railroad Ditch shall be removed to allow storm run-off to collect in the Drainage No. 4 Area.
- Following the completion of excavation and backfilling in the MSRC Lease Area, the Shop and Maintenance Area and the Chevron Pipeline Area, a surface drainage system shall be created that directs storm run-off from these areas to the Drainage No. 4 Area.
- Micro-grading to create shallow depressions and remove upland shrubs such as toyon shall be conducted in the Drainage No. 4 Area to provide space and hydrologic conditions conducive to wetlands colonization and expansion.

Plan Requirements/Timing: A coastal wetlands mitigation plan shall be prepared by the applicant, approved by the City and fully implemented within 120 days of the completion of soil remediation. Monitoring: The coastal wetlands mitigation plan shall include methodology to assess the success of wetlands mitigation. Monitoring and reporting shall be conducted periodically as needed to ensure the success of wetlands mitigation.

1.2.5 Cultural Resources

CULTURAL RESOURCES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

1.2.5.1 Setting

The following section provides a summary of the cultural resources known to occur on and adjacent to the Project Site. More detailed information can be found in Appendix F (Cultural Resources Assessment).

Archeological Context. Archaeologists working in the Santa Barbara Channel mainland region have divided the local prehistoric record into four major chronological time periods: pre-Millingstone Period (known also as Paleoindian or Paleo-coastal); Millingstone Period; Early Period; Middle Period; and Late Period.

Pre-Millingstone Period (~25,000 to 8,500 years ago). This period, which is sometimes also referred to as the Paleo-Indian, or Paleo-Coastal (Gamble, 2008; Glassow et al., 2007), represents the earliest human occupation in North America, beginning no earlier than 40,000 years ago and perhaps as recently as 25,000 to 20,000 years ago. This period coincides with the entry of people into the Americas during the latter part of the Wisconsin glaciation. At the end of this glacial period, the sea level began rising, submerging and eroding the flat coastal terraces at a rate of up to two meters per year (Barter et al., 1995).

Conclusive evidence of human occupation during the pre-Millingstone Period has been found at several coastal sites in neighboring San Luis Obispo County which date to the early Holocene, prior to 8,450 years ago At Diablo Canyon for example, Greenwood (1972) reported two multi-component sites with basal dates of 9,320 and 8,410 years ago More recently, archaeological evidence has emerged that confirms a human presence on the Channel Islands as early as 13,000 years ago (Johnson et al., 2002), while the earliest evidence of a human presence on the mainland has been dated to 10,000 to 11,000 years ago. During this early time period, Paleoindian groups focused on hunting Pleistocene epoch megafauna species such as mammoth, giant bison, and possibly camel, among others, although plant resources and smaller animals such as rodents and fowl likely remained an important dietary constituent.

Changing climactic conditions towards the end of the Pleistocene Period (9,000 to 8,000 years ago) are now believed to have significantly contributed to widespread faunal extinctions across the North American continent. The subsequent reduction in large game populations led to a shift in subsistence strategies on the part of prehistoric populations, who began placing greater emphasis on seeds, nuts, and smaller mammal resources such as deer and bear.

However, the relative paucity of sites and materials from this time, which has also been termed the "Paleocoastal" by Moratto (1984), suggests that population density was low, and settlements were impermanent. The subsistence strategy that would ultimately develop during this period would depend increasingly on the acquisition of plant foods, shellfish, and a limited variety of vertebrate species, procured through relatively simple technology (Greenwood, 1972; Jones and Waugh, 1995; Jones et al., 1994; King, 1982; 1990).

Millingstone Period (~8,500 to 6,500 years ago). The first fully definable period of human settlement in the Santa Barbara Channel area is known as the Millingstone Horizon. Appropriately named, the Millingstone Period is characterized by the predominance of hand stones and milling slabs in the archaeological record, indicating a reliance on hard seeds and other plant foods. Another term for this period is "Oak Grove", a name that was applied to it during the 1920s by archaeologist David Banks Rogers. A variety of flaked stone tools including leaf-shaped bifaces, oval bifacial knives, choppers, and scrapers are also present at Millingstone Period sites. This period was a time of rising sea levels that created additional lagoons and estuaries (Glassow et al., 2007). Although deer are represented in the archaeological record, hunting and fishing contributed little to the diet, with the faunal diet relying heavily on mussels and Pismo clams. Bone gorges occur and Olivella spp. spire-lopped shell beads appear in burials (Glassow et al., 2007). Residential bases are presumed to have been comprised of extended families during this period.

In addition to manos and metates, this period is also noted for a preponderance of hammer stones, which would have been used in the manufacture of flaked stone tools, which were in turn used for scraping, cutting, and planing, as well as for groundstone production and resurfacing. Some Millingstone Period sites have produced large quantities of fire-affected rocks, indicating that food products may have been baked, possibly in earth ovens. Shellfish comprised the primary source of protein during these period, and abundant remains of a variety of shellfish species are common among Millingstone Period sites situated along open coastlines (Glassow et al., 2007; Rogers, 1929; Wallace, 1955).

Recent evidence has surfaced that indicates this period may extend much further back in time than previously supposed (Johnson et al., 2002). Excavations at the Cross Creek Site (CA-SLO-1797) in adjacent San Luis Obispo County yielded artifacts typically associated with the Millingstone Horizon that dated to about 10,000 years ago (Jones, 2008).

Early Period (~6,500 to 3,200 years ago). Following the Millingstone Horizon, the Early Period lasted from approximately 6,500 to 3,200 years ago. During the period dating between 6,500 and 5,000 years ago, the climate in the Santa Barbara region, which had been generally cool and wet, became warmer and drier. Human population during this period appears to have declined significantly. Few archaeological sites are known from this period (Jones, 2008).

Archaeological data from the coastal areas of Santa Barbara County indicate that peoples at this time employed a more diversified subsistence strategy that included marine and terrestrial species, and a wider variety of plants for food and other uses (Santa Barbara Museum of Natural History, 2002). Archaeological evidence, in conjunction with data relating to the paleoclimate of this period, show that human populations fluctuated as temperatures and precipitation rates changed. Variability of seawater temperatures, which rose and fell during this period, led to further fluctuations in human populations along the Santa Barbara Channel coast as the availability of

specific marine species that those peoples had previously depended upon became harder to predict (Glassow, 1997; Glassow et al., 2007). In response to these climatic changes, local residential sites appear more settled, but not permanent, with an increase in logistical organization of economic activities (Jones et al., 1994). The greater diversity of site types during this period reflects an increasing number of short-term occupations near labor-intensive resources. Trade and exchange also increased in importance as population mobility decreased, as evidenced by exotic shell beads and obsidian materials in midden deposits (Jones et al., 1994)

Around 6,000 years ago, stone mortars and pestles begin to appear with regularity in the archaeological record, indicating additional changes in the scope and scale of vegetal resource procurement. The mortar and pestle are most commonly associated with the processing of acorns gathered from oaks (*Quercus* spp.). Along the coast of Carpinteria, however, these grinding and mashing implements were likely also employed in the processing of tubers and roots from plants growing along coastal estuaries, in addition to being used in the pulverization of dried meat (Glassow, 1997). Large animals such as elk, deer, and sea mammals were hunted with atlatl darts, a type of javelin or throwing spear that was affixed with large projectile points made of flaked stone such as chert or, less commonly, volcanic glass. Shellfish, California mussels in particular, remained an important dietary component (Glassow, 1997; Glassow et al., 2007).

By the end of the Early Period, people speaking a “Proto-Chumash” language had become established in the region, but their relationship with earlier peoples is not yet clear (Santa Barbara Museum of Natural History, 2002). Anthropologists refer to the peoples who inhabited the Santa Barbara Channel Island and mainland areas during the Early Period as Chumash.

Middle Period (~3,200 to 800 years ago). During the Middle Period marine resources were given greater prominence, and fishing and sea mammal hunting became widespread. The artifact assemblage from this period contains shellfish hooks and other fishing gear, saucer-type Olivella spp. beads, 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 (Glassow et al., 1988; King, 1990). Continuation of trade relationships is evident in the increased number of items made from obsidian and Catalina Island steatite, and beads associated with this period. Certain technological innovations like the circular shell fishhook and plank canoe (tomol) allowed for larger catches of fish and the ability to target certain marine species that could otherwise not be effectively acquired.

Tomol construction required considerable skill and effort. Asphaltum, a key component of plank canoe construction, was used as a caulking agent, making the watercraft more seaworthy (Gamble, 2008). Only chiefs or other high-status members of the Chumash communities had the ability to commission the construction of plank canoes. With the intensification of marine resource exploitation brought on by the advent of the tomol came a corresponding increase in population, which in turn gave rise to larger and more permanent coastal and island settlements (Gamble, 2008). This increase in population was not restricted to the coast, as evidenced by an increase in the number of inland camps and the presence of larger inland villages during this period. The advent of the tomol has also been associated with the development of complex exchange systems between the islands and the mainland (Santa Barbara Museum of Natural History, 2002).

It has been hypothesized by some researchers that the increased complexity of Chumash society, occurring between 4,500 and 2,000 years ago, was a response to technological advances

and other changes occurring during this period. This complexity is reflected in the archaeological record by objects of "wealth" and status, such as beads and ornaments, decorated hairpins, and ritual items, which appear in considerably greater numbers during this period (Santa Barbara Museum of Natural History, 2002). Changes in bead and ornamentation style, which also occurred during this period, are evident in burial contexts (Glassow et al., 2007).

The use of asphaltum in basketry and for other purposes greatly increased in the region around 3,000 years ago. Archaeological evidence for its use includes pieces of asphaltum with basketry impressions, tarring pebbles, and cobbles that are surface stained with asphaltum residue. Asphaltum was also used as an adhesive for the hafting of stone projectile points onto arrow foreshafts and to glue ornaments onto objects as an inlay (Glassow, 1997; Glassow et al., 2007).

Late Period (~800 years ago to 1769 A.D.). During the Late Period, two-thirds of the people in the Santa Barbara region lived near the coast and other settlements were located in oak woodland communities. The size of the settlements increased, and larger houses became more common (Gamble, 2008). Complex social and political organization, flexed burials, and elaborate shell and steatite bead industries were the hallmarks of this period (Olson, 1930; Orr, 1943; Moratto, 1984; Rogers, 1929). The Late Period involved a time of expanded social and economic complexity. Based on these interaction and settlement patterns, Rogers (1929) termed this period "Canaliño". Trade networks that were probably controlled by village chiefs were extended during this period and played an increasingly important role in local Chumash culture, reinforcing status differences and further encouraging craft specialization (Arnold, 1992).

Marine fishing retained its place as the prominent part of Chumash subsistence. Sardines, taken with nets made of plant fibers, were particularly important. The hunting of large land animals and the gathering of wild plants such as acorns and chia seeds continued to supplement the predominantly marine diet. Growth of seed-bearing plants was also promoted through selective burning (Gamble, 2008; King, 1990).

The use of shell bead money, often produced on the Northern Channel Islands, emphasizes the importance of trade among Chumash communities, which acted as a buffer against shortages of wild food resources. Warfare resulting from trespass into hunting, gathering, and fishing areas was also prevalent at the time of European contact (Santa Barbara Museum of Natural History, 2002). Spanish accounts from the eighteenth century contain numerous references to warfare among the Chumash. The archaeological evidence of violence dates back to at least the Middle Period (Santa Barbara Museum of Natural History, 2002).

The Chumash sociopolitical system became even more complex and hierarchical during the Late Period. All the major villages had several head men and one Chief (wot). The Chiefs were in control of most of the wealth and resources, but they were required to distribute the resources amongst the tribe. It was not uncommon for a single chief to hold responsibility for several villages. A counterbalance to the political power held by chiefs and headmen was represented by an elite class of quasi-religious authority figures, sometimes referred to individually as a shaman or astrologer, but more broadly known during the Late Period as 'antap. These individuals would also sometimes serve as herbalists and practitioners of traditional healing techniques and were heavily involved in the issuance of names to new tribe members (Hudson, 1972).

Ethnographic Context. The Project site is located within the ethnographic territory of the Chumash, who inhabited an area that extended from Morro Bay to Malibu along the coast (Kroeber, 1925), and east to the Carrizo Plain. The Chumash have been divided into several geographic groups, each associated with a distinct language dialect (Hoover, 1986). The Chumash living along the portion of the Santa Barbara County coast extending from Point Conception to Punta Gorda formed the Barbareño dialect group of the Chumash language family (Golla, 2007). This group was named for their association with the Spanish mission of Santa Barbara, founded in 1786. 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 Mescaltitlan Island – Goleta Slough, *syuxtun* at Burton Mound, and *mikiw* and *kuyamu* at Dos Pueblos.

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

associated with specialized knowledge and rituals such as weather prophet, ritual poisoner, herbalist, etc. (Bean, 1974).

The protohistoric culture of the Chumash, defined as the time when intermittent trade and contact was experienced between Native Americans and Spanish trading vessels en route to Asia, was disrupted by the arrival of the Spanish expedition led by Gaspar de Portolá in 1769. Historical accounts from the Portolá expedition and subsequent Juan Bautista de Anza expedition in 1774, as well as archaeological evidence, indicate that both expeditions passed through Santa Barbara County, with the former expedition stopping at Chumash villages located along the coastline directly adjacent to the Project site (Priestley, 1937).

The establishment of the Spanish missions of La Purísima Concepción and Santa Inés further disrupted Chumash culture in Santa Barbara County. Archaeological evidence verifies not only that the native population was rapidly decimated by missionization, but also that the culture itself disintegrated rapidly (Greenwood, 1978). Chartkoff and Chartkoff (1984) note that Spanish settlement barred many Native Americans from traditionally important resources including clamshell beads, abalone shells, Catalina Island steatite, shellfish, and asphaltum.

Historic Period Context.

Contact Period (A.D. 1542 - 1776). The historic record of Santa Barbara County began with the arrival of four Spanish expeditions between the years of 1542 (Juan Rodriguez Cabrillo) and 1602 (Sebastian Vizcaíño). Cabrillo visited many points along the coast and the Channel Islands while noting the names of the Chumash villages. At one point during the expedition, Cabrillo's ships anchored offshore of the Chumash village of *mishopshnow* at present-day Carpinteria State Beach. Men from the village paddled out to the ships in plank canoes to trade with the Spaniards. Cabrillo noted that the canoes were of sufficient size to accommodate approximately 12 men (Grant, 1978) and that asphaltum had been used to caulk the seams between the planks. 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.

In August and September 1769, Gaspar de Portolá led the first Spanish land expedition into what is now Santa Barbara County. Portolá, who was accompanied by his Lieutenant Pedro Fages, Engineer Miguel Costansó, and Father Juan Crespi, had set out to locate Monterey Bay. Portolá noted several major Chumash villages during the trip. As noted in the diary of Miguel Costansó, the Portolá expedition stopped in the vicinity of present-day Carpinteria on August 19, 1769, where they observed a "village or Indian town composed of thirty-two houses", located "near a small stream of excellent water which flowed from a canyon of the range" (Teggart, 1911). It was at this time that the general area was given the name Pueblo de Carpintería, with Carpintería being the Spanish word for "carpenter's shop", after members of the expedition observed a group of Chumash men constructing a tomol from wood planks (Priestly, 1937). Costansó also noted that the men, women, and children of the village greeted them with gifts of fresh and roasted fish and seemed eager to obtain glass beads and other trinkets that the Spanish used for trade (Teggart, 1911). Detailed accounts of the Portolá expedition exist, including those of Juan Crespi (Bolton, 1926), Miguel Costansó (Browning, 1992), and Pedro Fages (Priestley, 1937). Costansó's diary contains observations regarding the native inhabitants' houses, settlement patterns, dress, and customs, as well as their attitudes toward the expedition

(Browning, 1992). Fages noted the general Chumash population was distributed in small, numerous villages (Priestley, 1937).

In 1774, Juan Bautista de Anza led an expedition to establish an overland route to Alta California from Mexico, often passing over the same route as Portolá had five years before him. De Anza made a second trip in 1776, passing through Santa Barbara County as leader of the San Francisco colonists (Hoover et al., 1990). The 1776 expedition made several stops in Santa Barbara County, including one at La Rinconada (Rincon County Beach Park) on February 24, 1776, approximately 2.54 miles east-southeast of the Project site. This route, known today as the Juan Bautista De Anza National Historic Trail, runs from near Nogales, Arizona to San Francisco, California, and crosses through Santa Barbara County along State Highway 1.

Mission Period (A.D. 1772 – 1834). Junípero Serra founded Mission Santa Barbara, approximately 12.5 miles west-northwest of the Project site, on December 4, 1786. The mission was founded four years after the Royal Presidio had been constructed as a military garrison and seat of civil government in the middle section of the present limits of the City of Santa Barbara (Hawley, 1987). Two other missions were established in Santa Barbara County by the Franciscan order. These include Mission La Purísima Concepción, founded on December 8, 1787 to fill the gap between San Luis Obispo and Santa Barbara (Lebow et al., 2001), and Mission Santa Inés, founded on September 17, 1804 near present-day Solvang as a midway point between Mission Santa Barbara and Mission La Purísima Concepción. Newly baptized Chumash provided almost all the labor to construct and maintain the missions, which soon produced surplus amounts of wheat, beans, corn, cattle, and sheep for trade (Barter et al., 1995). Most of the missions were similar in design and consisted of a church and living quarters for the priests, soldiers, and baptized Chumash. As a result of the Spanish influence, the protohistoric material and social elements of the Chumash culture were severely disrupted. Traditional lifeways were either barred outright or made difficult to practice, as access to certain resources, such as steatite and shellfish, for example, became restricted. From the time of European contact, the Chumash cultural tradition changed dramatically, particularly because of religious indoctrination within the Native American communities. By 1803, the surrounding Chumash villages were barely inhabited (Hoover, 1990).

Rancho Period (A.D. 1822 – 1845). 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 (Hoover, 1990). Specifically, the Project site was once included within Rancho el Rincon (Arellanes), a 4,460-acre land grant awarded by Governor José Figueroa to Jose Teodoro Arellanes in 1835 (Hoffman, 1862). The grant extended along the Pacific coast near the Ventura County and Santa Barbara County line, encompassing Rincon Point, Rincon State Beach, and present-day La Conchita.

The standard rancho comprised a central family house with adjacent quarters for domestic servants and vaqueros. The labor force mostly consisted of local Chumash and often small rancherias or villages were scattered about the estate (Lebow et al., 2001). Sheep and cattle ranching became the principal agricultural activities, primarily for the lucrative hide and tallow trade (Bean, 1968).

By 1830, the nearby town of Santa Barbara had attracted 400 settlers and contained around 60 adobe houses located randomly, due to the absence of a formal street grid system. Most of these residences were constructed with tile roofs, but many had only earthen floors. These residence structures were occupied by Spanish, Mexican, and Anglo-American pioneers. Secularization of the Missions in 1834 initiated the Mexican Period and was characterized by a continuation of the Spanish practice of granting large ranchos to prominent claimants (Avina, 1973).

Anglo-Mexican Period (A.D. 1845-1860). Following the Bear Flag Revolt in 1846, John C. Frémont and his troops marched through the area while traveling to Santa Barbara. President Polk signed the Treaty of Guadalupe Hidalgo in 1848, marking the formal transfer of the territory to the United States. California was recognized as a state in September 1850.

Across California, courts reviewed the legality of each land grant on an individual basis. The Land Act of 1851 required all land grant owners to prove their title and ownerships rights. Because the Californios relied on vague surveys and land titles, it took an average of 17 years to receive their American land patents (Bean, 1968; Palmer, 1999). The Rancho el Rincon (Arellanes) was no exception, as a claim was filed by Jose Teodoro in 1852, but the land was not patented until 1872 (Willey, 1886).

Americanization Period (A.D. 1860-present). During the early American Period, the ranchos continued to raise cattle and sheep, but the industry shifted from hides and tallow to dairy and meat products. A dramatic population increase during the Gold Rush caused the demand (and price) for California livestock to soar (Barter et al., 1995). The severe drought from 1862 to 1864 was devastating for the cattle industry. By 1869, emphasis was on dairy cattle, sheep herding, and crop farming. Although the Arellanes family was successful in acquiring a land patent from the American government, the process was far from smooth. A long legal battle with the U.S. Supreme Court, who had initially rejected the Arrellanes' petition, went to appeals before finally being approved 19 years after the initial claim was filed. As a result, Arellanes and his heirs were forced to split the land into smaller parcels, much of which was sold to help pay the debts that the family had incurred during the long legal fight (Gilbert, 2004).

Many rancheros who survived financial ruin from the drought and the dramatic plunge in cattle prices, would eventually succumb to debts associated with ongoing legal challenges resulting from the Land Act of 1851. Often times, large land holders were unable to pay their property taxes and sold their land for as little as 25 cents per acre. New American settlers took advantage of depressed land prices, including Stephen Olmstead, a farmer who is regarded as the first American to settle in Carpinteria. Olmstead purchased the land west of Carpinteria Creek from various owners and began growing beans, grains, and potatoes (Gilbert, 2004).

During this period, the nearby town of Santa Barbara continued to expand. The use of adobe as the preferred construction material had largely been abandoned by 1860, in favor of more resilient materials such as brick and lumber. By 1870, pockets of Chinese, Italian, and German communities were established, often the product of local business enterprises. The transition from Mexican pueblo to American city saw the establishment of a new business district along State Street, between Gutierrez and Ortega Streets. In 1865, the first wharf was constructed in Santa Barbara, with a second, more substantial wharf that could accommodate

larger ships constructed by John P. Stearns in 1872. These improvements reflected growing commerce in the city, with commodities arriving principally by sea.

In 1887, the Southern Pacific Railroad completed a link between Los Angeles and Santa Barbara, with the first depot in Santa Barbara constructed between Mason and Yanonali Streets (Myrick, 1987). Another depot was built in the Ellwood area in 1889. When the railroad was constructed through Carpinteria during the summer of 1887, the track was installed along mostly the lower elevations of the near-shore coastal bluffs and intruded within the southern portion of property owned by the locally prominent Bailard and Higgins families. With the arrival of the railroad, agricultural and industrial commodities could be transported in larger amounts and by more rapid means. A direct consequence of this an increased population in the Carpinteria Valley, reaching approximately 1,350 individuals by the end of the nineteenth century.

The discovery of oil during the early 1890s resulted in the drilling of numerous wells, and the J.C. Lillis Oil Plant was formed in Summerland immediately to the west of Carpinteria (Smith, 1990). During the last quarter of the nineteenth century, asphalt mining began in earnest. The Las Conchas Asphalt Mine, located east of Carpinteria Creek and approximately 0.25 mile west of the Project site, actively produced material for both local use and wider distribution during the late nineteenth century. Previous attempts to mine the asphalt at Las Conchas were made by the Crushed Rock and Asphaltum Company of San Francisco, who constructed the Alcatraz Refinery on a coastal bluff near the source. Products coming from the refinery were marketed as “Alcatraz Asphalt”. Gilbert (2004) notes that the name of the mine, Las Conchas (“The Shells”), refers to the large quantity of clam, mussel, and other marine shell overburden, six to eight feet deep, which needed to be removed prior to mining. This shell overburden, likely midden material associated with the former Chumash village of *mishopshnow* (Gilbert, 2004), was removed by hydraulic washing and dumped into the ocean (Crawford, 1896).

In 1894, P.C. Higgins commissioned the excavation of a 354-foot-deep asphalt ‘well’, which Craig (1981) places along the coastal bluff to the south of the railroad and southwest of Dump Road, near the western edge of the present-day Casitas Pier parking lot (Mullens and Roberts, 1972). Although the Higgins asphalt mine was eventually abandoned, it was never properly filled-in and the area would later be referred to by locals as the Carpinteria Tar Pits. Historic aerial photographs of the area indicate that the former Higgins mine remained an easily recognizable feature on the shoreline until at least 1950.

The primary employment base in Carpinteria during the 1930s through the 1950s was agriculture and the oil industry. The major agricultural crops produced in the Carpinteria Valley during this period were lemons, avocados, walnuts, dry beans, and tomatoes. By 1958, the Carpinteria Valley was estimated to have had a population of approximately 6,500 residents.

Phineas Clark Higgins and the Carpinteria Airport. Phineas Clark Higgins, a farmer and entrepreneur from Illinois, settled in the Carpinteria Valley in 1882. Higgins purchased 108 acres between Carpinteria Creek and what is now Bailard Avenue, with the boundary of the Higgins property beginning at the shoreline and extending inland for approximately 0.4-mile. Higgins initially farmed beans and hay (Coastal View News, 2009), but would later plant lemons, which prospered in the local climate and led to a boom in his business. The need to provide his lemon orchards with sufficient irrigation led him to establish a network of water wells, which eventually fed irrigation lines throughout his property at a rate of approximately 67,500 gallons

per acre every six weeks. The success of Higgins' lemon business also necessitated the construction of his own packing facility near the Carpinteria railroad station in 1898. Higgins found additional success in the extraction and sale of tar, extracting vast amounts of the substance from multiple seams of asphaltum located on his property. The asphalt sold by Higgins to the local community was utilized for the creation of some of Santa Barbara County's first paved roads (Coastal View News, 2009).

The incredible success of Higgins' commercial enterprises allowed him to fund the construction of a large and elaborately designed three-story home along the Old Coast Highway (present-day Carpinteria Avenue). The exact location of the Higgins ranch house site is in a field on the west side of what is now Dump Road and is encompassed by the Project site boundary in the northern part of the Former Nursery Area (FNA). Eventually, most of the original Higgins property was sold to Standard Oil. The deteriorated Higgins home was declared an eyesore and a fire hazard and was torn down by Standard Oil between 1964 and 1965. Elements of the Higgins home, as well as personal articles such as a phonograph, were retrieved from the home prior to its demolition by the Carpinteria Valley Historical Society and are now on display at the Carpinteria Valley Museum of History (Coastal View News, 2009).

In 1928 Jack Chadbourne and Bob Donze established an airport on the property of the Catlin, Franklin, and Higgins families. The airport, known as Carpinteria Airport, also serviced Santa Barbara, which did not have its own airfield at that time. The airfield originally consisted of two runways in a "closed V" configuration, with a primary 1,500-foot runway oriented northwest-southeast, and a secondary runway oriented east-west. A short strip connected the two runways on the west side. The airport also featured a single, domed hangar building. Carpinteria airport operated from 1928 to 1935, and was utilized by such notables as Wiley Post, Howard Hughes, Will Rogers, and Charles Lindbergh (Freeman, 2019). As of this writing, the hangar building is still extant and is located at the southeast corner of Carpinteria Avenue and Dump Road.

History of the Carpinteria Oil and Gas Plant. Oil and gas processing equipment was initially constructed in the 1950s to support production from the offshore Summerland field developed by the Standard, Humble, and Summerland State joint venture. Oil and gas first flowed through Project site in 1959 after the commissioning of offshore Platform Hazel. The processed oil was metered and transferred to Tank 861, a 217,000-barrel capacity above-ground storage tank with a floating roof operated by Standard Oil's Pipeline Department (now Chevron Pipeline & Power). Produced gas that flowed to the Project site from Platform Hazel and later other offshore platforms was processed onsite and then sold to Southern California Gas Company via the Sales Gas Area (pipes, valves, meters, and equipment), which was also constructed in the late 1950s.

Historically, processing levels at the Carpinteria Oil and Gas Plant have been as high as 20,000 barrels per day of crude oil and 20 million standard cubic feet per day of natural gas. The Plant consisted of offices, production pipelines from offshore platforms, a connected system of product separation, processing, and storage facilities. Processed natural gas from the Plant was fed into the Southern California Gas Company network. Processed crude oil and natural gasoline were blended and shipped from the Chevron facility by way of pipeline to Ventura, from where it was piped to refineries in the Los Angeles area.

Historically, refined products and crude oil were also transferred from the Carpinteria facilities via marine tanker. However, the marine terminal, formerly accessed by an offshore mooring, is no longer operational. From 1960 to 1989, the oil and gas plant received oil and gas from several other offshore platforms constructed in the Santa Barbara Channel, including Hilda, Hope, Hazel, and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Upgrades and additions to the Plant facilities were completed to accommodate the varied quality of the additional oil and gas volume. Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996.

In 1996, primarily due to declining production and market oil prices, Chevron announced in early 1998 its intention to decommission and abandon the Carpinteria plant. Subsequently, Chevron sold its Santa Barbara Channel assets to Venoco, Inc. Although Platform Grace ceased production in 1998, the Plant and Tank 861 continued to handle oil and gas from Platform Gail until approximately 2017.

Cultural Records Search. Padre ordered an archaeological records search from the Central Coast Information Center of the California Historical Resources Information System at the University of California, Santa Barbara on November 1, 2018 and October 26, 2020. The records search included a review of all recorded historic-era and prehistoric archaeological sites within the Project site and a 0.25-mile radius, as well as a review of known cultural resource surveys and technical reports. Padre received the results on November 6, 2018 and November 9, 2020. The records search revealed that one resource, CA-SBA-6, is located within the Project Site. In addition, the records search identified eight previously recorded cultural resources within a 0.25-mile radius of the Project Site. Table 1.2-8 lists and describes these resources.

Table 1.2-8. Previously Recorded Cultural Resources

Primary No.	Trinomial No.	Description
P-42-000006	CA-SBA-6	Prehistoric shell midden and lithic scatter
P-42-000007	CA-SBA-7	Chumash village of *mishopshnow*
P-42-001670	CA-SBA-1670/H	Prehistoric lithic scatter and historic trash scatter
P-42-001722	CA-SBA-1722	Low density prehistoric artifact scatter
P-42-003734	CA-SBA-3734H	Oil tank footing
P-42-003735	CA-SBA-3735H	Las Conchas Mine and Alcatraz Refinery
P-42-003736	CA-SBA-3736H	Historic Trash Deposit
P-42-004018	CA-SBA-4018H	Historic trash deposit (now included in CA-SBA-6 as Locus D)
P-42-038778	-	Fragmented handstone
P-42-040779	-	1930s bridge

Site CA-SBA-6. The Project Site is located within CA-SBA-6, a large prehistoric shell midden and lithic scatter that indicates seasonal prehistoric habitation. Archaeologist David Rogers initially recorded CA-SBA-6 in 1929 as three distinct loci. He described the site as a dense shell midden between the sea cliff and the railroad with a hunting camp and a cemetery (Rogers, 1929). In addition to abundant marine shell fragments, the midden deposits were found to contain lithic debitage, flaked tools, groundstone, and faunal remains. According to Rogers (1929), a total of “no less than 150 skeletons” along with cinnabar beads and pendants, steatite

vessel fragments, projectile point fragments, stone sinkers, bone implements, stone bowls, pestles, and other milling equipment were unearthed by Lucien Higgins, the son of Phineas C. Higgins.

Subsequent archaeological investigations at CA-SBA-6 were carried out by Greenwood (1959), Horne (1977), and Craig and Singer (1979). Collectively, these later investigations indicate that prehistoric activity has been occurring at CA-SBA-6 potentially as far back as the Early Period, as suggested by Greenwood (1959), with subsequent occupations during the Middle Period (Rogers, 1929; Craig and Singer, 1979), and the Late Period (Rogers, 1929). In 1980, CA-SBA-6 was evaluated and determined eligible for listing on the NRHP; thus, CA-SBA-6 qualifies as a historical resource under CEQA.

Previous cultural resources studies completed within CA-SBA-6 in support of environmental management and development projects have confirmed that large portions of the site have been adversely impacted by previous land uses, including the development of the Carpinteria Oil and Gas Processing Facilities. Many of these studies (Craig and Singer, 1979; Wilcoxon, 1989; Dames and Moore, 1988; Hess, 1998; Westec, 1984) have also identified intact portions of CA-SBA-6 within the Chevron Pipeline Area, the Former Marketing Terminal Area, the Chevron Pipeline Area, the Pier Parking Lot Area, the Railroad Ditch Area, and the Former Nursery Area.

Because of the potential to encounter intact deposits and human remains, most ground disturbing activity within the Project Site has been monitored. In 2011, cultural resource monitors identified two additional prehistoric deposits (New Loci 1 and 2) and one historic trash deposit assigned to trinomial CA-SBA-4018H (James, 2012). As a result of monitoring in 2018 and 2019, Padre, in consultation with the CCIC, drew a new site boundary for CA-SBA-6 that includes all previously designated loci. From north to south, Rogers' loci have been renamed Locus A, Locus B, and Locus C. The historic trash deposit is now included in CA-SBA-6 as Locus D, and New Locus 1 and New Locus 2 retain their original designations.

1.2.5.2 Environmental Thresholds

State. Section 15064.5 of the State CEQA Guidelines states that a substantial adverse change in the significance of a historical resource may have a significant effect on the environment. Adverse changes may include demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. For the purposes of this document, a substantial adverse change to a historically significant resource is considered a significant impact. Material impairment occurs when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources;
- 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(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(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; or

- 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.

A cultural resource shall be considered to be "historically significant" if the resource meets the criteria for listing on the California Register of Historic Resources (Public Resources Code Section 5024.1) including the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- 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; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

City of Carpinteria. The City's CEQA Guidelines indicate archaeological sites containing only a surface component are generally considered not significant, unless demonstrated otherwise. Such sites may include: isolates, sparse lithic scatters, bedrock milling stations and shellfish processing stations. All other archaeological sites are considered potentially significant. The determination of significance is based on a number of factors including, but not limited to, the following: site type, artifact/ecofact density, site size, assemblage complexity (artifact/ecofact classes), subsurface deposit, cultural affiliation(s), stratigraphy, associations(s) with an important person or event, features, integrity, diagnostics, ethnic importance or datable material.

The determination of significance for historic buildings, structures and objects is based on such criteria as: age, uniqueness, location, integrity, context, or association(s) with an important person or event.

A site will be considered to possess ethnic significance if it is associated with burial(s)/cemetery, religious, social or traditional activities of a discrete ethnic population, an important person or event as defined by a discrete ethnic population.

1.2.5.3 Impact Analysis

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

No Impact

The cultural resources record search conducted for the Project did not identify any historical resources within the Project site. Therefore, impacts to historic resources are not anticipated. In any case, cultural resources monitoring (see mitigation measure **MM CUL-3**) allows for the identification, assessment and avoidance of any unreported historic resources found during Project implementation.

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

Less than Significant with Mitigation

Table 1.2-9 provides a summary of potential impacts to known or suspected prehistoric cultural resources at each of the operational areas to be affected by the proposed Project. Impacts to archaeological resources are likely to be significant unless mitigated. **MM CUL-1** through **MM CUL-8** have been proposed to minimize potential impacts.

Table 1.2-9. Summary of Potential Impacts to Prehistoric Cultural Resources

Operational Area	Project Activities Potentially Affecting Prehistoric Resources	Resources Known to the Present	Potential Project Impacts
Peninsula Area	Excavation of contaminated soil	None encountered during past surface surveys and subsurface testing	None
MSRC Lease Area	Removal of above and below grade structures, removal of asphalt and gravel ground surfaces, excavation of contaminated soil	Heavily disturbed portion of Site CA-SBA-6	May disturb isolated cultural artifacts and/or human remains
Main Plant Area	Removal of above and below grade structures, removal of asphalt and gravel ground surfaces, excavation of contaminated soil	Disturbed portion of Site CA-SBA-6, intact deposits may occur in the southern portion	May disturb intact or isolated cultural artifacts and/or human remains
Chevron Pipeline Area	Removal of above and below grade structures, removal of asphalt and gravel ground surfaces, excavation of contaminated soil	Heavily disturbed portion of Site CA-SBA-6	May disturb isolated cultural artifacts and/or human remains
Former Sandblast Area	Removal of pipelines at and near the bluff face	None encountered during past surface surveys and subsurface testing, but may contain elements of Site CA-SBA-6	May disturb isolated cultural artifacts and/or human remains
Pier Parking Lot Area	Removal of pipelines, riprap and vault at and near the bluff face, disc gravel parking lots	Disturbed portion of Site CA-SBA-6, intact deposits along the northern boundary	May disturb intact or isolated cultural artifacts and/or human remains
Former Marketing Terminal Area	Removal of above and below grade structures, removal of asphalt and gravel ground surfaces, excavation of contaminated soil	Heavily disturbed portion of Site CA-SBA-6	May disturb isolated cultural artifacts and/or human remains
Shop and Maintenance Area	Removal of above and below grade structures, removal of asphalt and gravel ground surfaces, excavation of contaminated soil	Heavily disturbed portion of Site CA-SBA-6	May disturb isolated cultural artifacts and/or human remains

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

Less than Significant with Mitigation

As summarized in Table 9, Project-related ground disturbance has the potential to disturb unknown human remains. Impacts to any discovered human remains may be significant unless mitigated. **MM CUL-1** through **MM CUL-8** have been proposed to minimize potential impacts.

1.2.5.4 Recommended Mitigation Measures

Implementation of the following mitigation measures would reduce potential impacts to known or discovered prehistoric cultural resources and human remains to less than significant levels.

MM CUL-1: Cultural Resources Management Plan (CRMP). The applicant shall retain an archaeologist that meets the minimum professional qualifications standards set forth by the U.S. Secretary of the Interior to prepare a comprehensive Project CRMP. The purpose of the CRMP is to document the actions and procedures to be followed to ensure avoidance or minimization of impacts to cultural resources consistent with CEQA Guidelines Section 15126.4(b). The CRMP shall include at a minimum and shall implement the performance standards in MM CUL-3 through 8:

- A description of the roles and responsibilities of cultural resources personnel (including Native American representatives), and the reporting relationships with Project construction management, including lines of communication and notification procedures.
- Description of how the monitoring shall occur.
- Description of frequency of monitoring (e.g., full-time, part time, spot checking).
- High-resolution maps for use by cultural resource monitors to identify locations of intact cultural deposits.
- Description of what resources are expected to be encountered.
- Description of circumstances that would result in the halting of work.
- Description of procedures for halting work on the site and notification procedures.
- Procedures for the appropriate treatment of human remains.
- Description of artifact collection, retention/disposal, and curation policies, including a statement that all cultural materials retained will be curated in accordance with the requirements of an identified, qualified curatorial facility, and that the applicant shall be responsible for all expenses associated with the curation of the materials at the qualified curatorial facility; and
- A description of monitoring reporting procedures including the requirement that reports resulting from the Project be filed with the Central Coast Information Center within one year of Project completion.

Plan Requirements/Timing: The CRMP shall be submitted to the City and approved prior to the initiation of any ground disturbance. Monitoring: Implementation of this measure shall be

initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-2: Worker Cultural Resources Awareness Program. The applicant shall develop and implement a worker cultural resources awareness program for all applicant staff, consultants, contractors, subcontractors, and other workers, with subsequent training sessions to accommodate new personnel becoming involved in the Project. The program may be conducted together with other environmental or safety awareness and education programs for the Project, provided that the program elements pertaining to cultural resources are provided by a qualified archaeologist. The awareness program shall address:

- The cultural sensitivity of the Project site and how to identify these types of resources.
- Specific procedures to be followed in the event of an inadvertent discovery.
- Safety procedures when working with monitors; and,
- Consequences in the event of noncompliance.

Plan Requirements/Timing: The worker cultural resources awareness program shall be submitted to the City and approved prior to the initiation of any ground disturbance. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-3: Cultural Resources Monitoring and Avoidance. Cultural resources monitoring shall be conducted during Project-related ground-disturbing activities for the purpose of identifying and avoiding impacts to cultural resources, consistent with the CRMP. The monitoring shall be conducted under the supervision of a City-approved archaeologist and a Native American representative. In the event of any inadvertent discovery of prehistoric or historic period archaeological resources during construction, all work within 50 feet of the discovery shall immediately cease (or greater or lesser distance as needed to protect the discovery and determined in the field by the Project archaeologist). The applicant shall immediately notify the City of Carpinteria. The Project archaeologist shall evaluate the significance of the discovery prior to resuming any activities that could impact the site/discovery. If the Project archaeologist determines that the find may qualify for listing in the CRHR, the site shall be avoided or shall be subject to a mitigation program, such as data recovery excavations, and funded by the applicant. Work shall not resume until authorization is received from the City. Plan Requirements/Timing: Cultural resources monitoring requirements shall be documented in the approved CRMP. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-4: Avoidance of Inadvertent Impacts to Cultural Resources. The applicant shall ensure that Project-related activities are limited to permitted areas to avoid inadvertent impacts to Site CA-SBA-6. An exclusion zone shall be designated around each intact portion of CA-SBA-6 within the Project site. An exclusion zone is a fenced area where construction equipment and personnel are not permitted. The exclusion zone fencing shall be installed (and later removed) under the direction of a City-approved archaeologist and a Native American representative and shall be placed one meter beyond the boundary of the defined area to avoid inadvertent damage to cultural resources during installation. Plan Requirements/Timing: Exclusion zones shall be documented in the approved CRMP and fenced prior to ground

disturbance. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-5: Identification of Discovered Human Remains. Human remains and burials have been encountered during previous cultural resources studies within the Project site. The applicant shall retain a forensic anthropologist (or functional equivalent) to examine and identify bone fragments as human or not human. The forensic anthropologist may be available on an on-call basis and not need to be present during all ground disturbance. Additionally, if numerous bone fragments are encountered during ground-disturbing activities, arrangements shall be made for the forensic anthropologist to make regularly scheduled (i.e., weekly, monthly) visits. Plan Requirements/Timing: A forensic anthropologist (or functional equivalent) shall be under contract prior to any ground disturbance. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-6: Avoidance of Human Remains. If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. The City shall be immediately notified of any human remains found. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission. Plan Requirements/Timing: Notification requirements and contacts shall be documented in the approved CRMP. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-7: Curation of Cultural Materials. Prior to any ground disturbance, the applicant shall identify a single accredited repository at which to curate all archaeological materials recovered from the Project Site. The repository shall be located in southern California so that the materials are available locally to Tribal members and researchers and shall meet the standards provided in the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections. The applicant shall work with the identified local curatorial facility to transfer curation of materials currently in their possession or currently housed at a non-local facility, to the agreed-upon accredited local repository such that the materials can be accessioned as a unified collection. Subsequently, materials transferred from a non-local facility may require evaluation using current analytic methods to re-analyze artifacts and faunal remains that were recovered from CA-SBA-6 during previous excavations. If it is determined that there is no southern California curation facility that can accommodate the entire CA-SBA-6 collection, other accredited facilities in the State of California may be considered. Plan Requirements/Timing: Curation requirements and contacts shall be documented in the approved CRMP. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-8: Phase III Data Recovery. Any potentially intact portions of CA-SBA-6 that may be impacted by the Project shall first be mitigated with Phase III data recovery excavations prior to ground disturbance. The Phase III data recovery excavations shall be conducted under the direction of a research design and testing plan and may consist of a combination of Data Recovery Excavation Units and Shovel Test Probes. Plan Requirements/Timing: The approved CRMP shall identify conditions when a Phase III data recovery program is required and methods

for implementation. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

1.2.6 Energy

ENERGY Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

1.2.6.1 Setting

Energy is provided to the Project area in the form of electricity from Southern California Edison and natural gas from the Southern California Gas Company.

1.2.6.2 Environmental Thresholds

The City has not adopted significance thresholds for energy-related impacts. Therefore, potential impacts to Energy resources are based upon the CEQA Guidelines, Appendix G questions presented in the checklist table as discussed below.

1.2.6.3 Impact Analysis

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Less than Significant

The proposed Project would consume non-renewable energy in the form of fuels for vehicles, vessels and equipment used for decommissioning and remediation. This energy use would not be wasteful, inefficient or unnecessary.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact

The proposed Project would not conflict with any State or local plan for renewable energy or energy efficiency.

1.2.7 Geology and Soils

GEOLOGY AND SOILS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault				X
2. Strong seismic ground shaking				X
3. Seismic-related ground failure, including liquefaction				X
4. Landslides				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?		X		
d) Be located on expansive soil, as defined- in Table 1-B of the *Uniform Building Code*, creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

1.2.7.1 Setting

Regional Geology. The Project site is located within the Transverse Ranges geomorphic province of southern California. The Transverse Ranges province is oriented generally east-west, which is oblique to the general north-northwest structural trend of California mountain ranges. The Transverse Ranges province extends from the Los Angeles Basin westward to Point Arguello and is composed of Cenozoic-to Mesozoic-age sedimentary, igneous, and metamorphic rocks. Near the Project site, the Santa Ynez Mountains and adjacent lowlands are comprised of sedimentary rocks and soil materials ranging in age from Cretaceous to Holocene.

Structural geology in the Carpinteria area consists of mountain, foothill, and low-lying coastal plain areas of generally south-dipping (and locally overturned north-dipping) bedrock units. Bedrock in the coastal plain and foothill areas are generally overlain by younger and older alluvium. The Carpinteria area generally contains a series of subparallel, east-west trending faults

and folds that are the result of north-south compressional tectonics. The faults and folds roughly parallel the Santa Ynez Mountains and are present inland and offshore in the Santa Barbara Channel. Geology in the Project area consists of a low-lying coastal plain of Quaternary-age alluvium overlying a thick sequence of early Pleistocene-age to Tertiary-age sedimentary rocks.

Site-Specific Geology. The Project site is located on an emergent coastal terrace, descending to a narrow sandy beach and the Pacific Ocean. Elevations range from approximately 65 feet above mean sea level along the eastern perimeter of the Project site to approximately 40 feet above mean sea level along the western perimeter of the Project site (GeoMega, 2003). Quaternary marine terrace deposits that consist primarily of silty and sandy clays to coarse-grained sands underlie the Project site. These marine terrace deposits overlie the Miocene Monterey Formation, which consists of marine shales and siltstones.

Earth materials encountered during soil assessment activities (up to 30 feet below ground surface) generally consisted of unconsolidated sediments including poorly-graded sand, well-graded sand, silty sand, clayey sand, silt and subordinate layers of clay. Native soil at certain areas of the Project site is covered by thin layers (approximately 6 to 24 inches deep) of imported fill material and/or concrete. The underlying weathered bedrock surface of the Monterey Formation (logged as siltstone, shale, or hard silt/weathered bedrock) was observed at several drill hole locations at depths ranging from approximately 12 feet to 25 feet below ground surface. Tar and/or oil seep deposits consistent with documented naturally occurring petroleum hydrocarbon deposits found locally in the Monterey Formation.

Local Faults. The Carpinteria Fault extends through the Project site and is part of the Mesa-Rincon Creek Fault Zone. The Carpinteria Fault has been displaced within the last 700,000 years. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone.

Regional Soils Mapping. Based on the Soil Survey of Santa Barbara County, California, Coastal Part (Shipman, 1981) soils within the northern portion of the facility (approximately ½ way down Dump Road) are classified as GcA (Goleta fine sandy loam), and soils within the southern portion of the site to the bluff edge are XA (Xerorthents, cut and fill areas). Undisturbed soils along the bluffs are MeC (Milpitas-Positas fine sandy loam), and soils along the shoreline are associated with BE (Beaches).

Tsunami/Seiches. Tsunamis and seiches are two types of water waves that are generated by earthquake events. Tsunamis are broad-wavelength ocean waves and seiches are standing waves within confined bodies of water, typically reservoirs. A tsunami inundation hazard zone has been identified by the California Emergency Management Agency at the Project site but is limited to the area seaward of the bluff. No waterbodies are located in the Project area that could produce a seiche.

Liquefaction/Settlement. Liquefaction is a phenomenon that occurs when loosely consolidated soils lose their load bearing capabilities during ground shaking and flow in a fluid-like manner. The Project site is not located within an area identified by the City as containing soils with high or moderate liquefaction potential (City of Carpinteria, 2003). Soil settlement is the downward movement of soil or of structures it supports, resulting from a reduction in the voids in the underlying strata. The Project site has been mapped as having a potentially high potential for soil settlement (City of Carpinteria, 2003).

Expansive Soils. Expansive soils are primarily clay-rich soils subject to changes in volume with changes in moisture content. The resultant shrinking and swelling of soils can influence fixed structures, utilities and roadways. In addition, as expansive soils on sloping ground expands and contracts, it tends to move downslope in response to gravity. Based on the Soil Survey of Santa Barbara County, California, Coastal Part (Shipman, 1981), the Project site supports soils with a low shrink-swell potential. Therefore, the Project site does not include expansive soils.

Bluff Retreat. The coastal bluff along the southern portion of the Project site experiences erosion associated with large winter storm waves. A Bluff Retreat Evaluation Report (see Appendix G) prepared for the Project (Padre, 2021d) provides an estimated average annual retreat rate of 14 cm/year (5.6 inches/year) based on a comparison of 2020 to 1998 topographic data. This value is consistent with a past study of the area by von Thury (2013).

1.2.7.2 Environmental Thresholds

The City's CEQA Guidelines indicate the following conditions or impacts should be considered significant with respect to geology and soils:

- The graded or cleared portion of the site includes more than 10,000 square feet of area having a slope greater than 15 percent.
- There is a significant risk that more than 2,500 square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season.
- Grading or clearing will occur within 50 feet of any watercourse or 100-year floodplain.
- Grading will involve cut and fill volumes of 3,000 cubic yards or more or cut or fill heights of 15 feet or greater.
- The project will significantly increase water runoff, velocities, peak discharges, or water surface elevations on or off-site. Coordinate with the Department of Public Works for clarification.
- The project will produce erosion impacts which constitute a structural hazard or significant visual impact or will result in sediment or excessive drainage flows which cannot be contained or controlled on-site.
- The project will result in impacts which violate or are in conflict with any of the Federal, State, or local policies, ordinances or regulations listed above.
- Any cut or fill slope over 15 feet in height is potentially significant for grading, visual, erosion, siltation and community character impacts.
- Any grading which includes the addition, removal or moving of earth is potentially significant.
- Any grading proposed within environmentally sensitive areas is potentially significant.

1.2.7.3 Impact Analysis

a1) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the

most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

a2) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

a3) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a4) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

a1 through a4). No Impact

The Project site is not located within an area identified by the California Department of Conservation as an active (Alquist-Priolo) earthquake fault zone. The Project does not involve any structures or other development that would increase the number of persons subject to potential seismic hazards. In addition, the proposed Project does not involve any features or processes that would increase the severity of potential seismic hazards at the Project site or adjacent land uses. No increased exposure of people or structures to geologic hazards from seismic shaking or seismic-related ground failure or landslides would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant

Soil would be disturbed during removal of equipment, pipelines, surface materials (asphalt, gravel) and remediation of contaminated soils. Disturbed areas would be graded to approximate pre-Project topography. Excavations would be backfilled with clean imported soil and compacted to achieve a minimum of 90 percent of the maximum dry density of the selected fill material. A soil binder and/or seed mix would be applied to minimize erosion of exposed soils. Therefore, substantial soil erosion would not occur.

Proposed decommissioning activities would involve removal of surface soils at the Project site. However, soils to be removed mostly consist of imported materials used to construct the Facility. Therefore, substantial loss of topsoil would not occur. In any case, the Project site is not zoned for agriculture such that the presence of topsoil would not affect future land use.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant with Mitigation

The coastal bluff at the Project site is known to be retreating. Proposed removal of pipe segments and concrete armoring within and adjacent to the bluff face may cause localized bluff erosion and accelerate existing bluff retreat. Potential impacts to bluff erosion are considered potentially significant unless mitigated. **MM GEO-1** would be implemented to reduce potential impacts and ensure bluff stabilization.

d) Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?

No Impact

Based on regional soil mapping, the Project site does not support expansive soils. Additionally, the proposed Project does not involve any features or processes that would increase the severity of potential expansive soil hazards at the Project site or adjacent land uses. No exposure of people or structures to geologic hazards from expansive soils would occur.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact

The Project does not involve any development that would generate municipal wastewater or require the use of septic tanks or alternative wastewater disposal systems.

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

Less than Significant

As noted above, Quaternary marine terrace deposits that consist primarily of silty and sandy clays to coarse-grained sands underlie the Project site. These marine terrace deposits overlie the Miocene Monterey Formation, which consists of marine shales and siltstones. The Monterey Formation is listed as having moderate paleontological importance regionally (Ventura County, 2011). Carpinteria asphaltum deposits (tar seeps), which are present within the Project site, can be associated with paleontological resources (Padre, 2021c). The proposed Project would not involve excavation with the Monterey Formation or tar seeps. Therefore, the potential to disturb paleontological resources is considered low and impacts less than significant.

1.2.7.4 Recommended Mitigation Measures

Implementation of the following mitigation measure would reduce potential impacts associated with acceleration of coastal bluff retreat to less than significant levels.

MM GEO-1: Bluff Stabilization. Areas immediately adjacent to the bluff face disturbed by removal of pipelines and related components shall be stabilized to avoid or minimize the potential for the proposed Project to cause accelerated bluff retreat. Stabilization may include backfill and compaction using suitable fill material, and revegetation, or other measures identified by a geotechnical engineer. Plan Requirements/Timing: A bluff stabilization plan shall be submitted to the City and approved prior to any ground disturbance within 100 feet of the bluff face. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by a geologist.

1.2.8 Greenhouse Gas Emissions

GREENHOUSE GAS EMISSIONS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?				X

1.2.8.1 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, or man-made, factors including changes in land-use and burning of fossil fuels. Anthropogenic activities such as deforestation and fossil fuel combustion emit heat-trapping GHGs, 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°F 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°F per decade since 1880 and over twice that rate (0.32°F) since 1981. From 1900 to 1980 a new temperature record was set on average every 13.5 years; however, 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 excluded because ozone is short-lived does not substantially contribute to climate change, and water vapor is a natural component of the atmosphere and not affected by most projects.

- 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 CO2 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. SF6 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, 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 construction of the proposed Project 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. 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 (Assembly Bill [AB] 32). AB 32 focuses on reducing GHG emissions in California and requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. In addition, two State-level Executive Orders have been enacted by the Governor (Executive Order S-3-05, signed June 1, 2005, and Executive Order B-30-15 , signed April 29, 2015) related to GHG emission reduction targets, purporting to establish reduction targets in GHG emissions of 80% below 1990 levels by 2050 and 40% below 1990 levels by 2030, respectively.

In December of 2009, the California Natural Resources Agency adopted amendments to the CEQA Guidelines (Title 14, Cal. Code of Regulations, §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 (Public Resources Code §15064.4), 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.

Santa Barbara County completed the first phase (Climate Action Study) of its climate action strategy in September 2011. The Climate Action Study provides a County-wide GHG inventory and an evaluation of potential emission reduction measures. The second phase of the County's climate action strategy is an Energy and Climate Action Plan (ECAP), which was adopted by the County Board of Supervisors on June 2, 2015. The ECAP includes a base year (2007) GHG inventory for unincorporated areas of the County, which identifies total GHG emissions of 1,192,970 metric tons CO_2E and 28,560 metric tons CO_2E for construction and mining equipment (the primary Project-related GHG sources). Note that the base year inventory does not include stationary sources and energy use (natural gas combustion and electricity generation).

The focus of the ECAP is to establish a 15 percent GHG reduction target from baseline (by 2020) and develop source-based and land use-based strategies to meet this target. The County has been implementing the plan's emission reduction measures since 2016. However, the County did not to meet the 2020 GHG emission reduction goal contained within the ECAP, and an updated 2030 Climate Action Plan is in development.

1.2.8.2 Environmental Thresholds

The City has not adopted any GHG emissions significance thresholds. The SBCAPCD has developed a GHG threshold of significance of 10,000 metric tons CO_2E per year, which applies to stationary pollutant sources. Although the Oil and Gas Processing Facilities are considered an industrial stationary source, proposed decommissioning and site remediation 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.

1.2.8.3 Impact Analysis

a) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant

Peak year decommissioning/remediation-related air pollutant emissions were estimated for comparison to the SBCAPCD's stationary source threshold (See Appendix E). GHG emissions sources and GHG emissions factors sources are listed below:

- Onshore equipment (excavator, wheeled loader, dozer, backhoe, grader, soil compactor, boom lift, welders, etc.): OFFROAD 2017 model (CO_2), California Climate Action Registry General Reporting Protocol (Table C.6, N_2O, CH_4).
- Offshore equipment and vessels (pipe flush pump, Toyo pump, air compressor, dive compressor, derrick barge crane and winch, derrick barge tug, materials barge tug, crew/support vessel, dive support vessel, survey vessel): San Pedro Bay Ports Emissions Inventory (Starcrest Consulting Group, 2019) and outboard motor Federal emissions standards (survey vessel).
- On-road vehicles (worker vehicles, heavy-duty trucks); EMFAC 2021 model (CARB, 2021)

GHG emissions were estimated for each major Project phase to identify the peak 12-month period. Table 1.2-10 provides a summary of the GHG emissions estimates in comparison to SBCAPCD's annual stationary source threshold, and represents higher emissions associated with the option to dispose of offshore pipe at Port Hueneme instead of the Port of Long Beach. Decommissioning and remediation-related GHG emissions (see Table 10) would not exceed the SBCAPCD's stationary source threshold and are considered a less than significant impact to global climate change.

Table 1.2-10. Decommissioning GHG Emissions Summary (metric tons)

Parameter	CO_2	CH_4	N_2O	CO_2E
Peak 12-month period	1,714.3	0.033	0.127	1,748.9
SBCAPCD's stationary source threshold				***10,000***

b) Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact

The ECAP provides a greenhouse gas reduction strategy with numerous measures to be implemented for various sources. Only Measure BE 10 is applicable to the proposed Project as it addresses operation of heavy equipment to be used for decommissioning and remediation activities.

> *Construction Equipment Operations (BE 10) Measure: Implement best management practices (BMPs) for construction equipment operation; examples of BMPs include reduced equipment idling, use of alternative fuels or electrification of equipment, and proper maintenance and labeling of equipment.*

The identification of feasible best management practices within the County ECAP has not been completed to date and heavy equipment operating on alternative fuels or electricity are not readily available. However, heavy equipment used for Project construction and routine maintenance would be properly maintained and comply with Section 2449 of the California Code of Regulations which includes limitations on idling for off-road diesel vehicles. Therefore, the proposed Project would be consistent with this measure.

1.2.9 Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?				X
d) Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

1.2.9.1 Setting

Oil and Gas Processing. The Project site has been developed as an oil and gas processing facility since the 1950's. Historically, processing levels at the Chevron facility have been as high as 20,000 barrels per day of crude oil and 20 million standard cubic feet (MMSCF) per day of natural gas. Processed natural gas from the plant was fed into the Southern California Gas (SoCal Gas) Company network. Processed crude oil and natural gasoline were blended and shipped from the Chevron facility by way of pipeline to Ventura, from where it was piped to refineries in the Los Angeles area. Historically, refined products and crude oil were also transferred from the Carpinteria facilities via marine tanker. However, the marine terminal, formerly accessed by an offshore mooring, is no longer operational. Although Platform Grace ceased production in 1998, the Plant and Tank 861 continued to receive oil and gas from Platform Gail until approximately 2017.

Soil Contamination. Several site-wide and localized hydrocarbon and pesticide site assessment events and impacted soil remediation activities have been completed at the Project

site between the 1980s and 2019. The results of recent site assessment activities (See Appendix B) indicated constituents of concern in excess of applicable soil screening levels including total petroleum hydrocarbons, polychlorinated biphenyls, California-regulated metals, and chlorinated pesticides, as well as localized petroleum hydrocarbons and polychlorinated biphenyls impacts to groundwater at the Project site.

Project Methodology. The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any contaminated soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment. Prior to removal, all structures/equipment would be inspected to confirm they have been properly vented, drained, and cleaned of any residual hydrocarbons. Therefore, the only risk of hazardous materials during Project activities would be from construction equipment that require storage and use of diesel fuel and gasoline or from potential exposure during soil remediation activities. Additionally, there is risk of upset during removal, containment, and transport of hazardous materials such as asbestos and lead-based paint identified in limited quantities during preliminary testing of equipment and facilities at the Project site.

1.2.9.2 Environmental Thresholds

The City's Environmental Thresholds Manual provides a framework to classify the potential magnitude and frequency of events that may pose an involuntary public exposure to a safety hazard. For example, a "negligible" safety hazard is described as having "no significant risk to the public, with no minor injuries." Additionally, Appendix G of the CEQA Guidelines indicates that a project would have a significant impact due to hazards or hazardous materials if it would create a public health hazard, expose people to a potential health hazard or pose a threat to the environment through the use, production or disposal of materials which pose a hazard.

1.2.9.3 Impact Analysis

a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

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

a and b). Less Than Significant with Mitigation

Onshore*.* No development is proposed that would include the use, storage, or distribution of hazardous materials. However, proposed decommissioning and remediation activities would involve the use of diesel fuel and gasoline in vehicles and construction equipment. Fuel storage at the Project site is not proposed, such that substantial spillage or exposure of the public to these materials is not anticipated.

The proposed Project would involve the excavation and transportation of contaminated soils. These soils would be handled and transported as described in the Project Description and Interim Remedial Action Plan (see Appendix B) to minimize public exposure, including dust suppression, sweeping of roadways to limit off-site migration of dust, soil sampling during excavation, segregation and stockpiling of soils considered hazardous, transportation in covered

bins or truck beds, and disposal at an appropriate facility, based on contamination levels and constituents.

As described in Section 5.3 of the Project Description, onshore facilities have been inventoried and sampled for the presence of asbestos and lead-based paint. Subsurface pipelines (contents and any coating materials) would be assessed for the presence of contaminated materials for waste characterization and removal planning purposes. Removal would be accomplished utilizing an excavator and/or hydro-excavation methods to safely excavate buried pipelines in consideration of other potential adjacent uses or lines, and the pipelines would be removed and cut into sections appropriate for hauling. If contaminated materials (i.e., asbestos) are present, the pipelines would be managed accordingly as directed by a certified hazardous materials oversight specialist. Overall, impacts to the public or the environment associated with proposed onshore decommissioning and remediation activities would be less than significant.

Nearshore/Offshore. There are no active pipelines included within the proposed decommissioning activities. Prior to removal, the offshore pipelines would be pigged and flushed to avoid discharge of crude oil or natural gas liquids to the environment. Vessels and related equipment used to remove beach, nearshore and offshore pipe segments would contain fuel, coolant, lubricants, and other hydrocarbons which may be considered hazardous if discharged to the marine environment. However, the Project vessels would have a limited amount of fueled equipment on board, which greatly reduces both the likelihood that a release would occur and the severity of any release. The likelihood of a vessel fuel spill due to a collision is also extremely small given the brief duration of decommissioning activities, and the required noticing to other vessel operators via the Advanced Notice to Mariners. The inadvertent release of hydrocarbons into the marine environment is considered a potentially significant impact unless mitigated. To prevent or minimize potential impacts, **MM HAZ-3** includes development of an anchoring plan within the contractor's Project Work and Safety Plan to ensure anchor pre-plots are developed to avoid pipelines within the Project area. In the event of an unanticipated release, **MM HAZ-1** would reduce potential impacts through implementation of an Oil Spill Contingency and Response Plan.

Recovered beach, nearshore and offshore pipelines may have external coatings or mastic filler containing asbestos. Improper disposal of pipe segments with asbestos-containing coatings once transported to shore may result in a significant exposure to the public.

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

No Impact

The Project site is not located within 0.25 mile of an existing or proposed school. No impact would result.

d) Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact

The Project site is not listed as a hazardous materials site pursuant to Government Code Section 65962.5 (DTSC, 2021). In addition, no development is proposed that would create a significant hazard to the public or environment. The Project is intended to clear the Project site of equipment and remediate existing contaminated soils. No impact would result.

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

No Impact

The Project site is not located within an airport land use plan or within two miles of a public airport or public use airport. No impact would result.

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

No Impact

The Project will not interfere with any adopted evacuation or emergency response plan. Ingress and egress to the onshore Project site is via Dump Road, which is also the access route to MSRC, the Carpinteria Oil and Gas Processing Facility, City of Carpinteria Tar Pits Park and open space areas, and the Casitas Pier employee parking lot. The additional traffic from the project will not significantly impact Dump Road's ability to function as an egress route for these land uses during an emergency.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

No Impact

The Project site is not located within or near a Very High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. The Project site is located within a low fire hazard area as defined within the City General Plan (Figure S-5, Seismic Safety and Safety Element). The Project would not involve work in highly flammable vegetation, would not include any new structures or otherwise increase the risk of people or structures to wildfires. Therefore, there would be no impact.

1.2.9.4 Recommended Mitigation Measures

Implementation of the following mitigation measures would reduce public exposure to potential hydrocarbon spills and asbestos to less than significant levels.

MM HAZ-1: Oil Spill Response and Contingency Plan (OSRCP). The applicant shall adhere to the existing facility Oil Spill Response Plan during all Project activities. Additionally, the applicant shall submit a Project-specific OSRCP for approval by the City and implemented as needed throughout the duration of the Project. The OSRCP will be consistent with the existing approved Oil Spill Response Program for the facility, and shall identify procedures, personnel and equipment to detect, notify, contain and dispose of any hydrocarbon spillage including fuels and any residual oil in the recovered pipelines. Plan Requirements/Timing: The OSRCP shall be submitted to the City and approved prior to any in-water work. Monitoring: Implementation of this

measure shall be initiated by the applicant project manager and monitored by offshore site supervisor.

MM HAZ-2: Asbestos Exposure Minimization. Buried onshore and marine pipelines (beach, nearshore, offshore) shall be assessed for the presence of asbestos prior to disposal. If asbestos is found above action levels, the recovered pipeline segments shall be managed (offloading, cutting, disposal) accordingly as directed by a certified hazardous materials oversight specialist. Plan Requirements/Timing: The results of pipe segment asbestos testing shall be submitted to the City and approved prior to disposal. Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by offshore site supervisor.

MM HAZ-3: Anchoring Plan. An anchoring plan shall be included in the Project Work and Safety Plan (PWSP) developed by the marine contractor prior to offshore pipeline removal in State waters. Plan Requirements and Timing. The PWSP and marine anchoring plan shall be submitted to the City approximately 45 days prior to the initiation of offshore activities and use of marine vessels. Monitoring: Review and approval of the PWSP and marine anchoring plan by the City shall occur prior to initiation of offshore activities requiring the use of anchored marine vessels. Adherence to the anchoring plan and coordinates shall be noted within the ship's logs.

1.2.10 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site?			X	
ii) Substantially increase the rate or amount of surface run-off in a manner that would result in flooding on- or off-site?				X
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
iv) Impede or redirect flood flows?			X	
d) In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

1.2.10.1 Setting

Description of Inland Surface Waters. Based on national mapping by the U.S. Geologic Survey, the Project site is located within Carpinteria Creek watershed in southern Santa Barbara County. The Carpinteria Creek watershed is approximately 11,267 acres in area and extends from sea level to approximately 4,690 feet elevation. The watershed includes one major tributary, Gobernador Creek. Headwater tributaries drain steep hillsides and canyons of the Santa Ynez Mountains. In the foothills and coastal plain, Carpinteria Creek passes through agricultural and suburban areas.

U.S. Geologic Survey gauging station (No. 11119500) is located on Carpinteria Creek approximately 500 feet upstream of the State Route 192 crossing. The most recent extreme storm flow recorded at this station was 4,500 cubic feet per second on January 10, 2005. Data from this stream gauge indicates surface flow is typically absent from June through September, but flow is perennial in high rainfall years (1973, 1983, 1993, 1995, 1998 and 2005). The lower

half-mile of the Creek typically supports year-round surface water, due to tidal influence, urban and agricultural irrigation run-off and discharge from shallow, unconfined aquifers.

Storm run-off from the western portion of the Project site is directed along the east side of Dump Road into a 36-inch diameter above-ground pipe that traverses the Former Marketing Terminal Area and the Drainage No. 4 Area to the Railroad Ditch which runs along the north side of the Union Pacific Railroad embankment. The Railroad Ditch extends from the Project site approximately 750 feet to the west where it flows under the Union Pacific Railroad tracks in a box culvert and disperses over the bluff area.

Groundwater Environment. The Project site lies within the Carpinteria Valley sub-area of the South Coast Hydrologic Unit, which includes the City of Carpinteria and the coastal plain from Toro Canyon on the west to Rincon Creek on the east. The Carpinteria Valley is served by the Carpinteria Valley Water District (CVWD), which develops water supplies from Cachuma Lake, the State Water Project and the Carpinteria Groundwater Basin. Not all users take delivery from CVWD, as a significant number of agricultural users rely on their own wells.

The Carpinteria Groundwater Basin underlies approximately 12 square miles of the Carpinteria Valley and is composed of two primary aquifers that extend from beyond the Ventura County line on the east, to Toro Canyon on the west. Total storage in the aquifer is estimated to be approximately 700,000 acre-feet. The two aquifers are separated by the Rincon Creek Fault and are called Storage Unit 1 and Storage Unit 2. Storage Unit No. 1 exhibits both higher water quality and storage capacity. Estimated total storage capacity of Unit No. 1 is 575,000 acre-feet. Overall, pumping from the Basin has not approached the estimated perennial yield since the drought in the early 1990s, as reflected by the recovery of generally high-water levels.

Water bearing deposits within the Carpinteria Groundwater Basin include interbedded layers of sand, gravel, silt and clay. The coarser grained units comprise the major aquifer zones within the Basin, designated the A zone (youngest and shallowest), the B zone, the C zone, and the D zone (oldest and deepest). These primary water bearing zones are distinct in the central portion of the basin and generally on the order of 50 to 100 feet thick each, are separated by a series of fine-grained aquitards, and within the central portion of the Basin occur under confined conditions (i.e., the so-called Confined Area of the Basin). Based on hydrogeologic data collected from the CVWD's Sentinel Well, the shallowest aquifer zone (A) extends from about 190 to 330 feet below the ground surface (Pueblo Water Resources, 2021).

Currently, water-level data are collected by CVWD staff on a bi-monthly basis from approximately 25 wells located throughout the Carpinteria Groundwater Basin. The nearest monitoring well with recent water level data (28J1) is located approximately 0.7 miles northeast of the Project site. Data from this well indicates groundwater elevations have been dropping since 2013, with the most recent data (2019) indicating the groundwater elevation is at an elevation of 54 feet below sea level (143 feet below the ground surface) (Pueblo Water Resources, 2021).

Water Supply Assessment. The CVWD conducted a multiple dry water year assessment of groundwater, Cachuma surface water and State Water Project water as part of its 2016 Urban Water Management Plan Update. This assessment indicates that in year 4 of a drought period, the CVWD would have an estimated net surplus of approximately 119 to 305 acre-feet. Thus, no deficit was observed during this multiple dry water year assessment of supplies

and demands. Overall, the Carpinteria area has current and future water supplies sufficient to meet current and expected future demand.

Groundwater Management. The 2014 Sustainable Groundwater Management Act requires establishment of a groundwater sustainability agency within two years from the date in which the basin was designated medium or high priority, and adoption of a groundwater sustainability plan within 5 years of the date of said designation. The Carpinteria Groundwater Basin has been prioritized as a high priority basin and the CVWD has formed a groundwater sustainability agency in coordination with the City of Carpinteria, Santa Barbara County and Ventura County. A groundwater sustainability plan for the Carpinteria Groundwater Basin is in preparation.

Clean Water Act. In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Consistent with the requirements of Clean Water Act Section 303(d) (approved 2018 list), the State Water Resources Control Board has identified Carpinteria Creek and the Pacific Ocean at Carpinteria State Beach as impaired waters because identified beneficial uses are not consistently supported. Impairments for Carpinteria Creek are associated with chloride, sodium, dissolved oxygen, E. coli, fecal coliform, nitrate and aquatic toxicity. The Pacific Ocean impairment is associated with fecal coliform.

Water Quality Control Plan, Central Coast Region. The California Porter-Cologne Act assigns the State Water Resources Control Board and Regional Water Quality Control Boards with the responsibility of protecting surface water and ground water quality in California. The Project site is within the jurisdiction of the Central Coast Regional Water Quality Control Board (CCRWQCB). Per the requirements of the Clean Water Act and the California Porter-Cologne Act, CCRWQCB has prepared a Water Quality Control Plan for the watersheds under its jurisdiction, last updated in June 2019. The Water Quality Control Plan has been designed to support the intentions of the Clean Water Act and the Porter-Cologne Act by (1) characterizing watersheds within the Central Coast Region; (2) identifying beneficial uses that exist or have the potential to exist in each water body; (3) establishing water quality objectives for each water body to protect beneficial uses or allow their restoration, and; (4) providing an implementation program that achieves water quality objectives. Implementation program measures include monitoring, permitting and enforcement activities.

Beneficial uses established by CCRWQCB in the Water Quality Control Plan for Carpinteria Creek and local coastal waters are provided in Table 1.2-11.

Table 1.2-11. Beneficial Uses of Local Waterbodies

Beneficial Use	Carpinteria Creek	Coastal Waters*
Municipal and Domestic Supply	X	
Agricultural Supply	X	
Industrial Service Supply		X
Groundwater Recharge	X	
Water Contact Recreation	X	X

Beneficial Use	Carpinteria Creek	Coastal Waters*
Non-Contact Recreation	X	X
Wildlife Habitat	X	X
Cold Freshwater Habitat	X	
Warm Freshwater Habitat	X	
Migration of Aquatic Organisms	X	
Spawning, Reproduction and/or Early Development	X	
Biological Habitats of Special Significance	X	
Rare, Threatened or Endangered Species Habitat	X	X
Estuarine Habitat	X	
Freshwater Replenishment	X	
Navigation		X
Commercial and Sport Fishing	X	X
Marine Habitat		X
Shellfish Harvesting		X

*Coal Oil Point to Rincon Point

The Water Quality Control Plan establishes general qualitative and/or quantitative water objectives that apply to all inland surface waters, estuaries and enclosed bays in the Central Coast Region. The general objectives pertain to the following water quality parameters: color, taste and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances (e.g., nutrients), sediment, turbidity, pH, dissolved oxygen, temperature, toxicity pesticides, chemical constituents, other organics and radioactivity.

The Water Quality Control Plan also provides water quality objectives for specific beneficial uses such as municipal water supply, agricultural supply, water contact recreation, non-water contact recreation, cold freshwater aquatic life habitat, fish spawning habitat and shellfish harvesting. Water quality parameters of concern and numeric objectives vary considerably depending on the nature of the beneficial use. For example, objectives for municipal water supply and fish spawning habitat are much more stringent and apply to a greater number of parameters than those for agricultural or industrial water supply. Depending on the type of beneficial use, objectives can apply to parameters such as specific organic chemicals, heavy metals, inorganic ions, nutrients, pH, bacteria levels, temperature, dissolved oxygen, etc. In cases where multiple beneficial uses are designated for a given water body (as is the case for local water bodies), a combination of objectives apply, some of which are for the same parameters. In these cases, the most stringent objective for each water quality parameter applies to the water body.

Water Quality Control Plan, Ocean Waters of California (California Ocean Plan). The principal State regulatory document for ocean water quality is the California Ocean Plan (SWRCB, updated 2019). The California Ocean Plan sets forth water quality objectives for ocean waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The California Ocean Plan includes water quality objectives for four categories, including bacterial characteristics, physical characteristics, chemical characteristics and biological characteristics.

Ocean Water Quality. 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 Carpinteria State Beach (sampled weekly throughout the year), located approximately 0.2 miles west of the Project site. Beach water quality sampling and analysis is limited to bacterial contamination typically associated with human or animal waste; total coliform, fecal coliform and Enterococcus. High bacterial levels are associated with rainfall events which transport pollutants from the watersheds to the beaches. Carpinteria State Beach is closed when coliform and/or Enterococcus levels exceed public health standards.

Flooding. Based on Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM panel 06083C1419H, effective 9/28/18), the Project site is located within an Area of Minimal Flood Hazard (Zone X). However, the area at the base of the Casitas Pier is located within a designated 0.2 percent annual chance flood hazard area.

Site-Specific Groundwater Hydrology. Quaternary marine terrace deposits (silty and sandy clays to coarse-grained sands) underlie the Project Site to depths of approximately 10 to 25 feet. These materials overlie the Miocene Monterey Formation, which is approximately 1,450 feet thick and is classified as a non-water bearing formation due to its low storage capacity. The middle to late Pleistocene age Carpinteria Formation likely underlies the northern portion of the Project Site, north of the Carpinteria Fault. In the Project area, the Carpinteria Formation is reportedly composed of silt and clay to depths of 150 to 250 feet. Because these earth materials do not transmit water readily, they likely reduce or restrict the downward percolation of groundwater beneath the Project Site.

Groundwater was generally not encountered within drill holes advanced at the northern and eastern areas of the Project Site during soil and groundwater assessment activities. Where present, first groundwater was encountered at depths ranging from approximately 5 feet to 22 feet. Depth to water measurements recorded at on-site groundwater monitoring well locations on February 20, 2019 ranged from 4.73 feet to 19.02 feet below the tops of the well casings, corresponding to groundwater elevations of 37.92 feet and 44.12 feet above mean sea level, respectively. Potentiometric surface elevation data collected on February 20, 2019 at the existing groundwater monitoring well network indicate that the groundwater flow direction beneath the Carpinteria Oil and Gas Processing Facility is toward the north to northwest.

1.2.10.2 Environmental Thresholds

The City of Carpinteria's Guidelines for implementation of the CEQA Guidelines provide the following thresholds for determination of impacts related to flooding, water supply and water quality:

- Significant impacts would result if the project would impose flood hazards on other properties. The Municipal Code prohibits development within areas of special flood hazard except under certain circumstances. The policy requires approval by the Floodplain Administrator before construction, development or alteration begins within any area of special flood hazard.
- Increased storm run-off may be considered significant if the area available for aquifer recharge is reduced. Impacts from moderate to large scale projects where grading would occur during the rainy season, or projects proximate to bodies of water or drainageways would be significant.

- Increased storm run-off may be significant if uncontrolled run-off results in erosion and subsequent sedimentation of downstream water bodies. Impacts from moderate to large scale projects where grading would occur during the rainy season, or projects proximate to bodies of water or drainageways would be significant.
- Modifications to existing drainage patterns may be significant impacts on biological communities if drainage patterns are changed. Significant impacts may be associated with projects where drainage patterns are influenced such that existing vegetation would decline because long-term or short-term soil plant-water relationships would no longer meet habitat requirements, and projects which would result in substantial changes to streamflow velocities.
- Extraction of water from aquifer would be significant if there would be a net deficit in the aquifer volume or reduction in the local groundwater table level (e.g. installation of wells for a golf course irrigation).
- Significant impacts on water quality may result from projects which would generate any amount of highly noxious substance, projects which would generate large amounts of substances which in small amounts are insignificant but are cumulatively hazardous and projects that would result in the deterioration of the quality of a drinking water source.
- Significant impacts on water quality may result from projects which would generate, or result in the accumulation of substances which affect health, or cause genetic defects of wildlife either by direct physical contact with contaminated water, or by water quality changes which cause decline in riparian or lacustrine vegetation which provide wildlife habitat.
- Significant impacts on water quality may result from erosion and subsequent sedimentation of water bodies caused by moderate to large-scale grading projects (>2,000 cubic yards per graded acre), and projects that result in loss of vegetation on slopes (e.g. brush management measures).

1.2.10.3 Impact Analysis

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

Less than Significant

In the absence of proper controls, ground disturbance associated with removal of facilities, removal of concrete foundations, asphalt, oil sprayed areas and gravel pads, pipeline removal, contaminated soil removal, backfilling and restoration could result in erosion and sedimentation or the discharge of pollutants. Spills of diesel fuel, gasoline, coolant, hydraulic oil, and lubricants could occur from heavy equipment and vehicles, potentially impacting surface water quality. These issues would be addressed through the implementation of engineering controls as identified in the Interim Remedial Action Plan, which shall include requirements for stockpile management (use of soil cement, perimeter berms, stockpile removal within 180 days), covering trucks transporting soil, watering exposed or disturbed soil surfaces, cleaning vehicles prior to leaving the site, and sweeping adjacent streets of soil. In addition, a Storm Water Pollution

Prevention Plan (SWPPP) would be prepared and implemented as required by the State Water Resources Control Board's Statewide Construction General Permit (Order No. 2012-0006-DWQ). Implementation of the SWPPP would prevent significant impacts associated with storm water run-off.

Pipeline flush water and any perched groundwater pumped from excavations would be tested and depending on contamination levels would be disposed by:

- Discharged to surface waters (under Order No. R3-2017-0042, Waste Discharge Requirements for Discharges with Low Threat to Surface Waters) provided the effluent limitations are met.
- Discharged to the Carpinteria Sanitary District municipal wastewater collection system to be treated and discharged to the Pacific Ocean (via the existing outfall pipeline) under the District's existing NPDES permit.
- Trucked off-site to Buttonwillow (Clean Harbors) or Fontana (World Oil) as hazardous liquid waste (oily water).

Compliance with required effluent limitations would prevent significant impacts associated with pipeline flush water or groundwater discharge to surface waters.

Based on on-site groundwater monitoring well data, proposed excavation of contaminated soil may encounter perched groundwater. However, the aquifers of the Carpinteria Groundwater Basin are located sufficiently deep that Project-related excavation would not expose these aquifers to contaminated soil or storm water. Therefore, impacts to groundwater quality are not anticipated.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant

Project-related use of groundwater would be limited to potable water (including groundwater sources) obtained from the CVWD (likely from a local fire hydrant) to be used for dust control, soil compaction and site restoration. Such water usage would be temporary and limited to a few thousand gallons per day (maximum) and would not deplete groundwater supplies or affect the CVWD's ability to reliably provide potable water to its service area.

The proposed Project would not interfere with groundwater recharge or affect the development or implementation of a groundwater sustainability plan for the Carpinteria Groundwater Basin.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:

1. Result in substantial erosion or siltation on- or off-site?

Less than Significant

Implementation of a SWPPP would minimize erosion or siltation associated with storm water run-off. Excavated areas would be backfilled with clean soil and compacted to minimize potential future erosion. Substantial increases in erosion or siltation are not anticipated.

2. *Substantially increase the rate or amount of surface run-off in a manner that would result in flooding on- or off-site?*

No Impact

Proposed removal of concrete foundations, asphalt and oil sprayed areas would reduce the area of impervious surfaces on-site and may reduce the rate and amount of storm water run-off. Increases in on-site or off-site flooding are not anticipated.

3. *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

No Impact

Proposed removal of concrete foundations, asphalt and oil sprayed areas would reduce the area of impervious surfaces on-site and may reduce the rate and amount of storm water run-off. The capacity of stormwater drainage systems would not be affected, and no new sources of polluted run-off would be created.

4. *Impede or redirect flood flows?*

Less than Significant

Project-related excavation and backfill would slightly alter the topography at the Project site and minor changes in drainage patterns may occur. Removal of existing hardscape surfaces including asphalt, concrete foundations, and gravel pads would allow for increased permeation within those removal areas. Additionally, a permanent change to an existing wetland area near Tank 861 would occur following removal of the existing containment berm that currently impounds stormwater run-off. However, these changes would not substantially affect storm water flow or the potential for flooding of on-site or off-site areas. A less than significant impact would result.

d) *In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?*

No Impact

The area at the base of the Casitas Pier is located within a designated 0.2 percent annual chance flood hazard area. Portions of the Project site seaward of the bluffs are located within a tsunami inundation hazard zone and would also be affected during projected sea-level rise conditions (NOAA 2021). Anticipated bluff retreat rates are provided in Appendix G (Bluff Retreat Rates). However, the purpose of the proposed Project is to remove contaminated materials from the site, such the potential for release of pollutants would be reduced in the unlikely event of inundation.

e) *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less than Significant

Any Project-related discharge of storm water, pipeline flush water or perched groundwater would be conducted under the authorization of a NPDES permit in compliance with applicable waste discharge requirements. Therefore, the Project would conflict with the Water Quality Control Plan for the Central Coast Basin.

The proposed Project would not require a long-term source of water and would not affect the development or implementation of a groundwater sustainability plan for the Carpinteria Groundwater Basin.

1.2.11 Land Use and Planning

LAND USE AND PLANNING Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?		X		

1.2.11.1 Setting

The Project site is currently zoned (CDI) Coastal Dependent Industry and (REC) Recreation, subject to site-specific zoning provisions in City Ordinance No. 75 (May 12, 1969). The Project site occupies Assessor Parcel Numbers 001-170-003, -004, 014, 020, -021, -022, and -023. The onshore Project site is currently developed with the Onshore Oil and Gas Processing Facility, open space, a former marketing terminal, and MSRC yard/offices north of the Union Pacific Railroad right-of-way. The onshore Project area south of the Union Pacific Railroad right-of-way is currently utilized for the Casitas Pier parking lot and offshore pipeline landings/bluff crossings. The Project includes demolition of all existing structures onsite and subsurface remediation of soils. The Project site will be backfilled, final graded, and planted with native vegetation to match existing contours. No additional structures will be constructed as part of the proposed Project.

1.2.11.2 Environmental Thresholds

The City has not adopted any significance thresholds related to land use and planning. As such, a potential impact to land use would result if a project would result in a physical effect related to the Appendix G checklist questions above.

1.2.11.3 Impact Analysis

a) Would the project physically divide an established community?

No Impact

The proposed Project includes demolition of oil and gas processing equipment and other structures onsite as well as remediation of contaminated soils. No structures are proposed, and the Project would not have the potential to divide an established community.

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

Less Than Significant with Mitigation

Table 1 within Appendix J provides a summary of State and Local policies that are applicable to the proposed Project. As indicated, the proposed Project would be consistent with

all applicable State and local policies following implementation of mitigation measures identified within the Initial Study. A less than significant impact following mitigation would result.

1.2.12 Mineral Resources

MINERAL RESOURCES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

1.2.12.1 Setting

Petroleum. Two idle oil and gas wells are located at the Project site (Carpinteria Community No. 1 and P.C. Higgins No. 1). The nearest active oil well is located in the Rincon Oil Field, approximately 5.6 miles southeast of the Project site.

Aggregate. Non-petroleum mineral resources in the Project region are limited to construction-grade sand and gravel. The Project site and surrounding areas have been assigned a Mineral Land Classification of MRZ-3 by the California Geologic Survey (2011), meaning these lands contain known or inferred aggregated resources of undetermined significance. The nearest aggregate production site is the Ojai Quarry, located approximately 13.3 miles to the northeast.

1.2.12.2 Environmental Thresholds

The City has not identified any thresholds of significance related to mineral resources. As such, a potential impact to land use would result if a project would result in a physical effect related to the Appendix G checklist questions above.

1.2.12.3 Impact Analysis

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact

The proposed Project would not consume mineral resources or adversely affect access or the availability of any mineral resources.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact

There are no locally important mineral resource recovery sites in the region. In any case, the proposed Project would not consume mineral resources or adversely affect the availability of any mineral resources.

1.2.13 Noise

NOISE Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generation of a substantial temporary or permanent increase in ambient noise in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive ground-borne vibration or ground-borne noise levels?			X	
c) For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

1.2.13.1 Setting

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 Carpinteria Avenue and other adjacent roadways. In addition, the Union Pacific Railroad tracks traverse the Project site and rail noise dominates the noise environment for periods during train pass-throughs.

The City considers noise sensitive land uses as residences, transient lodging, hospitals, nursing homes, schools, libraries, churches and places of public assembly. Noise sensitive land uses in close proximity to the Project site include (refer to Appendix H, Noise Study for mapping of nearby sensitive land uses in proximity to the Project):

- Residences on Arbol Verde Street, Concha Loma Drive, Fiesta Street, Canalino Drive and Calle Pacific (approximately 250 feet east of closest proposed decommissioning area).

- Motel 6 and Holiday Inn Express on Carpinteria Avenue (approximately 150 feet north of property boundary and 500 feet from nearest proposed decommissioning area(s)).

The noise environment of residential areas north of the Project site and U.S. Highway 101 is dominated by highway traffic noise and not anticipated to be affected by Project-related noise.

Existing Traffic and Rail Noise. The City of Carpinteria's General Plan/Local Coastal Land Use Plan indicates the 65 dBA CNEL noise contour generated by vehicle traffic on U.S. Highway 101 extends into the Former Nursery Area and MSRC Lease Area from the north. The 65 dBA CNEL noise contour generated by rail traffic extends into the Drainage No. 4 Area, Former Marketing Terminal Area, Chevron Pipeline Area and Main Plant Area from the south. The 70 dBA CNEL noise contour generated by rail traffic extends into the Pier parking lot and Former Sandblast Area.

Project-Specific Noise Measurements. Ambient noise measurements were conducted at the Project site as part of a Project noise study prepared by Behrens and Associates, Inc. (See Appendix H). Three Type 1 sound level meters were deployed at locations around the Project site perimeter to determine baseline noise levels. Ambient noise data was collected at these three locations for a 24-hour period on April 8, 2021 (midnight to midnight). The microphones associated with the sound level meters were placed approximately 5 feet above the ground and at least 10 feet from any reflective surfaces. Ambient noise data collected is summarized in Table 1.2-12. Note that the existing ambient noise levels along Carpinteria Avenue and along the southern boundary of the former processing facilities exceed the City's 65 dBA CNEL standard for noise sensitive residential land uses.

Table 1.2-12. Summary of Ambient Noise Data Collected on April 8, 2021 (dBA)

Location	Daytime (7 am to 7 pm)	Evening (7 pm to 10 pm)	Nighttime (10 pm to 7 am)	CNEL
Near Carpinteria Avenue at Former Nursery Area	65.3	61.3	61.1	68.5
Western boundary of the Buffer Zone	54.7	55.9	53.3	60.4
Southern boundary of the Chevron Pipeline Area	65.9	68.6	54.6	67.7

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 1,000–8,000 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–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.

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[h]) 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% of the time, and L90 is the sound level exceeded 90% of the time).

- Maximum Sound Level is the highest instantaneous sound level measured during a specified period.

- Day-Night Level 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.

- 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 five dB penalty applied to the A-weighted sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m.

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.

1.2.13.2 Environmental Thresholds

Noise. The City's CEQA Guidelines provide the following noise thresholds for projects involving new development:

- A proposed development that would generate noise levels in excess of 65 dB CNEL and could affect sensitive receptors would be considered to have a significant impact.

- Outdoor living areas of noise sensitive uses subjected to noise levels in excess of 65 dB CNEL would be considered to be significantly impacted.

- Interior noise levels of noise sensitive uses that cannot be reduced below 45 dB CNEL would be considered significantly impacted.

- A project will have a significant impact on the environment if it would substantially increase ambient noise levels for adjoining areas.

Temporary construction noise in excess of 75 dBA CNEL for 12 hours within a 24-hour period at residences is considered significant. In addition, temporary construction activities that result in the following noise increases for an extended period of time would be considered significant:

- Increase in noise levels associated of 10 dBA, if existing noise levels are below 55 dBA.

- Increase in noise levels that exceeds noise level standards, if existing noise levels are between 55 and 60 dbA.

- Increase in noise levels of five dBA, if existing noise levels are above 60 dBA.

- Construction traffic noise exceeding 65 dBA Leq.

Vibration. The City's CEQA Guidelines do not address ground borne vibration. Caltrans has published a Transportation and Construction Vibration Guidance Manual, which provides criteria for allowable vibration in terms of potential annoyance to people, as well as potential damage to buildings. The following thresholds for continuous/frequent intermittent sources such as construction equipment are provided by Caltrans (2013), expressed as the peak particle velocity (PPV, inch/seconds):

- Human effects: barely perceptible – 0.01; distinctly perceptible – 0.04; strongly perceptible – 0.10
- Damage to structures: fragile buildings - 0.1; older residential – 0.3; new residential and commercial – 0.5

1.2.13.3 Impact Analysis

a) Generation of a substantial temporary or permanent increase in ambient noise in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant

Noise modeling was conducted by Behrens and Associates, Inc. (2021) to determine peak day noise levels generated by proposed decommissioning and remediation activities at the Project site. Noise modeling was conducted with SoundPLAN 8.0 software using the ISO 9613-2 standard. A peak day was defined as earthwork conducted in proximity to sensitive residential receptors located immediately west of the Project site. The peak day scenario modeled consisted

of two excavators and one loader operating in the Former Marketing Terminal Area, which is the nearest proposed work area to residential areas. In addition, the noise modeling included heavy-duty trucks using Dump Road to export contaminated soil and import clean fill. The results of the noise modeling are summarized in Table 1.2-13. A noise impact contour map is provided as Figure 1.2-7 which shows noise levels associated with peak day Project activities. The City's 75 dBA CNEL construction noise standard would not be exceeded, and Project-related noise increases would not be readily noticeable (less than 3 dBA). Therefore, temporary noise impacts associated with proposed decommissioning and remediation activities would be less than significant.

Table 1.2-13. Summary of Noise Impact Modeling (dBA CNEL)

Receptor No.	Location	Project Impact	Project Impact + Ambient Noise	Project Increase over Ambient Levels
R1	Holiday Inn	53.2	68.6	0.1
R2	5615 Carpinteria Avenue (multi-family residential)	52.6	68.6	0.1
R3	5585 Carpinteria Avenue (multi-family residential)	51.2	60.9	0.5
R4	Residence on Arbol Verde Drive	52.7	61.1	0.7
R5	Residence on Arbol Verde Drive	57.2	62.1	1.7
R6	Residence at eastern terminus of Calle Pacific	56.9	62.0	1.6
R7	Carpinteria Bluffs Trail	52.1	67.8	0.1

b) Generation of excessive ground-borne vibration or ground-borne noise levels?

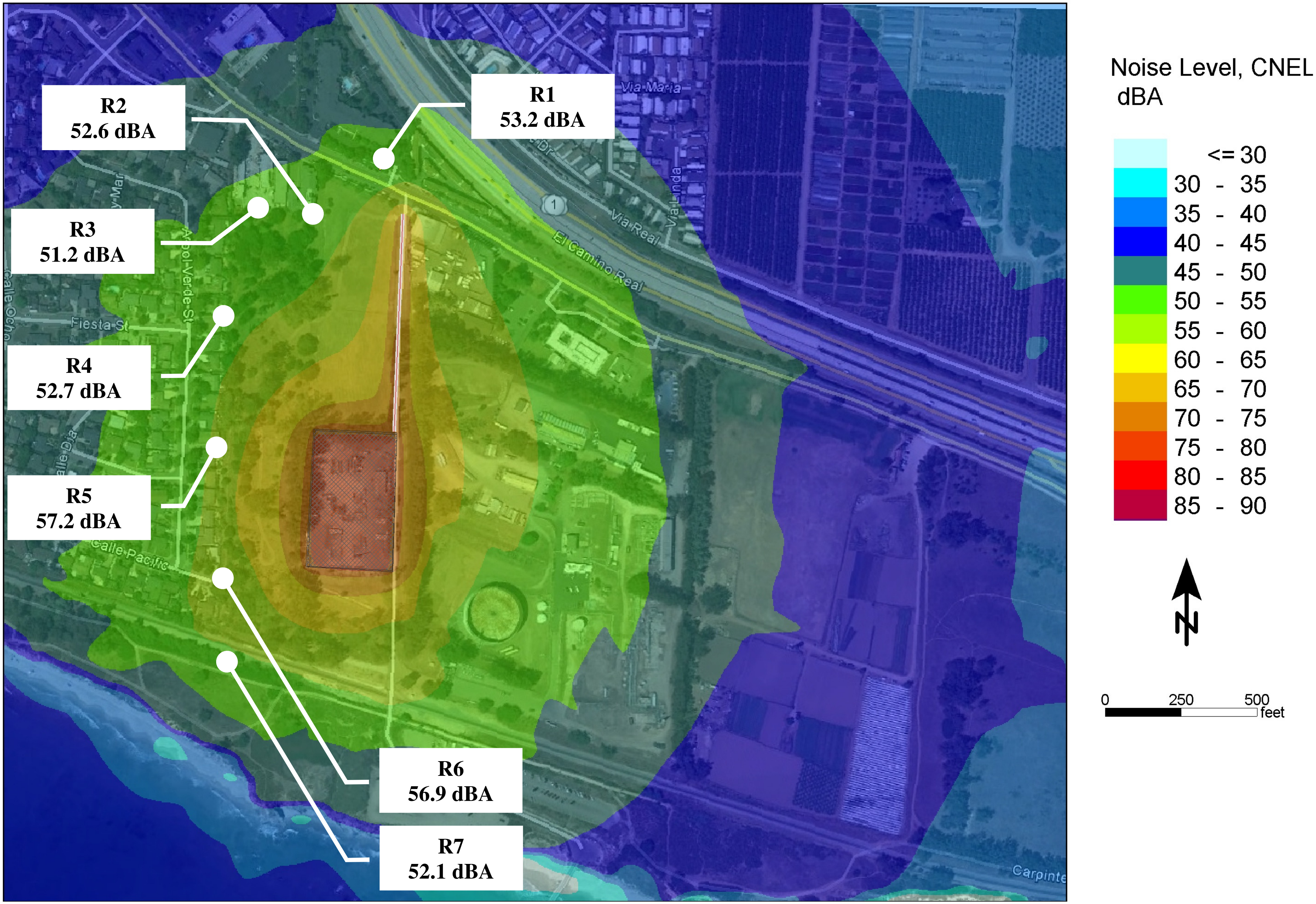
Less than Significant

Excavation, removal of buried pipe and structures, backfilling and related earthwork would generate vibration at nearby land uses and structures. A peak day scenario was developed based on the closest distance to a structure, which is comprised of asphalt removal at the MSRC Lease Area, approximately 95 feet south of City Hall. Earthwork-related vibration was estimated using methodology provided by the California Department of Transportation (2013), which indicates vibration (based on use of a large dozer) would generate a PPV of 0.016 inches/second, which would be barely perceptible to humans and would not cause any damage to structures. Therefore, vibration impacts would be less than significant.

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

No Impact

The Project site is not located within two miles of an airport and is not subject to an airport land use plan. No increase in aviation-related noise would occur.



<ITA>Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Noise Impact Contour Map.mxd 7/6/2021 <ITA>

Source: Behrens and Associates, Inc.
This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: July 2021

NOISE IMPACT CONTOUR MAP

FIGURE 1.2-7

1.2.14 Population and Housing

POPULATION AND HOUSING Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

1.2.14.1 Setting

The City of Carpinteria has a total population of approximately 13,385 people (U.S. Census, 2019). According to U.S. Census data (2019), the total number of housing units in the City of Carpinteria is 6,125; 83.1 percent of which are occupied and 16.9 percent of which are vacant.

1.2.14.2 Environmental Thresholds

The City has not adopted any significance thresholds related to population and housing. As such, a potential impact to population and housing would result if a project would result in a physical effect related to the Appendix G checklist questions above.

1.2.14.3 Impact Analysis

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact

The proposed Project would not provide long-term employment opportunities or any housing and would not draw people to the area and increase population. The proposed Project would not involve expansion of any service infrastructure that could support future development and induce population growth. In addition, the Project does not involve the amendment of existing land use designations, zoning designations, General Plan policies, ordinances, development guidelines, or any other policies that would allow for increased development of the area. Since the proposed Project would not affect existing physical and/or policy impediments to growth, it would not induce population growth.

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

No Impact

The proposed Project would not displace people or housing.

1.2.15 Public Services

PUBLIC SERVICES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1. Fire protection				X
2. Police protection				X
3. Schools				X
4. Parks				X
5. Other public facilities				X

1.2.15.1 Setting

The Project site is provided fire protection by the Carpinteria-Summerland Fire Protection District and police protection by the Santa Barbara County Sheriff. The nearest school is Carpinteria Middle School. The nearest park is Tar Pits Park located adjacent to the offshore pipeline corridor.

1.2.15.2 Environmental Thresholds

The City has not adopted any significance thresholds related to public services. As such, a potential impact to public services would result if a project would result in a physical effect related to the Appendix G checklist questions above.

1.2.15.3 Impact Analysis

a1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

No Impact

The proposed Project involves removal of petroleum processing, storage and transportation facilities and related flammable materials, such that fire protection requirements would decrease at the site. New or altered fire protection facilities are not included in the Project and would not be required to serve the site.

a2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically

altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

No Impact

The proposed Project involves removal of petroleum processing, storage and transportation facilities and related structures, such that police protection requirements would decrease at the site. New or altered police protection facilities are not included in the Project and would not be required to serve the site.

a3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

No Impact

The proposed Project does not involve any new structures or long-term employment opportunities that may generate demand for new or altered schools. New or altered school facilities are not included in the Project and would not be required to serve the site.

a4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

No Impact

The proposed Project does not involve any new structures or long-term employment opportunities that may generate demand for new or altered parks or related recreational facilities. New or altered park facilities are not included in the Project and would not be required to serve the site.

a5. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?

No Impact

The proposed Project does not involve any new structures or long-term employment opportunities that may generate demand for other public facilities. New or altered public facilities are not included in the Project and would not be required to serve the site.

1.2.16 Recreation

RECREATION Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

1.2.16.1 Setting

Parks and recreational facilities in proximity to the Project site include:

- Carpinteria State Beach and Campgrounds
- Tar Pits Park located immediately west of the Pier Parking Lot Area.
- Carpinteria Bluffs Nature Preserve located approximately 750 feet east of the Project site.
- Carpinteria Bluffs Trail (part of the City's Coastal Vista Trail System) located south of and parallel to the Union Pacific Railroad tracks which connects Tar Pits Park and the Carpinteria Bluffs Nature Preserve.
- Sandy beach areas.

1.2.16.2 Environmental Thresholds

The City has not adopted any significance thresholds related to recreation. As such, a potential impact to recreation would result if a project would result in a physical effect related to the Appendix G checklist questions above.

1.2.16.3 Impact Analysis

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant

The proposed Project does not involve any new structures or land uses that may result in any increased use of existing parks or other recreational facilities. Proposed decommissioning and remediation activities would not require closure or reduce access to Tar Pits Park and the Carpinteria Bluffs Trail. However, the offshore portion of the Project has the potential to temporarily impact recreational boating activities and the quality of existing recreational activities due to the presence of increased construction and support vessels. Nearshore work would require several months to complete. However, based on the temporary nature of the Project, impacts are less than significant.

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

No Impact

The proposed Project does not involve any recreational facilities, or any new structures or land uses that may generate demand for such facilities that may require construction or expansion of recreational facilities.

1.2.17 Transportation

TRANSPORTATION Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?			X	
b) Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X

1.2.17.1 Setting

The following analysis is taken from a traffic analysis prepared for the Project by Associated Transportation Engineers (ATE, 2021) (See Appendix D).

Local Circulation System. The Project site is located south of U.S. Highway 101, which connects the City of Carpinteria with the Santa Barbara-Goleta area to the north and the Ventura-Oxnard area to the south. Access between the Project site and U.S. Highway 101 is provided via the Bailard Avenue interchange located east of the site, and the Casitas Pass Road interchange located west of the site. U.S. Highway 101 is currently being widened to three lanes in each direction from Bailard Avenue to Summerland.

Bailard Avenue, located east of the Project site, is a two-lane roadway that extends north from Carpinteria Avenue to its terminus north of U.S. Highway 101. Bailard Avenue would provide access between the site to U.S. Highway 101 via a full access interchange. Carpinteria Avenue, located along the Project's northern frontage, is an east-west two-lane arterial roadway that serves as one of the primary travel routes within the City of Carpinteria. Access to the Project site would be provided via the connection of Dump Road to Carpinteria Avenue.

Dump Road, located along the western boundary of the Project site, is a two-lane private road that extends south from Carpinteria Avenue to the Project site, terminating at the employee parking lots located south of the Union Pacific Railroad tracks. Dump Road would be used by the Project haul trucks and demolition/remediation employees to access the site.

Existing Circulation Conditions and Traffic Volumes. Circulation conditions are described in terms of Levels of Service (LOS). The LOS scale ranges from A to F, with A indicating excellent traffic flow quality and F indicating the maximum capacity that a roadway can accommodate. Existing traffic circulation and roadway operating conditions were compiled for the roadways and the intersections in the vicinity of the Project area where construction operations may significantly affect traffic and circulation. Average daily trips or vehicle trips per day and peak hour traffic flow are used to classify the road segments according to levels of service, or to the extent to which the roads are congested.

Existing intersection levels of service for the study-area intersections were obtained from the traffic and circulation study completed for the Punto Vista Project by Associated Transportation Engineers located on the Carpinteria Bluffs area east of the Project site. Table 14 lists the existing a.m. and p.m. peak hour levels of service for the study-area intersections. The data presented in Table 1.2-14 indicate that the study-area intersections currently operate in the LOS B-C range, which meets the City's LOS C standard.

Table 1.2-14. Existing Intersection Levels of Service

Intersection	a.m. Peak Hour LOS	p.m. Peak Hour LOS
U.S. Highway 101 NB Ramps/Bailard Ave	LOS C	LOS B
U.S. Highway 101 SB Ramps/Bailard Ave	LOS B	LOS C
Carpinteria Ave/Bailard Ave	LOS B	LOS B
Carpinteria Ave/Casitas Pass Rd	LOS C	LOS C

1.2.17.2 Environmental Thresholds

City of Carpinteria. The City's CEQA Guidelines provide the following threshold criteria to identify a significant adverse transportation impact. However, these thresholds have been superseded by 2018 revisions to CEQA that require a transportation analysis based upon vehicle miles travelled (VMT). As such, the following guidelines have been provided in terms of consistency with City policies regarding traffic impacts:

a. The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below or sends at least 5, 10 or 15 trips to at LOS F, E or D.

Level of Service (including Project)	Increase in V/C Greater Than
LOS A	0.20
LOS B	0.15
LOS C	0.10
or the addition of:	
LOS D	15 trips
LOS E	10 trips
LOS F	5 trips

b. Project access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.

c. Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 V/C for intersections which would

operate from 0.80 to 0.85 V/C and a change of 0.02 for intersections which would operate from 0.86 to 0.90 V/C, and 0.01 for intersections operating at anything lower.

CEQA Checklist. CEQA Guidelines section 15064.3(b) indicates that vehicle miles traveled is the most appropriate measure for transportation impacts. In December 2018, the Office of Planning and Research (OPR) provided an updated Technical Advisory to provide guidance regarding the evaluation of transportation impacts under CEQA. In particular, the advisory suggests that a project generating or attracting fewer than 110 one-way trips per day generally may be assumed to cause a less-than-significant transportation impact (OPR 2018).

If the above thresholds or policies are exceeded, construction of improvements or project modifications to reduce the levels of significance to insignificance are required.

1.2.17.3 Impact Analysis

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?

Less than Significant

The Project does not include any new or modified land uses that may create long-term demand for transportation facilities and would not conflict with local or regional transportation planning. Project trip generation is anticipated to be 62 average daily trips, including 26 worker trips and 36 heavy-duty truck trips. The applicant (see Project Description Section 7.6) has stated that heavy-duty truck trips would avoid peak hour periods. Therefore, peak hour trip generation would be limited to 26 worker trips, 13 during a.m. peak hour and 13 during p.m. peak hour. Table 1.2-15 lists the number of anticipated Project trips at local intersections during peak hour. Peak day traffic volumes would be temporary and below the 110 one-way trips per day threshold identified in the Technical Advisory. Additionally, the Project would be consistent with the City's traffic policies and would not result in any traffic congestion.

Table 1.2-15. Peak Hour Project Traffic Increases

Intersection	Peak Hour LOS	Project-added Trips	Consistent?
a.m. Peak Hour			
U.S. Highway 101 NB Ramps/Bailard Ave	LOS C	6	Yes
U.S. Highway 101 SB Ramps/Bailard Ave	LOS B	6	Yes
Carpinteria Ave/Bailard Ave	LOS B	6	Yes
Carpinteria Ave/Casitas Pass Rd	LOS C	7	Yes
p.m. Peak Hour			
U.S. Highway 101 NB Ramps/Bailard Ave	LOS B	6	Yes
U.S. Highway 101 SB Ramps/Bailard Ave	LOS C	6	Yes
Carpinteria Ave/Bailard Ave	LOS B	6	Yes
Carpinteria Ave/Casitas Pass Rd	LOS C	7	Yes

b) Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than Significant

The Project would generate temporary decommissioning and remediation-related vehicle trips, vehicle miles traveled and associated climate change and air quality impacts. The proposed Project would generate about 62 vehicle trips per day associated with worker transportation, export of soil and removed equipment and importation of backfill material. Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact (Governor's Office of Planning and Research, 2018). Therefore, the Project is consistent with Section 15064.3 of the State CEQA Guidelines.

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

No Impact

Intersection Design. Access to the Project site would be provided via the Carpinteria Avenue/Dump Road intersection. The intersection is controlled by stop signs on the northbound Dump Road approach and the driveway to the Alamo Self Storage facility forms the north leg of the intersection. Carpinteria Avenue provides one through lane and a left-turn lane in each direction at the intersection. The Dump Road approach flares to approximately 48 feet in width at Carpinteria Avenue. The design of the intersection is adequate to accommodate the proposed heavy-duty truck maneuvers to and from Carpinteria Avenue.

Intersection Operations. The Project is anticipated to generate 62 average daily trips and 13 a.m. and p.m. peak hour trips. This relatively minor level of traffic would be accommodated at the Carpinteria Avenue/Dump Road intersection without significant delays or congestion.

Intersection Sight Distance. Sight distances were analyzed at the Carpinteria Avenue/Dump Road intersection to determine if the sight lines along Carpinteria Avenue are sufficient in length to permit drivers to anticipate and avoid potential collisions when using the intersection. The Caltrans Highway Design Manual stopping sight distance standards were used to determine the requirements at the intersection. The speed limit on Carpinteria Avenue adjacent to Dump Road is 35 mph. Assuming a conservative 40 mph design speed, the Caltrans corner sight distance standard is 440 feet. Dump Road is located on a section of Carpinteria Avenue that is relatively flat with horizontal curves located to the east and the west. The sight distance looking to the west extends approximately 970 feet to a curve in Carpinteria Avenue. The sight distance looking to the east extends approximately 660 feet to a curve in Carpinteria Avenue. These sight distances exceed the Caltrans 440-foot minimum requirement, indicating adequate sight distances are available for vehicles entering and exiting the intersection.

d) Result in inadequate emergency access?

No Impact

Both traffic lanes on Carpinteria Avenue would remain open throughout the duration of the Project, such that emergency access to adjacent land uses would not be adversely affected.

1.2.18 Tribal Cultural Resources

Tribal Cultural Resources Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, scared place, or object with cultural value to a California Native American tribe that is:				
a) Listed or eligible for listing in the California Register of Historic Resources, or in the local register of historic resources as defined in Public Resources Code Section 5020.1(k), or		X		
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to subdivision c. of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision c. of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				X

1.2.18.1 Setting

As previously discussed, the records search revealed that six of the operational areas where impacts are planned are located within CA-SBA-6, a prehistoric habitation site with burials. A Phase I pedestrian survey and monitoring during ground disturbing activities confirmed the presence of CA-SBA-6. However, Project impacts are not proposed within the portions of the Former Marketing Terminal Area, the Chevron Pipeline Area, and the Pier Parking Lot Area that contain intact cultural deposits; thus, the proposed Project will not adversely impact CA-SBA-6. However, there remains a potential for significant cultural materials and/or human remains to be exposed during the Project. See Section 1.2.5.1 and Appendix F (Cultural Resources Assessment) for additional information.

1.2.18.2 Environmental Thresholds

A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource (TCR) is a project that may have a significant effect on the environment (PRC Section 21084.2). Under AB 52, a TCR must have tangible, geographically defined properties that can be impacted by project implementation. The proposed project is subject to compliance with AB 52, therefore the Project lead-agency (City of Carpinteria) must avoid damaging effects on tribal cultural resources, when feasible, whether consultation occurred or is required. As part of this requirement, the Project lead agency will initiate consultation with the Native American Heritage Commission (NAHC), which maintains two databases to assist specialists in identifying cultural resources of concern to California Native Americans Sacred Lands File and Native American Contacts) to determine if tribal cultural resources would be affected by the Project.

Additionally, thresholds outlined in Section 1.2.5.2 regarding cultural and historical resources in accordance with CEQA Guidelines, Appendix G would be applicable.

1.2.18.3 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 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(k)?

Less than Significant with Mitigation

Potential impacts to prehistoric cultural resources are listed in Table 9, primarily affecting Site CA-SBA-6 which meets the definition of a tribal cultural resource in Public Resources Code 21074. **MM CUL-1** through **MM CUL-8** have been proposed to minimize potential impacts.

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

No Impact

The lead agency (City) has not identified any tribal cultural resources beyond that identified by other agencies. Potential impacts to Site CA-SBA-6 are addressed in part a) above.

1.2.18.4 Recommended Mitigation Measures

MM CUL-1 through **MM CUL-8** have been proposed to minimize potential impacts.

1.2.19 Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Require or result in the construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable development during normal, dry and multiple dry years?				X
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local statutes and regulations related to solid waste?				X

1.2.19.1 Setting

Utility providers serving the City and the Project site include:

- Water supply: Carpinteria Valley Water District (CVWD)
- Municipal wastewater collection and treatment: Carpinteria Sanitary District
- Solid waste collection: E.J. Harrison & Sons
- Solid waste disposal: Toland Road Landfill via the Del Norte Recycling and Transfer Station

1.2.19.2 Environmental Thresholds

The City has not adopted any significance thresholds related to utilities and service systems. As such, the CEQA Guidelines Appendix G thresholds listed above are applied in this analysis.

1.2.19.3 Impact Analysis

a) Require or result in the construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact

The proposed Project does not include any new or modified structures or land uses that would require the construction of any new or expanded utilities or service systems.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable development during normal, dry and multiple dry years?

No Impact

The CVWD conducted a multiple dry water year assessment of groundwater, Cachuma surface water and State Water Project water as part of its 2016 Urban Water Management Plan Update. This assessment indicates that in year 4 of a drought period, the CVWD would have an estimated net surplus of approximately 119 to 305 acre-feet. Thus, no deficit was observed during this multiple dry water year assessment of supplies and demands. Overall, the Carpinteria area has current and future water supplies sufficient to meet current and expected future demand.

Project-related use of groundwater would be limited to potable water (including groundwater sources) obtained from the CVWD (likely from a local fire hydrant) to be used for dust control, soil compaction and site restoration. Such water usage would be temporary and limited to a few thousand gallons per day (maximum) and would not deplete groundwater supplies or affect the CVWD's ability to reliably provide potable water to its service area.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact

Workers employed at the Project site would use portable restrooms which would be emptied, and wastewater likely transported to the Carpinteria Sanitary District's treatment plant. This may result in a slight temporary increase in wastewater flow into the treatment plant. This flow would not cause the capacity of the treatment plant to be exceeded.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant

The proposed Project would generate solid waste in the form of equipment and piping, concrete, asphalt, gravel and contaminated soil. Equipment, piping and related metal materials would be recycled at Standard Industries. Concrete, asphalt and gravel would be recycled at State Ready Mix. Non-hazardous contaminated soils would be transported to the Simi Valley Landfill. Hazardous contaminated soils would be transported to the Kettleman or McKittrick disposal sites. These facilities have adequate capacity to receive Project-related solid waste and recycle these wastes to the extent feasible. Overall, the proposed Project would not impair attainment of State-mandated solid waste reduction goals by the City and Santa Barbara County.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact

The proposed Project would dispose of recovered materials at solid waste disposal facilities approved and permitted by the California Department of Resources Recycling and

Recovery, which are inspected periodically to ensure they comply with applicable State regulations and permit conditions.

1.2.20 Wildfire

WILDFIRE Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability or drainage changes?				X

1.2.20.1 Setting

The Project site is not located within or near a Very High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. The Project site is located within a low fire hazard area as defined within the City General Plan (Figure S-5, Seismic Safety and Safety Element). The Project site is located along the coastline and south of several potential barriers to wildfire, including the U.S. 101 and UPRR ROWs. The beach and offshore Project site are not subject to wildfires. Onshore, the Carpinteria-Summerland Fire Protection District supports and assists the City of Carpinteria and the County of Santa Barbara with Community Emergency Response Team Training. The Carpinteria-Summerland Fire Protection District has also developed a personal wildfire action plan which is provided to property owners to facilitate individual wildfire emergency evacuation.

1.2.20.2 Environmental Thresholds

The City has not adopted any significance thresholds related to wildfire. As such, the CEQA Guidelines Appendix G thresholds listed above are applied in this analysis.

1.2.20.3 Impact Analysis

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact

The proposed Project would not adversely affect emergency response or evacuation in the event of a wildfire. Private roadways within the Project site would remain open to ingress/egress during Project activities to facilitate emergency access.

b) Due to slope, prevailing winds, and other factors exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact

As discussed above, the Project site is not located within a designated High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. The Project site is located within a low fire hazard area as defined within the City General Plan (Figure S-5, Seismic Safety and Safety Element). The Project site is located along the coastline and south of several potential barriers to wildfire, including the U.S. 101 and UPRR ROWs. The beach and offshore Project site are not subject to wildfires. Following Project completion, the site would not be occupied. In any case, the site does provide any features that may exacerbate wildfire risk, pollutant concentrations or uncontrolled wildfire spread.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact

The Project site would not require the installation or maintenance of infrastructure that may exacerbate fire risk or result in ongoing impacts to the environment.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability or drainage changes?

No Impact

The Project site does not include any steep slopes or major drainages that may cause downstream flooding, landslides, excessive run-off or post-fire slope instability in the unlikely event the Project site was affected by wildfire.

1.2.21 Mandatory Findings of Significance

MANDATORY FINDINGS OF SIGNIFICANCE Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation

The Project would temporarily degrade habitat for fish and wildlife and may adversely affect buried archeological resources. Please refer to Section 1.2.4.4 as well as Appendices C1 through C6 for biological resource studies as well as Section 1.2.4.5 and Appendix F for the cultural resource study for additional detail. Additionally, Appendix J provides a summary of the Projects' consistency with applicable State and local policies regarding biological and cultural resources. However, a number of measures have been incorporated into the Project to prevent significant impacts to these resources. Following Project demolition and remediation, the Project site would be restored to a natural condition.

Less than Significant with Mitigation

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment. Decommissioning areas have

been focused within previously disturbed areas utilized during original installation of Project components. However, during demolition and remediation activities, short-term, intermittent impacts to aesthetics, biological resources, cultural/tribal cultural resources, geology, hazardous materials, land use, and recreation would result over the 3-year Project timeframe. Mitigation incorporated into the Project would reduce these potential impacts to less than significant levels. The incremental cumulative impacts of the Project (as mitigated) would not be cumulatively considerable.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less than Significant with Mitigation

The Project may result in adverse impacts related to aesthetics, air quality, hazardous materials, hazards, water quality and noise. However, impacts would be less than significant, or mitigation measures have been provided to avoid and/or minimize impacts.

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2.0 REFERENCES

Aqueos Corporation (Aqueos). 2019. *Chevron Platform Gail to Grace/Grace to Shore External Subsea Pipeline Inspection Report*.

Argonne National Laboratory. 2019. *Environmental Setting of the Southern California OCS Planning Area*. U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Report BOEM 2019-038. 215 p.

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.

Arthur D. Little (ADL). 1999. *Environmental Assessment, Chevron Carpinteria Interim Source Removal Remedial Action Plan*.

Associated Transportation Engineers (ATE). 2021. Traffic, Parking and VMT Analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, City of Carpinteria. Prepared for Padre Associates, Inc.

Avina, R. H. 1973. Spanish and Mexican Land Grants in California. Master's thesis. University of California, Berkeley. Printed by R&E Research Associates, San Francisco.

Barter, E. R., Farris, G., and Rivers, B. J. 1995. Coastal Branch, Phase II, State Water Project Cultural Resources Survey, Reach 5A, San Luis Obispo County, California. Report prepared for State of California, Department of Water Resources, Division of Planning, Sacramento. Report on file, Department of Parks and Recreation, Cultural Heritage Section, Sacramento.

Bean, W. 1968. California: An Interpretive History. McGraw Hill Book Company, New York.

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.

Behrens and Associates, Inc. 2021. Padre Associates Carpinteria Noise Management Plan. Prepare for Padre Associates, Inc.

Bolton, H. E. 1926. Captain Portola in San Luis Obispo County 1769. Tabula Rasa Press, Morro Bay, California.

Browning, P. (Editor) 1992. The Discovery of San Francisco Bay -- The Portolá Expedition of 1769 – 1770: The Diary of Miguel Costansó. Great West Books, Lafayette, California.

Cachuma Resource Conservation District & the Carpinteria Creek Watershed Coalition. 2005. Carpinteria Creek Watershed Plan. Prepared for the California Department of Fish & Game.

Carpinteria Seal Watch. 2021. Carpinteria Seal Watch, Seal Counts (carpinteriasealwatch.org).

City of Carpinteria. 1997. Guidelines for the Implementation of the California Environmental Quality Act of 1970, as Amended.

City of Carpinteria. 2003. General Plan/Local Coastal Land Use Plan and Environmental Impact Report.

California Air Resources Control Board (CARB). 2021a. OFFROAD 2017: Orion web data base, accessed June 2021.

California Air Resources Control Board (CARB). 2021b. EMFAC 2021 web data base, accessed June 2021.

California Climate Action Registry. 2009. California Climate Action Registry General Reporting Protocol.

California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database (CNDDB): Rarefind application.

California Department of Forestry and Fire Protection. 2008. Santa Barbara County Very High Fire Hazard Severity Zones in Local Responsibility Areas Map.

California Department of Toxic Substances Control (DTSC). 2021. Hazardous Waste and Substances Site List – Site Cleanup (Cortese List). Accessed online DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List) | Department of Toxic Substances Control (ca.gov) May 13, 2021.

California Emergency Management Agency. 2009. Tsunami Inundation Hazard Map for Emergency Planning, Carpinteria Quadrangle.

California Geologic Survey. 2011. Update of Mineral Land Classification: Concrete Aggregate in the San Luis Obispo-Santa Barbara Production-Consumption Region, California.

Chartkoff, J. L., and Chartkoff, K. K., 1984. The Archaeology of California. Stanford University Press, Stanford, California.

Coastal View News. 2009. History Highlights: Higgins (coastalview.com/news/history-highlights-higgins/article_f9415248-99c9-11e8-9bd2-af43b01f5302.html, accessed January 23, 2019).

Craig, S. 1981. Final Environmental Assessment/Environmental Impact Report for Natural Gas Platform "Habitat" and Pipeline, Pitas Point Unit, Santa Barbara Channel, U.S. Leases OCS-P 0233, 0234, 0346, Proposed by Texaco, Inc.: Prepared for County of Santa Barbara Department of Environmental Resources by Chambers Consultants and Planners. Stanton, California. SR-0004.

Craig, S., and Singer, C. 1979. Cultural Resource Impact and Mitigation Analysis Prepared in Support of Chevron USA, INC. Regional Coastal Permit Application No. 205-17 for Installation of an Onshore Oil Transportation Pipeline in Santa Barbara and Ventura Counties. Prepared for Chevron USA, Inc. SR-00034.

Crawford, J. J, 1896. Thirteenth Report (Third Biennial) of the State Mineralogist for the Two Years Ending September 15, 1896: California State Mining Bureau. Sacramento, California.

Dames & Moore. 1988. Phase I Cultural Resources Survey, Fiber Optic Cable Project, Burbank to Santa Barbara, California. Prepared for US Sprint Communications Company. SR-01011.

ERM. 2011. Ecology of the 4H Shell Mounds: Fish and Invertebrate Utilization. Prepared for the Chevron Environmental Management Company.

Fontanella, F.M., Miles, E., and Strott, P. 2021. Integrated analysis of the ringneck snake Diadophis punctatus complex (Colubridae: Dipsadidae) in a biodiversity hotspot provides the foundation for conservation reassessment. Department of Biology, University of West Georgia, Carrollton, GA. Published in The Linnean Society of London, Biological Journal of the Linnean Society, 2021, XX, 1-15.

Freeman, P. 2019. Abandoned and Little-Known Airfields: California: Ventura Area (www.airfields-freeman.com/CA/Airfields_CA_Ventura.htm, accessed November 22, 2019).

Gamble, L., H. 2008. The Chumash World at European Contact: Power, Trade and Feasting Among Complex Hunter-Gatherers. University of California Press, Berkeley.

Geomega. 2003. The Carpinteria Site, Comprehensive Review – Volume II. October 30, 2003.

Geotechnical Consultants. 1976. Hydrogeologic Investigation of Carpinteria Groundwater Basin for Carpinteria Water District.

Gilbert, S. 2004. A Cultural Resources Study of Historical Features at Carpinteria State Beach, Santa Barbara County, California. Brian F. Smith and Associates, Poway, California.

Glassow, M., Wilcoxon L., and Erlandson J. 1988. Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory. In The Archaeology of Hunter-Gatherer Subsistence Economics in Coastal Environments, edited by G. Parkington and B. Bailey. Cambridge University Press, New York.

Glassow, M., L. 1997. Middle Holocene Cultural Development in the Central Santa Barbara Channel Region. In Archaeology of the California Coast During the Middle Holocene. Perspectives in California Archaeology (4): 73-90. Institute of Archaeology, University of California, Los Angeles.

Glassow, Michael A., Gamble, L. H., Perry, J. E., and Russell, G.S. 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.

Golla, V. 2007. Linguistic Prehistory. 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.

Hawley, R. 1987. Early Days of Santa Barbara. Third edition, enlarged (originally published in 1910). Santa Barbara Heritage Society.

Hess, Sean 1998. Letter Report: Cultural Resource Services for The Bluffs I Biking and Hiking Trail. Prepared by Science Applications International Corporation for City of Carpinteria Department of Public Works. SR-02217.

Hoffman, O. 1862. Reports of Land Cases Determined in the United States District Court for the Northern District of California. Numa Hubert, San Francisco.

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.

Hudson, T. 1972. Patterns of Chumash Names. The Journal of California Anthropology. Volume 4, Number 2 (escholarship.org/content/qt8zj4708q/qt8zj4708q.pdf, accessed January 23, 2019).

James, S. P. 2012. Letter Report: Archaeological and Native American Monitoring for the Chevron/Venoco Soil Remediation Project, Carpinteria, California. Prepared by Applied EarthWorks, Inc. Prepared for Padre Associates, Inc.

Johnson, J. R., Stafford Jr., T. W., Ajie, H. O., and Morris, D. P. 2002. Arlington Springs Revisited. In Proceedings of the Fifth California Islands Symposium, edited by D. R. Brown, K. C. Mitchell, and H. W. Chaney. Santa Barbara Museum of Natural History. Santa Barbara, California.

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.

Jones, T. L. and Waugh, G. 1995. Central California Coastal Prehistory: A View from Little Pico Creek. Perspectives in California Archaeology 3, Institute of Archaeology, University of California, Los Angeles.

Jones, T. L. 2008. Culture or Adaptation: Milling Stone Reconsidered. In Avocados to Milling stones: Papers in Honor of D. L. True, edited by George Waugh and Mark E. Basgall. Monographs in California and Great Basin Anthropology Number 5.

King, C. 1982. The Evolution of Chumash Society. Unpublished PhD. dissertation, University of California, Davis.

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.

Lebow, C., Baloian, M., Harro, D., McKim, R., Denardo, C., Onken, J., Romanski, E., and Price, B. 2001. Final Report of Archaeological Investigations for Reaches 5B and 6, Coastal Branch Aqueduct, Phase II. Prepared by Applied EarthWorks, Inc. Prepared for Central Coast Water Authority. E-2740/E-4472.

Lehman, P. 1994 (updated 2019). The Birds of Santa Barbara County, California.

Love M., M. Nishimoto, S. Clark and A. Bull. 2015. Analysis of Fish Populations at Platforms off Summerland, California. Prepared for the Bureau of Ocean Energy Management.

Meade, D. 1999. Monarch Butterfly Overwintering Sites in Santa Barbara County, California. Althouse and Meade Biological and Environmental Services. Paso Robles, CA.

Meyer, M. 2012. Ten Years After: Assessment of Experimental Outplantings of the Endangered Ventura Marsh Milkvetch (Astragalus pycnostachyus var. lanosissimus).

Moratto, M. J. 1984. California Archaeology. Academic Press, Inc., San Diego.

Mullens, M., C., and Roberts, A., E. 1972. Selected Annotated Bibliography on Asphalt-Bearing Rocks of the United States and Canada, to 1970. In Geological Survey Bulletin 1352. United States Government Printing Office, Washington.

Myrick, D. F. 1987. Santa Barbara County Railroads: A Centennial History. Noticias 33 (2&3): 23-71).

National Oceanic and Atmospheric Administration. 1997. Magnuson-Stevens Act Provisions: Essential Fish Habitat (ESH). Interim Final Rule; Request for Comments. Federal Register 62(244): 66531-66559.

Olson, R.L. 1930. Chumash Prehistory. University of California Publications in American Archaeology and Ethnography 28(1):1-21.

Orr, P.C. 1943. Archaeology of Mescalitan Island and the Customs of the Canaliño. Santa Barbara Museum of Natural History Occasional Papers.

Palmer, K. 1999. Central Coast Continuum—From Ranchos to Rockets: A Historic Overview for an Inventory and Evaluation of Historic Sites, Buildings, and Structures, Vandenberg Air Force Base, California. Prepared under contract to BTG, Inc. Submitted to 30 CES/CEVPC, Vandenberg Air Force Base.

Padre Associates, Inc. 2002. Draft Environmental Impact Report for the Carpinteria Oil and Gas Plant Area General Plan and Local Coastal Plan Amendment. Prepared for the City of Carpinteria.

Padre Associates, Inc. 2004. Final Environmental Impact Report for the South Coast Beach Communities Septic to Sewer Project. Prepared for the Carpinteria Sanitary District.

Padre Associates, Inc. 2005. City of Carpinteria Creeks Preservation Program, Final Document.

Padre Associates, Inc. 2012. Project Completion Report for Biological Survey, Monitoring and Restoration Oversight for Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project (Final Report, No. 10), CDFG Notification No. 1600-2011-0088-R5. Prepared for Chevron Environmental Management Company.

Padre Associates, Inc. 2016. Final Environmental Impact Report for the Carpinteria Avenue Bridge (51C-172) Replacement Project. Prepared for the City of Carpinteria.

Padre Associates, Inc. 2020a. Final Subsequent Environmental Impact Report, Santa Barbara County Flood Control District Updated Carpinteria Salt Marsh Enhancement Plan.

Padre Associates, Inc. 2020b. Chevron Biological Survey and Habitat Impact Review Form. 14 December.

Padre Associates, Inc. 2021a. Chevron Biological Survey and Habitat Impact Review Form. 2 February.

Padre Associates, Inc. 2021b. Draft Sampling and Analysis Plan/Interim Remedial Action Plan. Soil Remediation Activities, Chevron Oil and Gas Processing Facility – 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California.

Padre Associates, Inc. 2021c. Cultural Resources Assessment, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, California.

Padre Associates, Inc. 2021d. Bluff Retreat Evaluation Report, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, California.

Patry, J.J. 1983. Property Transfer, Chevron USA Production Department, Carpinteria, California.

Priestley, H. I. 1937. A Historical, Political, and Natural Description of California by Pedro Fages, Written for the Viceroy in 1775. Translated by Herbert Ingram Priestley. University of California Press, Berkeley.

Pueblo Water Resources. 2021. Carpinteria Groundwater Basin AB3030 Groundwater Management Plan, Annual Report, Water Years 2018 and 2019. Prepared for the Carpinteria Valley Water District.

Regional Water Quality Control Board, Central Coast Region. 2019. Water Quality Control Plan for the Central Coastal Basin.

Rogers, D. B. 1929. Prehistoric Man of the Santa Barbara Coast, California. Santa Barbara Museum of Natural History. Santa Barbara, California.

Santa Barbara Audubon Society. 2018. Santa Barbara County Breeding Bird Study, accessed online October 15, 2018. Based on data from the North American Breeding Bird Survey.

Santa Barbara County Air Pollution Control District. 2017. Scope and Content of Air Quality Sections in Environmental Documents.

Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD). 2003. Carpinteria Salt Marsh Enhancement Plan Draft Environmental Impact Report.

Santa Barbara County Planning & Development Department, Long Range Planning Division. 2015. County of Santa Barbara Energy and Climate Action Plan.

Santa Barbara County Community Services Department, Sustainability Division. 2018. County of Santa Barbara Energy and Climate Action Plan 2017 Progress Report.

Santa Barbara Museum of Natural History. 2002. Chumash Life (sbnature.org/research/anthro/chumash/intro.htm, accessed January 23, 2019).

Shipman, G.E. 1981. Soil Survey of Santa Barbara County, California, South Coastal Part. Prepared for the Soil Conservation Service.

Smith, W. H. 1900. Southern Santa Barbara County and its Resources. Published in the Summerland Advance Courier, February 1900.

Starcrest Consulting Group, LLC. 2019. San Pedro Bay Ports Emissions Inventory Methodology Report. Prepared for the Port of Long Beach.

State Water Resources Control Board (SWRCB). 1972 (updated 2019). Water Quality Control Plan, Ocean Waters of California.

Stoecker, M.W. and Conception Coast Project. 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California.

Teggart, F. J. (Editor). 1911. The Portola Expedition of 1769-1770, Diary of Miguel Costansó. Translated by Manuel Carpio. University of California Press, Berkeley.

Thompson, B., J. Dixon, S. Schroeter, and D. Reish. 1993. Benthic Invertebrates In: Ecology of the Southern California Bight; A Synthesis and Interpretation.

U.S. Census. 2019. 2019 ACS Data: Population and Housing Statistics (census.gov, accessed April 15, 2021).

U.S. Geologic Survey. 2013. California State Waters Map Series-Offshore of Carpinteria, California. Pamphlet to accompany Scientific Investigations Map 3261.

Ventura County Resource Management Agency. 2011. Ventura County Initial Study Assessment Guidelines.

von Thury, E. 2013. Using Laser Scanning Technology to Monitor Coastal Erosion and Sea-Cliff Retreat in Southern Santa Barbara County, California. Master's thesis, University of California, Santa Barbara.

Wallace, W. J. 1955. A Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology American 11:214-230.

Westec Services, Inc. 1984. Cultural Resources Evaluation of Onshore Facilities Associated with Platform Gail, Carpinteria, California. Prepared by Westec Services, Inc. for Chevron USA. SR-00615.

Wilcoxon, L. R. 1989. Final Report: A Phase I Cultural Resource Evaluation for Proposed Processing Facility Upgrade Modifications at Chevron's Gas Plant, Carpinteria, California. Prepared by Larry Wilcoxon Archaeological Consultants for INTERFACE Environmental and Planning Services. SR-00767.

Willey, H. I., 1886. Surveyor General's Report to Governor of California. Surveyor General Reports, Book 32 (digitalcommons.csumb.edu/cgi/viewcontent.cgi?article=1047&context=hornbeck_usa_3_a, accessed January 23, 2019).