

1 **4.6 MARINE BIOLOGICAL RESOURCES**

2 This section describes the marine resources in the immediate Project area and Santa
3 Barbara Channel and the potential Project-related impacts, including unanticipated
4 accidents such as an oil spill, could have on those resources. The Environmental
5 Setting section is based primarily on existing literature, but has been augmented with
6 the authors' personal experience in the Project area. The impact section identifies
7 potential impacts to marine resources from decommissioning and removal of Pier 421-1
8 and caisson repairs on Pier 421-2, and identifies mitigation for potentially significant
9 impacts. Operational impacts would be limited to accidents including an oil spill.
10 Mitigation Measures (MMs) are identified to reduce the potential effects of these
11 accidents.

12 This document incorporates by reference the conclusions of the Ellwood Marine
13 Terminal (EMT) Lease Renewal Environmental Impact Report (EIR) (California State
14 Lands Commission [CSLC] 2009) and Line 96 Modification Project EIR (Santa Barbara
15 County 2011) regarding marine biological resources and summarizes these conclusions
16 where appropriate. This document also incorporates data from Santa Barbara County
17 01-ND-34 and City of Goleta 06-MND-01.

18 **4.6.1 Environmental Setting**

19 The primary study area includes the Ellwood Coast region and marine habitats that
20 extend approximately 1 mile seaward from the PRC 421 piers. The secondary study
21 area includes the Gaviota Coast along the Line 96 pipeline and the Santa Barbara
22 Channel.

23 **Study Area**

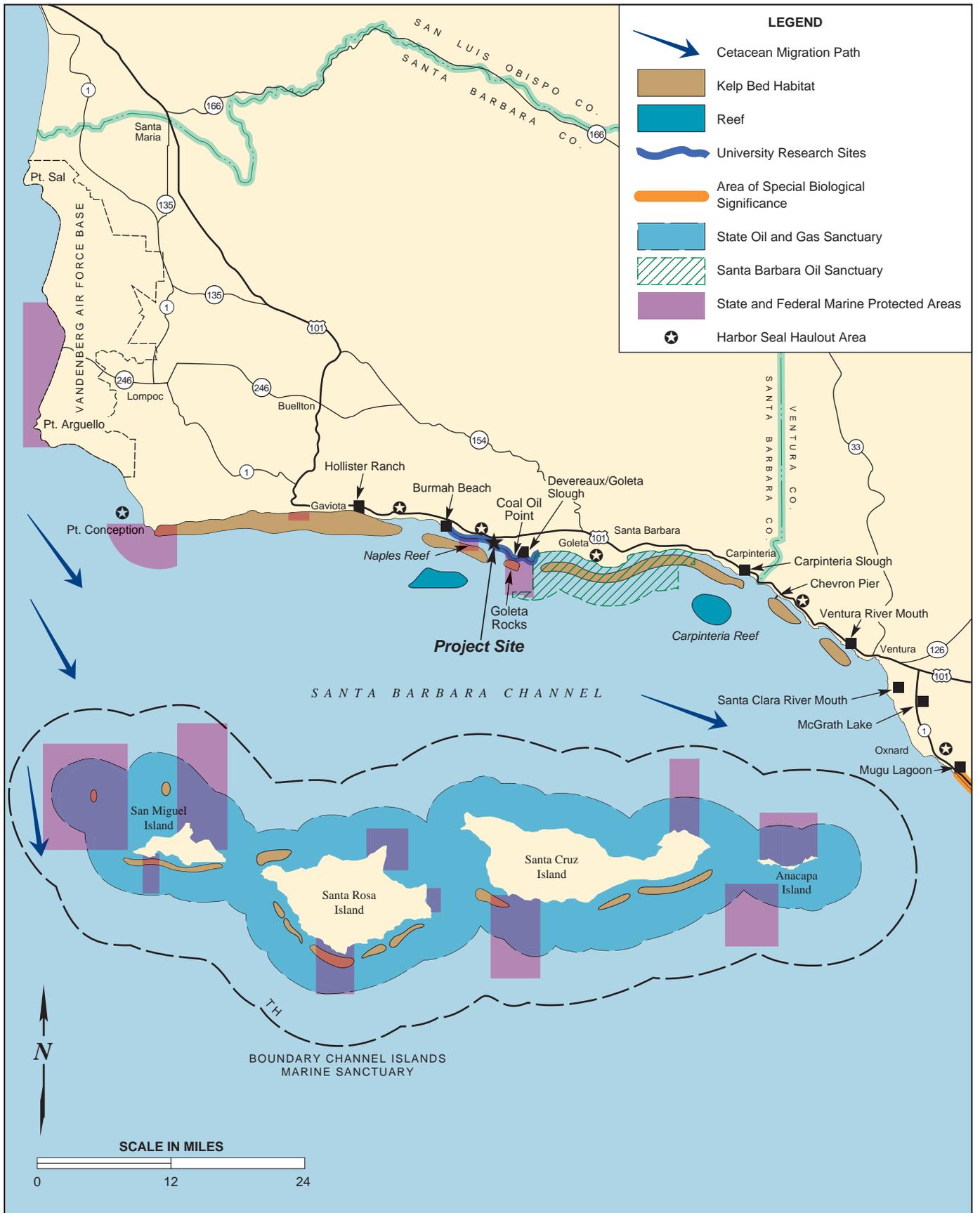
24 PRC 421 is located on the Ellwood coast in the Santa Barbara Channel, which occupies
25 the northwest corner of the Southern California Bight. The sea floor in the Santa
26 Barbara Channel consists of a complex topography of ridges, islands, and basins. The
27 complicated physiography of the region has created a diverse collection of marine
28 environments. The bathymetric features greatly influence such factors as current flow
29 and sediment transport and these processes in turn have profound effects on the
30 biological communities (Chambers Group 1987, Dailey et al. 1993). In Southern
31 California, upwelling occurs along both mainland and island shores as northwest winds
32 displace coastline surface water that is then replaced by nutrient rich deeper water.
33 Upwelling is most intense in April, May, and June and is one of the factors that accounts
34 for the high productivity and diversity of marine life in the study area.

35 The Santa Barbara Channel is bordered on its seaward margin by the northern Channel
36 Islands consisting of Anacapa, Santa Cruz, Santa Rosa, and San Miguel. These islands
37 support unique and important marine communities and also shelter the mainland coast

1 from the direct force of the incoming south swell. Point Conception shelters the Channel
2 from northwest swells. The Channel thus provides a relatively protected and benign
3 environment for marine organisms. The Channel lies along important migration routes
4 for marine mammals, fishes and seabirds and also contains a rich, diverse assemblage
5 of resident marine life. These abundant marine resources support a number of
6 important commercial fisheries, aquaculture, and kelp harvesting. Marine habitats within
7 the Channel include mud, sand, and rocky bottoms, as well as scattered offshore reefs
8 and extensive kelp forests along the coastal and island margins. Sandy and rocky
9 beaches as well as mud-bottom marshes and estuaries line the coast.

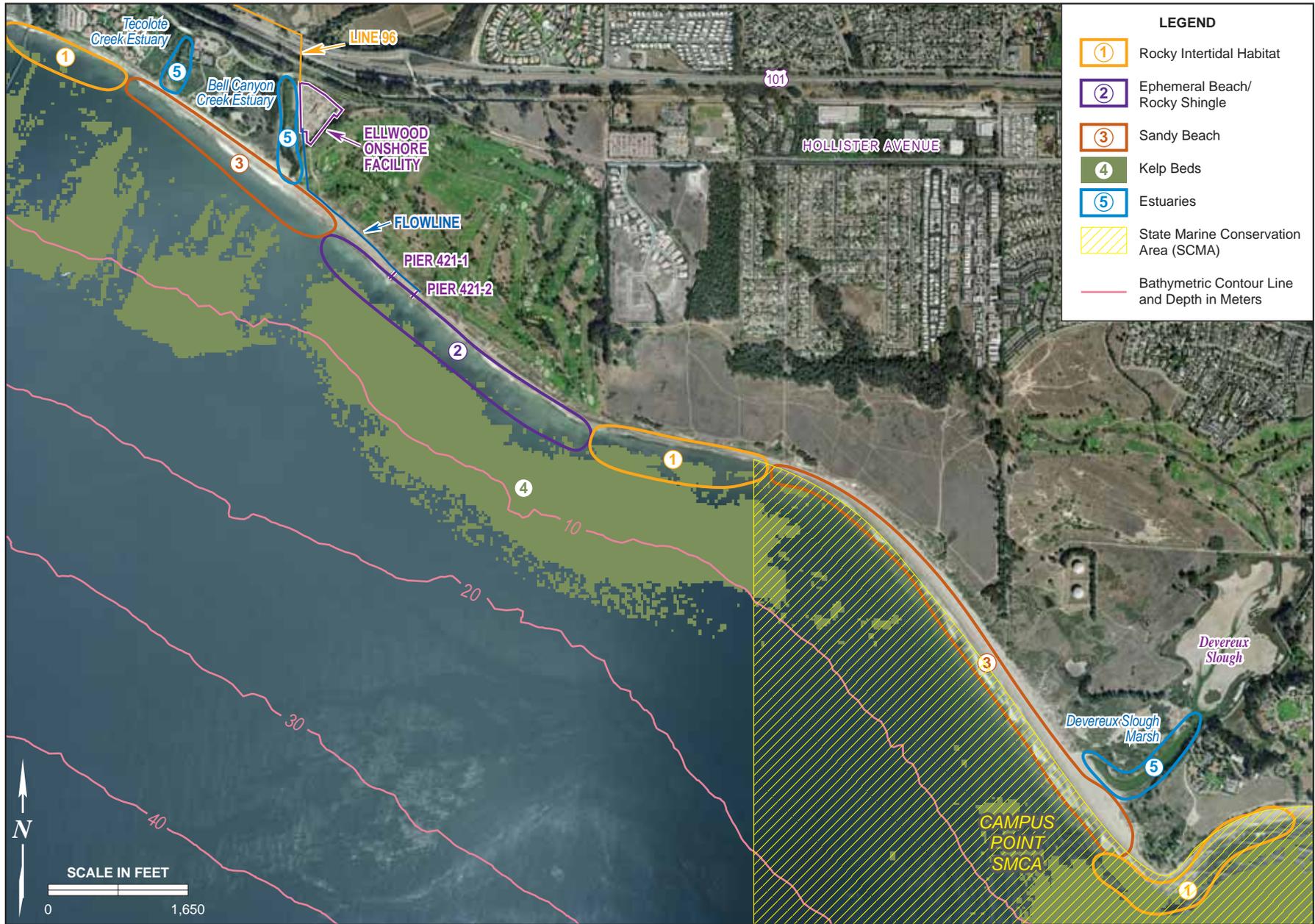
10 The Ellwood Coast region extends for approximately 2 miles west from Coal Oil Point to
11 the Bacara Resort. This section of coast is characterized by a broad sweep of south-
12 facing sandy beach, broken in several places by rocky intertidal habitat and the mouths
13 of one major and two minor estuaries. Within this reach, rocky intertidal habitat is
14 concentrated at Coal Oil Point and within the bay approximately 1 mile west of Coal Oil
15 Point, opposite the western areas of the Ellwood Open Space and the east end of
16 Sandpiper Golf Course (Figure 4.6-1). Sandy beaches tend to aggregate in areas
17 surrounding the estuary mouths and can be ephemeral and replaced by shale or
18 sandstone shingle in areas away from sand sources during the winter months. The
19 mouth of the area's major estuary, the Devereux Slough, lies approximately 0.25 mile
20 west of Coal Oil Point. Seasonal freshwater discharge and sand deposition from this
21 slough provide substantial input to the marine environment, including supporting a wide
22 sandy beach backed by an extensive dune system west of the slough mouth. Toward
23 the western border of the Ellwood Coast, the estuaries of two perennial coastal streams,
24 Bell and Tecolote Canyon creeks, contribute both sand and seasonal freshwater input
25 into this coastal ecosystem.

26 The offshore regions of the Ellwood Coast are characterized by a gently sloping
27 seafloor that averages 36 feet in depth approximately 1 mile from the shoreline. These
28 offshore areas include a mix of low rocky reef and sand bottom substrate. Both the
29 eastern reaches of this area west of Coal Oil Point and the western areas off of Bell and
30 Tecolote Canyon creeks appear to be dominated by sandy substrate, becoming
31 increasingly rocky toward the central area of the Ellwood Coast, including areas
32 offshore from the Project site (Figure 4.6-2; Chambers Group 1987; Santa Barbara
33 County 1991). Kelp beds are scattered throughout both sandy and rocky substrate
34 areas offshore of the Ellwood Coast, but tend to be concentrated and most persistent in
35 areas of rocky substrate. The immediate Project vicinity supports the Ellwood Coast's
36 largest kelp bed. This kelp bed encompasses over 50 acres and begins approximately
37 500 feet offshore of the existing caissons and extends for over 1 mile east southeast
38 along the Ellwood Coast before terminating in areas apparently dominated by sandy
39 bottom substrate east of the Sandpiper Golf Course (Figure 4.6-2).



Sensitive Biological and Marine Resource Areas in the Region of the Proposed Project

FIGURE 4.6-1



Marine Habitats in the Vicinity of the Proposed Project

FIGURE 4.6-2

1 The importance of marine resources in the Ellwood area has been recognized through
2 the establishment of the Naples and Campus Point State Marine Conservation Areas
3 (SMCAs). Campus Point SMCA was established in 2012 to protect marine resources
4 along and off the coast of UCSB, Isla Vista, and the Coal Oil Point Reserve. Campus
5 Point SMCA is designed to protect habitat and species diversity and a wide diversity of
6 habitat types including eelgrass, surfgrass, kelp, rocky reefs, shallow subtidal, rocky
7 intertidal, oil seeps, sand, and the estuarine inputs of Devereux Slough. This SMCA
8 covers 10.51 square miles, including Campus Point. The Naples SMCA covers 2.58
9 square miles, and protects Naples Reef, located approximately 0.75 mile offshore.
10 These SMCAs are “no take” areas that protect natural habitats and marine life, with both
11 commercial and recreational fishing or removal of wildlife prohibited; take of marine
12 resources pursuant to operation and maintenance of artificial structures per any
13 required federal, state and local permits, or as otherwise authorized by the CDFW is
14 permitted.

15 **Marine Biological Resources**

16 *Plankton*

17 The term plankton refers to organisms that drift with the current. Plankton includes
18 phytoplankton (drifting primary producers, such as diatoms and dinoflagellates) and
19 zooplankton (slightly mobile animals, such as small crustaceans, swimming mollusks,
20 jellyfish, and the drifting eggs and larvae of fishes and benthic invertebrates). Planktonic
21 communities are characterized by patchiness or unevenness in distribution,
22 composition, and abundance.

23 The most comprehensive data for zooplankton in California waters come from the
24 California Cooperative Oceanic Fisheries Investigations (CalCOFI) program initiated in
25 1949. This program has shown that zooplankton tend to be extremely variable in space
26 and time. Zooplankton abundance at any given location may vary by as much as an
27 order of magnitude from season to season and year to year. The occurrence of
28 particular zooplankton species or populations along the California coast is largely
29 governed by currents. Long-term averages of the zooplankton standing stock in the
30 study area show peak zooplankton abundances in the spring and summer months, and
31 lowest abundances during the winter (Kramer and Smith 1972; Dawson and Pieper
32 1993). Copepods, thalaceans, euphausiids, and chaetognaths usually account for most
33 of the biomass in CalCOFI samples. The most abundant fish larvae are northern
34 anchovy (*Engraulis mordax*), Pacific hake (*Merluccius productus*), and rockfish
35 (*Sebastes* spp).

36 Phytoplankton assemblages are affected by nutrients, light, water temperature, currents
37 and upwelling, and grazing (Hardy 1993). Species assemblages of phytoplankton in the
38 study area differ spatially and temporally (Hardy 1993). Near the thermocline, for

1 example, an area of elevated chlorophyll concentration often occurs with a vertical
2 species assemblage that is different from that of the surface layer. Onshore-offshore
3 phytoplankton assemblages differ, but temporal changes between stratified and
4 upwelling conditions tend to be more significant than onshore-offshore changes.

5 A subsurface chlorophyll maximum layer generally is present in the study area; in
6 general, phytoplankton abundance and primary production are higher near-shore than
7 offshore (Hardy 1993). The biomass of phytoplankton in Southern California has been
8 found to decrease with increasing distance from shore within the first 6 miles offshore.
9 The depth of maximum phytoplankton abundance usually differs between individual
10 species. Large dinoflagellates are often numerous near the surface, while diatoms are
11 more abundant below a water depth of about 65 feet. Primary production generally
12 shows a subsurface maximum in the study area.

13 Zooplankton populations in the study area can be divided into near-shore and offshore
14 populations (Dawson and Pieper 1993). The near-shore region includes those waters
15 shoreward of the continental shelf/slope break or approximately at the 650 feet depth
16 contour. Transects along the shelf in the study area have shown that the near-shore
17 zooplankton biomass decreases at stations farther from the coast (Dawson and Pieper
18 1993). However, different taxa had different distributions and some taxa were more
19 abundant farther from shore than inshore.

20 Zooplankton of the offshore region include many of the same species found near-shore,
21 but also include more oceanic and deeper water species (Dawson and Pieper 1993).
22 Offshore from the edge of the shelf, zooplankton biomass is variable with depth, but
23 generally higher in the region of chlorophyll, with a maximum at 73 to 83 feet.
24 Zooplankton biomass off Southern California declined during the El Niño years of the
25 1990s but appears to have recovered (Goericke et al. 2005).

26 Fish eggs and larvae (ichthyoplankton) are an important component of the planktonic
27 community. Because of the importance of commercial and recreational fisheries,
28 ichthyoplankton are the most studied component of plankton in the study area. Northern
29 anchovy is by far the most abundant species of ichthyoplankton in the study area (Cross
30 and Allen 1993). Other abundant ichthyoplankton taxa in the study area include
31 rockfish, California smoothtongue (*Leuroglossus stilbicus*), Pacific hake, Mexican
32 lampfish (*Triphorus mexicanus*), and various species of croaker (scianidae). Within
33 the study area, the larvae of jack mackerel, Pacific hake, and mesopelagic fishes (fishes
34 of mid-water depths) are most abundant 6 to 60 miles from the coast (Cross and Allen
35 1993). California halibut (*Paralichthys californicus*), turbot (*Peluronichthys* spp.), sea
36 basses (*Paralabrax* spp.), and blennies (*Hypsoblennius* spp) have larvae that are most
37 abundant within 6 miles of the coast. The larvae of clinids (*Gibbonsia* spp.), queenfish
38 (*Seriphus politus*), California clingfish (*Gobiesox rhessodon*), gobies, silversides, and
39 diamond turbot (*Hypsopsetta guttulata*) are most abundant within 1.2 miles of the coast.

1 Northern anchovy, rockfish, and sanddab (*Citharichthys* spp.) larvae are common both
2 onshore and offshore.

3 *Intertidal Habitat*

4 The mainland shoreline of the Santa
5 Barbara Channel is primarily sandy.
6 Approximately 74 percent of the Santa
7 Barbara County coastline consists of sandy
8 beach and approximately 93 percent of the
9 Ventura County coastline is sand (Dugan et
10 al. 2000). Boulder fields are often present
11 under sandy beaches along the Santa
12 Barbara coast and are alternately exposed
13 and covered by shifting sand. Only about 23
14 percent of the shores of the Channel Islands
15 consist of sand beach.



Extensive rocky intertidal habitats exist within the Project vicinity.

16 The beach adjacent to Piers 421-1 and 421-2 is ephemeral and primarily sandy during
17 the summer months but exhibiting patchy sand with large areas of exposed shale
18 shingle shelf during the winter months. Intertidal boulder fields also are present in the
19 Ellwood area and significant tidepool habitat occurs within the bend of “Ellwood Cove”
20 approximately 0.5 mile east of the Project site and off Coal Oil Point further to the
21 southeast. Rocky intertidal habitat, primarily boulders and cobble, also occurs west of
22 the Project area up-coast from the Bacara Resort. Rocky intertidal habitat is designated
23 as environmentally sensitive habitat (ESH) by the City of Goleta General Plan/Coastal
24 Land Use Plan (GP/CLUP), the Santa Barbara Local Coastal Plan (LCP), and the
25 University of California Santa Barbara (UCSB) Long Range Development Plan.

26 Sandy beaches in California are inhabited by an abundant invertebrate community that
27 is an important food source for vertebrate predators including shorebirds, seabirds,
28 marine mammals, and fishes (Dugan et al. 2000). More than 60 different species of
29 intertidal invertebrates were identified in a survey of 15 beaches in Santa Barbara and
30 Ventura counties (Dugan et al. 2003). Intertidal invertebrates of sandy beaches show a
31 characteristic zonation related to tidal exposure. The composition of the invertebrate
32 community at a given beach as well as the zonation tends to be extremely dynamic due
33 to the highly mobile nature of the sandy substrate and the resources on which these
34 animals depend (Dugan and Hubbard 2006). Most exposed sandy beaches have two to
35 three zones inhabited by distinct groups of mobile animals. These zones generally
36 correspond to the relatively dry substrate of the upper intertidal zone at and above the
37 drift line, the damp sand of the mid-intertidal zone, and the wet sand of the lower
38 intertidal zone. Sandy beaches on the mainland coasts of Ventura and Santa Barbara
39 counties are generally richer in species than beaches of the Channel Islands.

1 The lower intertidal zone (swash zone) in Southern California sandy beaches is
2 dominated by the filter feeding mole crab, *Emerita analoga*, which moves up and down
3 the beach with the tides. The polychaete "bloodworm," *Euzonus*, also is common in the
4 mid to lower intertidal. In the upper intertidal, drift kelp is an important source of food for
5 many invertebrates. Common organisms associated with macrophyte wrack include
6 beach hoppers (*Megalorchestia* spp.), kelp flies (*Coleopa vanduzeei*), isopods
7 (*Alloniscus perconvexus* and *Tylos punctata*) and various species of beetles.

8 The sandy intertidal areas at Ellwood Beach were sampled in 1986 (Chambers Group
9 1987) and the dominant organisms collected were the sand crabs, *Emerita analoga* and
10 *Blepharipoda occidentalis*, and the polychaete worm *Nephtys californiensis* in the lower
11 intertidal; the isopod *Excirolana linguifrons* and the bloodworm *Euzonus muronata* in the
12 mid-intertidal; and the beach hoppers *Megalorchestia californiana* and *M. corniculata* in
13 the upper intertidal.

14 Engle (2001) sampled the sandy intertidal organisms at Ellwood just up the coast (west)
15 from the PRC 421 piers in 2001. The upper beach was characterized by large numbers
16 of isopods (*Tylos punctatus*), beach hoppers, and kelp flies. The mid-intertidal was
17 dominated by the isopod *Excirolana chiltoni* and beach hoppers. Infauna sampled in the
18 lower intertidal included mole crabs (*Emerita analoga*), polychaete worms (*Lumbrinereis*
19 *zonata* and *Nephtys californiensis*), Pismo clams (*Tivela stultorum*), and bean clams
20 (*Donax gouldi*).

21 Rocky intertidal organisms, like those in the sandy intertidal, tend to be distributed in
22 bands or zones related to tidal height. The occurrence of particular species is based on
23 physical and biological factors such as the ability to withstand exposure to air and to
24 survive "sanding-in" as well as competition for limiting resources, especially space
25 (Chambers Group 1987, Thompson et al. 1993).

26 The boulder field at Ellwood has been extensively studied by researchers from the
27 UCSB (Dixon 1978; Fawcett 1978; Sousa 1977; Thompson et al. 1993). This type of
28 habitat is subject to repeated natural disturbance, both through agitation and
29 overturning of the cobbles by wave action and by periodic sand inundation. The
30 structure and composition of the marine community attached to the boulders depend on
31 the severity of past disturbance and on how long the boulders have been exposed for
32 recolonization by larvae and or regrowth of colonies surviving the last disaster. Early
33 successional stages of the boulder community tend to be characterized by the green
34 algae (*Ulva* spp.) and the barnacles (*Chthamalus* spp.). Perennial red algae of several
35 species typify the next successional stage. If two years or more went by without major
36 disturbance the tops of the boulders became dominated by the red alga *Gigartina*
37 *caliculata*. The important feature of this system is that for both invertebrate and algal
38 assemblages, diversity was highest at intermediate frequencies of disturbance.

1 The Ellwood boulder field community underwent a profound change in composition and
2 dynamics after the large storms of 1983 (Thompson et al. 1993). Wave energy was so
3 high that virtually all of the boulders were violently tumbled and all species of algae and
4 invertebrates were driven to low abundances. Early recolonization by *Ulva* and the tube-
5 building polychaete *Phragmatopoma californica* occurred but later successional stages
6 were slow to re-appear.

7 Intertidal habitat at Coal Oil Point to the east of PRC 421 consists of flat sandstone
8 shingle with scattered boulders and a high sand influence, especially in the upper zones
9 (Ambrose et al. 1992). Tidepools are extensive along the beach and the area is
10 characterized by tar from oil seeps (Tway 1991). The boulder habitat is dominated by
11 the green algae *Ulva* and *Enteromorpha*. Larger rocks are dominated by the acorn
12 barnacle *Chthamalus* and the anemone *Anthopleura elegantissima*. Clusters of mussels
13 *Mytilus californianus* also occur. Several species of red algae also are present. The
14 rocky intertidal at Coal Oil Point has been designated an Environmentally Sensitive
15 Habitat Area (ESHA) in the Santa Barbara County LCP for its remarkable rich intertidal
16 invertebrate fauna (Santa Barbara County 1982).

17 *Subtidal Habitat*

18 The vast majority of the subtidal benthic habitat on the study area consists of soft
19 bottom. The soft bottom benthic invertebrates of the Southern California mainland shelf
20 have been studied extensively. Twelve of the 15 most abundant infaunal taxa in this
21 region are annelid worms; 11 were various taxa of polychaetes and the twelfth was
22 oligochaetes (Ranasinghe et al. 2003). The most abundant taxon on the mainland shelf
23 was the spionid polychaete worm (*Spiophanes duplex*), followed by the brittle star
24 (*Amphiodia urtica*), phoronid worms, and another spionid polychaete (*Prionospio*
25 *pinnata*). Infaunal assemblages in very shallow water, less than 33 feet deep, are very
26 much influenced by wave surge and tend to be dominated by fast-moving crustaceans
27 and opportunistic polychaetes (Thompson et al. 1993).

28 Epifaunal communities (invertebrates that live primarily on the surface of the sediments)
29 include a total of 313 species of epifaunal invertebrates (Allen et al. 2002). Three widely
30 occurring species were white sea urchin (*Lytechinus pictus*), California sand star
31 (*Astropecten verrelli*), and ridgeback shrimp (*Sicyonia ingentis*). The shallow inner shelf,
32 of less than 70 feet depth, has the lowest invertebrate abundance, biomass, and
33 diversity. Invertebrate abundance, biomass, and diversity increased from the inner to
34 the middle shelf, and from the middle shelf to the outer shelf. Characteristic species of
35 the inner shelf included blackspotted bay shrimp (*Crangon nigromaculata*), tuberculate
36 pear crab (*Pyromaia tuberculata*), spiny sand star (*Astropecten armatus*), and yellowleg
37 shrimp (*Farfantepenaeus californiensis*). California sand star, ridgeback rock shrimp,
38 and white sea urchin characterized the middle shelf. Species typical of the outer shelf
39 (deeper than 330 feet [100m]) included orange bigeye octopus (*Octopus californicus*),

1 northern heart urchin (*Brisaster latifrons*), mustache bay shrimp (*Neocrangon zaca*),
2 flagnose bay shrimp (*Neocrangon resima*), and hinged shrimp (*Pantomus affinis*).

3 In the shallow sandy subtidal habitat at Ellwood, the tube worm *Diopatra ornata* is the
4 dominant epifaunal invertebrate (Chambers Group 1987). Sand dollar beds (*Dendraster*
5 *excentricus*) occur in 20 to 30 foot water depths. Other characteristic species on the
6 sand bottom between 20 and 50 foot water depths at Ellwood include the Kellett's whelk
7 (*Kelletia kelletii*), the tube dwelling anemone (*Pachycerianthus imbricata*), the elbow
8 crab (*Heterocrypta occidentalis*), the hermit crabs (*Paguristes* spp.), and the cone snail
9 (*Conus californicus*).

10 An introduced species of eelgrass (*Zostera asiatica*) occurs in about 18 to 40 foot water
11 depth on soft bottom along the southern Santa Barbara mainland coast. Eelgrass is a
12 flowering plant that enhances biological value where it grows. Eelgrass beds provide
13 important habitat for invertebrates as a source of food and attachment, and for marine
14 fishes that seek the shelter of the beds for protection and also forage on invertebrates
15 that colonize the eelgrass blades and sediments in and around eelgrass vegetation.
16 Small amounts of eelgrass were observed off Ellwood during underwater surveys in
17 1986 (Chambers Group 1987).

18 Subtidal hard bottom habitat is limited off the mainland shelf of the study area, although
19 subtidal rocky habitat is much more common off the Channel Islands. Rocky subtidal
20 habitat has particular biological value because it provides attachment sites for algae
21 including giant kelp (*Macrocystis pyrifera*) and sessile invertebrates and it provides
22 shelter and food for fishes and mobile invertebrates such as spiny lobster (*Panulirus*
23 *interruptus*).

24 The coastline in the Project region has typically been characterized by large beds of
25 giant kelp, which comprise a distinct and complicated type of marine community. Kelp
26 offers food, attachment sites and microhabitats for invertebrates and provides food and
27 shelter for fishes. Kelp beds off the Santa Barbara County mainland coast between
28 Jalama and Carpinteria are designated an ESHA area in the Santa Barbara County
29 LCP (Santa Barbara County 1982).

30 Two kinds of beds of giant kelp historically have occurred off the Santa Barbara coast
31 east of Point Conception: kelp growing on rocks and kelp growing on sand. In most
32 locations off California, kelp holdfasts require solid substrate for secure attachment,
33 especially in wave-exposed conditions. The kelp beds along the Santa Barbara coast
34 southeast of Point Conception lie in well protected areas and the sand-based kelp had
35 unusual holdfasts that were able to penetrate into the soft bottom and persist (North
36 1994).

37 In 1982 and 1983, most of the extensive kelp beds near Santa Barbara were destroyed
38 by large waves and poor growing conditions associated with an El Niño event (MBC

1 Applied Environmental Sciences 1992). The rock-based kelp recovered but the sand
2 based kelp never did. By the late 1980s and early 1990s, after a long period of drought
3 years, sand based kelp began to show signs of recovery. Starting in 1993, several years
4 (e.g., 1993, 1995, and 1998) of heavy rainfall and rough seas occurred in Southern
5 California. In addition, 1998 was another El Niño year. The high temperatures and low
6 nutrients associated with the El Niño conditions are stressful for giant kelp. Most of the
7 sand-based kelp that had started to return to the southern Santa Barbara shoreline
8 disappeared between 1993 and 1998. In the years since the 1998 El Niño, sand-based
9 kelp has returned sporadically to the mainland coast of the Santa Barbara Channel.
10 However, the only persistent kelp beds have been those associated with hard substrate.
11 Effects of the most recent El Niño (2009-2010) were not yet available.

12 Some rocky subtidal habitat supporting giant kelp occurs in the eastern portion of the
13 Ellwood area offshore from Pier 421-2 (Chambers Group 1987). The rocky subtidal
14 habitat off Ellwood consists of low rocky reef in 25 to 35 foot water depth. Dominant
15 invertebrates in this habitat include pholad clams, the tunicate *Styela montereyensis*,
16 the urchins *Strongylocentrotus franciscanus*, *S. purpuratus*, and *Lytechinus anamesus*
17 as well as the hydroid *Aglaopenia struthionides*. Giant kelp is common on these low
18 reefs. Other kelp species in this habitat include *Egregia menziesii* and *Cystoseira*
19 *osmundacea*.

20 Significant subtidal rocky habitat supporting a large kelp forest occurs offshore of the
21 Isla Vista area between Coal Oil Point and Goleta Point east of PRC 421. Common
22 invertebrates in this area include Kellet's whelk, wavy top shell (*Astraea undosa*), sea
23 urchins (*S. strongylocentrotus* and *S. purpuratus*), tunicates (*Styela montereyensis*), sea
24 stars (*Pisaster giganteus* and *P. brevispinus*) and giant keyhole limpets (*Megathura*
25 *crenulata*) (N. Davis, personal observations). In addition to giant kelp, the brown alga
26 *Pterygophora californica* is common in the Isla Vista kelp bed.

27 Naples Reef, located approximately 2 miles to the northwest of PRC 421, is a significant
28 rocky reef and kelp area that is designated as an ESHA in the Santa Barbara County
29 LCP (Santa Barbara County 1982). Naples Reef supports a great diversity of
30 invertebrates and algae. The reef is about 1 acre in size and averages 26 to 40 foot
31 depth (Chambers Group 1987). Naples Reef is an important fishing and SCUBA diving
32 area and has been used as a research site by UCSB marine biologists for decades.

33 *Fishes*

34 Common water column fishes in the upper water column and near-shore waters of the
35 study area include northern anchovy and Pacific mackerel (*Scomber japonicus*) and
36 predatory schooling fishes, such as Pacific bonito (*Sarda chilensis*) and yellowtail
37 (*Seriola lalandi*); and by large solitary predators, like blue sharks (*Prionice glauca*) and
38 swordfish (*Xiphias gladius*) (Cross and Allen 1993). Northern anchovy is the most

1 abundant epipelagic fish in the study area (Aspen 2005). The largest schools occur
2 within 25 miles of the coast over deepwater, particularly escarpments and submarine
3 canyons. During daylight hours in summer and fall, large compact anchovy schools may
4 be found at depths of 360 to 600 feet. These schools rise to the surface at night and
5 disperse. In spring, many small schools are found at the surface during the day, and the
6 fish scatter over a wide area at night. Most fishes of the epipelagic zone are widely
7 distributed in the study area.

8 Common water column species of near-shore soft bottoms include jacksmelt
9 (*Atherinopsis californiensis*), topsmelt (*Atherinops affinis*), California grunion
10 (*Leuresthes tenuis*), queenfish, walleye surfperch (*Hyperprosopon argenteum*), white
11 seaperch (*Phanerodon furcatus*), northern anchovy, and white croaker (*Genyonemus*
12 *lineatus*), a bottom feeder that lives in the water column (Cross and Allen 1993;
13 Chambers Group 1994). A number of other water column species including Pacific
14 bonito, jackmackerel (*Trachurus symmetricus*), and brown smoothhound (*Mustelus*
15 *henlei*) also sometimes occur in near-shore waters. Most of the water column species
16 found in California near-shore waters are widely distributed from bays and estuaries out
17 to ocean depths of 100 feet or more (Love 1996).

18 Demersal fishes of the study area soft bottom habitats in the study area a total of at
19 least 143 species of fish, with white croaker, Pacific sanddab (*Citharichthys sordidus*),
20 California lizardfish (*Synodus lucioceps*), and queenfish among the most abundant
21 (Allen et al. 2002). The lowest values of fish abundance, biomass, and species richness
22 are generally found on the inner shelf at depths shallower than 100 feet, with the middle
23 shelf of depths of 100 to 400 feet having higher numbers of species (Allen et al. 2002).

24 Characteristic species of the inner shelf include California halibut, barred sand bass
25 (*Paralabrax nebulifer*), speckled sanddab (*Citharichthys stigmaeus*), and white croaker
26 (Allen et al. 2002). Species typical of the middle shelf include yellowchin sculpin
27 (*Icelinus quadriseriatus*), hornyhead turbot (*Pleuronichthys verticalis*), bigmouth sole
28 (*Hippoglossina stomata*), longfin sanddab (*Citharichthys xanthostigma*), California
29 lizardfish, longspine combfish (*Zaniolepis latipinnis*), pink seaperch (*Zalemibus*
30 *rosaceus*), plainfin midshipman (*Porichthys notatus*), and California tonguefish
31 (*Symphurus atricaudus*). Finally, abundant species of the outer shelf, at water depths of
32 430 feet or greater, included Dover sole (*Microstomus pacificus*), Pacific sanddab,
33 slender sole (*Lyopsetta exilis*), and shortspine combfish (*Zaniolepis frenata*).

34 The most abundant fish observed in soft bottom habitat during underwater surveys off
35 Ellwood was the speckled sanddab (Chambers Group 1987). Other fish species
36 observed in the sandy subtidal off Ellwood included thornback ray (*Platyrrhinoidea*
37 *triseriata*), California halibut, California lizardfish, pipefish (*Syngnathus* sp.), diamond
38 turbot, and round stingray (*Urolophus halleri*).

1 Many fish species are associated with rocky habitat. Fishes congregate around rocky
2 features. Fish abundance on reefs is related to the presence or absence of kelp
3 (*Macrocystis pyrifera*) and substrate relief, although bottom relief greater than 3 feet has
4 been found to have little effect on fish species diversity and abundance (Cross and
5 Allen 1993).

6 Common fish species of shallow reefs in the study area include garibaldi (*Hypsypops*
7 *rubiunda*), blacksmith (*Chromis punctipinnis*), bass (*Paralabrax* spp), halfmoon
8 (*Medialuna californiensis*), sheephead (*Semicossyphus pulcher*), opaleye (*Girella*
9 *nigricans*), painted greenling (*Oxylebius pictus*), rock wrasse (*Halichoeres semicinctus*),
10 seniorita (*Oxyjulis californica*), and various species of surf perches (Family
11 Embiotocidae) and rockfish (Cross and Allen 1993). Deep reefs are dominated by
12 rockfish.

13 Depletion of rocky substrate fishes by over fishing has recently become of considerable
14 concern. Species considered over fished include widow rockfish (*Sebastes entomelas*),
15 canary rockfish (*Sebastes pinniger*), yelloweye rockfish (*Sebastes ruberrimus*),
16 darkblotched rockfish (*Sebastes crameri*), bocaccio (*Sebastes paucispinus*), Pacific
17 ocean perch (*Sebastes alutus*), lingcod (*Ophiodon elongates*), and cowcod (*Sebastes*
18 *levis*). To protect these species, Cowcod Conservation Areas have been established.

19 The most frequently observed fish species in rocky areas during underwater surveys off
20 Ellwood was the kelp bass (*Paralabrax clathratus*) (Chambers Group 1987). Other
21 common fish species associated with shallow water hard substrate at Ellwood included
22 blacksmith, sheephead, seniorita, pile perch (*Rhacochilus vacca*), black perch
23 (*Embiotica jacksoni*), sand bass, lingcod, cabezon (*Scorpaenichthys marmoratus*),
24 sarcastic fringehead (*Neoclinus blanchardii*), and several species of rockfish (*Sebastes*
25 *atrovirens*, *S. caurinus*, *S. chrysomelas*, and *S. rastrelliger*).

26 Fish species killed during detonations to remove an abandoned pier from PRC 421 in
27 October 2005 were identified and counted (Howarth 2006). The most abundant fish
28 species affected by explosives on PRC 421 were topsmelt and Pacific sardine
29 (*Sardinops sagax caeruleus*). Other species collected included jack mackerel, black
30 surfperch, rainbow surfperch (*Hypsurus caryi*), shiner surfperch (*Cymatogaster*
31 *aggregate*), white surfperch, kelp surfperch (*Brachyistius frenatus*), striped surfperch
32 (*Embiotica lateralis*), rubberlip surfperch (*Rhacochilus toxotes*), halfmoon, sheephead,
33 giant kelpfish (*Heterostichus rostratus*), pink surfperch, and several rockfishes
34 (*Sebastes chrysomelas*, *S. rastrelliger*, *S. atrovirens*, *S. serranoides*, and *S.*
35 *paucispinis*).

36 Sandy intertidal habitat in Southern California is used for spawning by a near-shore fish,
37 the California grunion, which lays its eggs in the high intertidal zone between March and
38 August. During the grunion spawning season, eggs and developing embryos are buried

1 in the sand to incubate between the highest tides of each month, at the full and new
2 moon. Beaches in the Project area are used by grunion (City of Goleta 2006).

3 *Seabirds*

4 The continental shelf in the study area is biologically productive and supports a wide
5 variety of seabirds, many in high densities (Mills et al. 2005). Their distribution and
6 abundance is subject to temporal fluctuations, both seasonally and from year to year, as
7 prey population densities fluctuate. Seabirds are wide-ranging and many of the seabirds
8 that occur in the Project area migrate seasonally through the area. Other species are
9 resident to the area. Many species roost and nest on the Channel Islands. Seabirds
10 forage widely. Those roosting and nesting on the Channel Islands forage in offshore
11 waters and around the islands, but many species including brown pelicans (*Pelecanus*
12 *occidentali californicus*) and cormorants (*Phalacrocorax* spp.) often fly from the islands
13 each day to forage in near-shore waters. Seabirds, sea ducks (scoters), loons (*Gavia*
14 spp.), and western grebes (*Aechmorphism occidentalis*) constitute most of the avifauna
15 that use the study area (Baird 1993). Seabird densities tend to be greatest near the
16 northern Channel Islands (i.e., San Miguel, Santa Rosa, Santa Cruz, and Anacapa) in
17 winter and north of Point Conception in spring. Seabird densities are higher along island
18 and mainland coastlines as compared to the open ocean (Mills et al. 2005).

19 Seabirds tend to congregate at the shelf/slope break, where water depth increases
20 rapidly from about 330 to 6,500 feet. The shelf break/slope fronts and convergences are
21 important habitats for seabirds due to physical processes that promote productivity and
22 concentrate prey (Mills et al. 2005). The diversity of seabirds in the study area is lowest
23 from May to August and highest from fall to early spring (Baird 1993).

24 The Channel is noted for its rich marine avifauna (Chambers Group 1992). A variety of
25 marine birds including pelicans, gulls, terns, sea ducks, cormorants, grebes and true
26 sea birds occur in the near-shore waters off the Santa Barbara coast and would be
27 expected in the Ellwood area. Large numbers of seabirds pass through the area during
28 this migration on their way to northern breeding grounds. Lehman recorded spring
29 seabird migration at Goleta Point, approximately 3 miles east of PRC 421 (Lehman
30 1994). The most abundant species observed were Arctic loon (*Gavia arctica*), surf
31 scoter (*Melanitta perspicillata*), brant (*Branta bernicia*), Brandt's cormorant
32 (*Phalacrocorax pencillatus*), Bonaparte's gull (*Larus philadelphia*) and Forster's tern
33 (*Sterna forsteri*).

34 The Channel Islands, especially the northern islands, are extremely important breeding
35 areas for seabirds. These islands support 12 breeding species, including the State's
36 entire population of brown pelicans, Xantus's murrelets (*Synthliboramphus hypoleucus*
37 *scrippsi*), and black storm-petrels (*Oceanodroma melania*) (Mills et al. 2005). The
38 greatest number of species and individual breeding seabirds occur on San Miguel

1 Island (Mills et al. 2005). The California brown pelican breeds on Anacapa and Santa
2 Barbara Islands.

3 In the fall of 2005, the offshore portion of Pier 421-1, which had become separated from
4 the mainland pier and remained under ARCO's ownership, was removed. This pier,
5 which became known as "Bird Island," supported large numbers of roosting brown
6 pelicans and cormorants (*Phalacrocorax* spp.) and also supported nesting by Brandt's
7 cormorants. In addition to brown pelicans and cormorants, other marine birds that were
8 observed to use the old pier included snowy egret (*Egretta thula*), little blue heron (*E.*
9 *caerulea*), Heermann's gull (*Larus heermanni*), California gull (*L. californicus*), and
10 western gull (*L. occidentalis*) (Compton 2006). The pier was located about 850 feet
11 offshore in 32 feet of water and consisted of a wooden deck with steel supports.

12 To compensate for the loss of bird habitat from removal of the pier, a new structure was
13 installed. Each of the new structures consists of a large column supporting three
14 triangularly shaped platforms projecting out from the column at different directions and
15 at slightly different heights (Compton 2006). Below these three platforms is a circular
16 ledge extending all the way around the column. The structures are arranged in a line
17 extending southwest to northeast in the same general area as the abandoned pier. The
18 Audubon Society was contracted to survey the structures after completion, and have
19 observed nesting Brandt's cormorant, brown pelican, double-crested cormorant (*P.*
20 *auritus*), snowy egret, Heermann's gull, and western gull (Santa Barbara Audubon
21 Society 2011). Between 2005 and 2010, Brandt's cormorant was by far the most
22 abundant species on the structures, and use by other bird species was noted to be less
23 than for the old pier (Santa Barbara Audubon Society 2011).

24 The waters off Ellwood were monitored for marine mammals during the removal of the
25 old pier on PRC 421. The monitors also recorded observations on seabirds. Seabirds
26 observed in Project area waters included California brown pelican, Brandt's cormorant,
27 double-crested cormorant, Arctic loon, brant, western gull, Heermann's gull, California
28 gull, horned grebe (*Podiceps auritus*) and great egret (*Casmerodius albus*).

29 *Marine Mammals*

30 The marine mammal fauna of the study area includes at least 34 species that have been
31 identified from sightings or strandings (Bonnell and Daily 1993). All marine mammals are
32 protected under the Marine Mammal Protection Act of 1972 (MMPA). Marine mammals
33 that may occur in the Project area include mysticetes (baleen whales), odontocetes
34 (toothed whales), pinnipeds (seals and sea lions), and the southern sea otter (*Enhydra*
35 *lutris nereis*). Six species of cetacean are listed as Federal endangered. Two species of
36 pinniped and the southern sea otter are listed as Federal threatened. Listed marine
37 mammals are discussed in detail in the Sensitive Marine Species section below.

1 California gray whales (*Eschrichtius robustus*) pass through California during their
2 annual migrations between their summer feeding grounds in Alaska and their breeding
3 and calving grounds in Baja California. They are the most common baleen whale in the
4 Channel. Southbound gray whales usually occur in the study area between December
5 and mid-February (Bonnell and Daily 1993). The northbound migration occurs between
6 mid-February and May. Gray Whales Count observed southbound gray whales from
7 November to April and northbound gray whales from January to mid-May (Gray Whales
8 Count 2007). The migration pathway through the study area is broad and somewhat
9 diffuse (Bonnell and Daily 1993). Some whales travel close to the mainland while others
10 follow a more offshore route along the Channel Islands.

11 The Channel Islands support pinniped rookeries for four species – California sea lions
12 (*Zalophus californianus*), northern fur seals (*Callorhinus ursinus*), northern elephant
13 seals (*Mirounga angustirostris*), and harbor seals (*Phoca vitulina richardsi*) (Aspen
14 2005). Two of the Channel Islands, San Miguel and San Nicolas, are the largest
15 pinniped rookeries on the west coast south of Alaska. California sea lions are the most
16 abundant pinniped in the Santa Barbara Channel.

17 Marine mammals in the Project area were monitored during the demolition of the
18 abandoned pier on PRC 421 in October and November 2005. The most frequently
19 sighted species were harbor seals and California sea lions. Bottlenose dolphins
20 (*Tursiops truncatus*) also were observed frequently. Between 55 and 75 common
21 dolphin (*Delphinus* sp.) were seen about 3 nautical miles (nm) from the pier.

22 In August 2006, from their observation location at Coal Oil Point, Gray Whales Count
23 observed 34 southbound gray whales (including one calf), 989 bottlenose dolphins
24 (including 217 calves), 12 sea otters, 40 humpback whales, 28 unidentified large
25 whales, and one northern elephant seal. Over the course of 2007, Gray Whales Count
26 observed 567 northbound gray whales (including 52 calves), 28 southbound gray
27 whales, 901 bottlenose dolphins (including 24 calves), 1,060 common dolphin species,
28 three Pacific white-sided dolphins, 66 sea otters, eight unidentified large whales, six
29 humpback whales, and one northern elephant seal (Gray Whales Count 2007).

30 Harbor seals haul out about 0.4 mile east of Naples Point at a site known locally as
31 “Burmah Beach,” about 2 miles up the coast from the PRC 421 wells. This secluded
32 hauling ground and rookery has been used both day and night by as many as 200
33 harbor seals (Santa Barbara County 2008). The Naples harbor seal rookery is
34 designated an ESHA in the Santa Barbara County LCP (Santa Barbara County 1982).

35 *Sensitive Marine Species*

36 Table 4.6-1 lists sensitive marine species that may occur in the Ellwood area.

Table 4.6-1. Listed Marine Species that May Occur in the Ellwood Area

Common Name	Scientific Name	Status	Habitat	Notes/Occurrence	Frequency
Invertebrates					
White Abalone	<i>Haliotis sorenseni</i>	FE	Open, low relief rock or boulder habitat surrounded by sand at 80 to 200 feet depths (Hobday and Tegner 2000)	Point Conception to Baja CA; in water as shallow as 25 feet in the Santa Barbara Channel (Aspen 2005)	Moderate
Fishes					
Southern Steelhead	<i>Oncorhynchus mykiss</i>	FE (south of Point Conception); CSC	Anadromous; returns to natal streams and rivers to spawn;	Spawns in coastal streams in Santa Barbara County	High
Reptiles					
Loggerhead Sea Turtle	<i>Caretta caretta</i>	FT	Open ocean, coastal waters, and beaches	Nest primarily near Japan and Australia (Aspen 2005); occasionally observed off southern CA usually during the summer months	Low
Pacific Ridley Sea Turtle	<i>Lepidochelys olivacea</i>	FT	Open ocean, coastal waters, and beaches tropical and warm temperate waters	Nesting beaches are along the coasts of Mexico and Costa Rica (Aspen 2005); infrequent visitors to waters north of Mexico, although stranded turtles have been found as far north as Washington	Low
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	FE	Open ocean, coastal waters, and beaches	Most common sea turtle in U.S. waters north of Mexico; frequently off CA during the summer and fall over the continental slope (Aspen 2005); eastern pacific migratory corridor occurs along the west coast of the U.S. and Mexico	Low
Birds					
California Least Tern	<i>Sterna antillarum browni</i>	FE; SE (nesting colony)	Near-shore waters; breeding populations in CA restricted to coastal locations; forage close to their breeding colonies in bays, harbors, and near-shore ocean waters	Least terns successfully produced chicks at Coal Oil Point in 2006 for the first time in 40 years.	High
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	FT; SE	Forages in near-shore waters	Late summer, fall, winter visitor to southern CA, including Channel Islands	Moderate

Table 4.6-1. Listed Marine Species that May Occur in the Ellwood Area (continued)

Common Name	Scientific Name	Status	Habitat	Notes/Occurrence	Frequency
Xantus' Murrelet	<i>Synthliboramphus hypoleucus</i>	ST	Forages in near-shore waters	Breeds on Santa Barbara, Anacapa, and San Clemente Islands	Moderate
Mammals					
Guadalupe Fur Seal	<i>Arctocephalus townsendi</i>	FT	Rocky shorelines and caves	Breeds primarily on Isla de Guadalupe off Baja CA, Mexico coast (Carretta et al. 2004); second rookery was discovered at Isla Benito del Este, Baja CA; individual animals appear regularly at the Channel Islands (Aspen 2005)	Low
Steller Sea Lion	<i>Eumetopias jubatus</i>	FT	Rocky and sandy beaches; temperate waters	Southernmost breeding ground is Año Nuevo Island in central CA (Aspen 2005); uncommon in southern CA (Bonnell and Dailey 1993)	Low
Southern Sea Otter	<i>Enhydra lutris nereis</i>	FT	Shallow near-shore waters with rocky or sandy bottoms that support large populations of their benthic invertebrate prey (Aspen 2005)	Population occurs primarily from north of Año Nuevo Island in to Point Conception (U.S. Geological Survey [USGS] 2004); small numbers observed regularly east of Point Conception	High
Blue Whale	<i>Balaenoptera musculus</i>	FE	Cold and temperate waters offshore	Aggregate in Santa Barbara Channel along the shelf break at about the 650 feet isobath (Aspen 2005); most frequent west of San Miguel Island and along the north sides of San Miguel and Santa Rosa, and the western half of Santa Cruz Island; offshore Channel Islands (Larkman and Veit 1998)	Low
Sei Whale	<i>Balaenoptera borealis</i>	FE	Temperate and subtropical waters	Wintering grounds to feeding grounds that extend from west of the Channel Islands as far north as Alaska in summer (Aspen 2005); rare in CA waters	Low
Fin Whale	<i>Balaenoptera physalus</i>	FE	Cold and temperate waters offshore	Summer distribution is generally offshore and south of the northern Channel Island chain, particularly over the Santa Rosa-San Nicolas Ridge	Low

Table 4.6-1. Listed Marine Species that May Occur in the Ellwood Area (continued)

Common Name	Scientific Name	Status	Habitat	Notes/Occurrence	Frequency
Humpback Whale	<i>Megaptera novaeangliae</i>	FE	Migrate along submarine ridges and occasionally enter the coastal waters of the San Pedro and Santa Barbara Channels (Lagomarsino and Price 2001)	Summer through fall along the shelf break off the Channel Islands (Aspen 2005)	Low
North Pacific Right Whale	<i>Eubalaena japonica</i>	FE	Temperate waters along the shelf and slope	Since 1955, only five sightings of right whales have been recorded in waters off southern CA (Aspen 2005)	Low
Sperm Whale	<i>Physeter macrocephalus</i>	FE	Offshore waters year-round in water depths greater than 3330 feet	Peak abundance from April to mid-June and again from late August through November as they pass by during migration (Aspen 2005)	Low

FE = Federal Endangered; ST = State Threatened; FT = Federal Threatened; SE = State Endangered; FP = CDFW Fully Protected.

1 **White Abalone (*Haliotis sorenseni*) – Federal Endangered:** In May 2001, white
2 abalone became the first marine invertebrate to be listed as a Federal endangered
3 species. White abalone is a mollusk that occurs on rocky habitat from Point Conception
4 to Baja California at 80 to 200 feet depths (Hobday and Tegner 2000). White abalone
5 has been recorded in water as shallow as 25 feet in the Santa Barbara Channel (Aspen
6 2005). White abalone are typically found in open low relief rock or boulder habitat
7 surrounded by sand (Hobday and Tegner 2000). There has been a greater than 99
8 percent decline in both the abundance and density of white abalone in California since
9 the 1970s (Hobday and Tegner 2000). The abalone fishery contributed to the decline of
10 white abalone by over harvesting and reduced the density to the point where
11 recruitment success has been unlikely. White abalone have a moderate potential to
12 occur in rocky habitat in the Ellwood area.

13 **Southern Steelhead (*Oncorhynchus mykiss*) – Federal Endangered:** Steelhead are
14 the ocean-going form of rainbow trout. They spawn in coastal streams, but spend their
15 adult lives in the ocean. The southern Evolutionarily Significant Unit of steelhead
16 extends from the Santa Maria River in San Luis Obispo County to the U.S.-Mexican
17 Border. Steelhead occur at times in many of the coastal streams in Santa Barbara
18 County. Steelhead enter their home streams from November to April to spawn (Aspen
19 2005). Juveniles usually migrate to sea in spring.

20 **Green Sea Turtle (*Chelonia mydas*) – Federal Threatened:** Green sea turtles nest
21 primarily in Mexico and on the Galapagos Islands (Aspen 2005). Off the Pacific coast,
22 sightings have been recorded as far north as British Columbia, although most
23 observations of this species are from northern Baja California and Southern California

1 (Aspen 2005). Green sea turtles once were common in San Diego Bay, but now appear
2 to be limited to a single channel in the southern part of the bay where they are year-
3 round residents (Aspen 2005). Green sea turtles are seen from time to time off the
4 Southern California coast, usually during the summer months.

5 **Loggerhead Sea Turtle (*Caretta caretta*) – Federal Threatened:** Loggerhead sea
6 turtles occur worldwide, but nest primarily near Japan and Australia (Aspen 2005).
7 Loggerhead sea turtles are occasionally observed off Southern California during the
8 summer months. In 2005, the National Marine Fisheries Service (NMFS) issued a final
9 rule to protect loggerhead sea turtles that follow warmer El Niño currents and risk
10 becoming entangled in drift gillnet fishing operations. The regulation prohibits drift gillnet
11 fishing in U.S. waters off Southern California for the months of June, July, and August
12 during an El Niño year that raises sea surface temperatures off Southern California.

13 **Pacific Ridley Sea Turtle (*Lepidochelys olivacea*) – Federal Threatened:** This
14 species also sometimes is called the Olive Ridley sea turtle. Ridley sea turtles occur
15 worldwide in tropical and warm temperate waters. In the eastern north Pacific, this
16 species' major nesting beaches are along the coasts of Mexico and Costa Rica (Aspen
17 2005). These sea turtles are infrequent visitors to waters north of Mexico, although
18 stranded Ridley sea turtles have been found as far north as Washington. A Ridley sea
19 turtle was stranded at Ellwood Beach in 2004 (J. Cordaro, NMFS, pers. com. 2006).

20 **Leatherback Sea Turtle (*Dermochelys coriacea*) – Federal Endangered:**
21 Leatherback sea turtles in the eastern Pacific are probably part of the western Mexico,
22 Central America, and northern Peru breeding population (Aspen 2005). Leatherbacks
23 are the most common sea turtle in U.S. waters north of Mexico. Leatherback sea turtles
24 are sighted relatively frequently off California, particularly during the summer and fall.
25 Most observations of leatherback sea turtles off California have been over the
26 continental slope (Aspen 2005). It has been suggested that an eastern Pacific migratory
27 corridor for leatherback sea turtles occurs along the west coast of the U.S. and Mexico.

28 **California Least Tern (*Sterna antillarum browni*) – Federal Endangered; State
29 Endangered:** The California least tern ranges from the San Francisco Bay area
30 southward into South America. They are present in California during their breeding
31 season of mid-April to mid-September. Recently, least terns have started nesting at the
32 Coal Oil Point Reserve, just east of Ellwood, and in 2006 produced the first chicks there
33 in 40 years. Least terns forage close to their breeding colonies in bays, harbors, and
34 near-shore ocean waters. Least terns forage in the ocean from just beyond the surf line
35 to up to 1 to 2 miles out to sea (Collins et al. 1979). The majority of least tern foraging in
36 the ocean is within 1 mile of shore in water less than 60 feet deep (Atwood and Minsky
37 1983). Least terns would be expected to forage in Project area waters during their
38 breeding season.

1 **Xantus' Murrelet (*Synthliboramphus hypoleucus*) – State Threatened:** Xantus'
2 murrelets range from Baja California to Oregon and Washington. Xantus' murrelets are
3 common spring and summer residents to the Channel Islands and near-shore islands
4 and offshore mainland waters (Lehman 1994). They nest colonially in only 12 to 15
5 locations, including Santa Barbara, Anacapa, San Miguel, Santa Catalina, San
6 Clemente, and Santa Cruz Islands. Santa Barbara Island contains the largest breeding
7 concentration of this species in the world (Burkett et al. 2003). An effort to remove black
8 rats from Anacapa Island has re-established nesting by Xantus' murrelets there. This
9 species forages throughout the study area from these nest sites, particularly in the area
10 between Santa Barbara and Santa Catalina Islands and the mainland, but densities are
11 low (Mills et al. 2005).

12 **Marbled Murrelet (*Brachyramphus marmoratus*) – Federal Threatened; State**
13 **Endangered:** Marbled murrelets are very rare late summer, fall, and winter visitors to
14 near-shore waters in Southern California, including several of the Channel Islands
15 (Lehman 1994). They breed in old-growth coniferous forests along the north coast of
16 California northward through coastal British Columbia and Alaska. The U.S. Fish and
17 Wildlife Service (USFWS) designated critical habitat for this species, and a recovery
18 plan is in effect. The breeding range in California is north of Monterey County. Like
19 Xantus' murrelet, this species forages in near-shore waters around the islands, as well
20 as more widely in the study area, which could bring them to Ellwood, but the species is
21 expected to occur here in very low numbers.

22 **Guadalupe Fur Seal (*Arctocephalus townsendi*) – Federal Threatened:** Guadalupe
23 fur seals breed primarily on Isla de Guadalupe off the coast of Baja California, Mexico
24 (Carretta et al. 2004). In 1997, a second rookery was discovered at Isla Benito del Este,
25 Baja California. Individual animals appear regularly at the Channel Islands, and a single
26 pup was born on San Miguel Island in 1997 (Aspen 2005).

27 **Steller Sea Lion (*Eumetopias jubatus*) – Federal Threatened:** Steller sea lions occur
28 from the Bering Strait in Alaska to Southern California. Their southernmost breeding
29 ground is Año Nuevo Island in Central California (Aspen 2005). Steller sea lions are
30 uncommon in the study area (Bonnell and Dailey 1993). A few adult or subadult males
31 are sometimes seen during the summer around the west end of San Miguel Island, but
32 no breeding has occurred in Southern California since 1980. Steller sea lions would be
33 very unlikely to occur in the Project area off Ellwood.

34 **Southern Sea Otter (*Enhydra lutris nereis*) – Federal Threatened:** The southern sea
35 otter ranges from north of Año Nuevo Island in to Point Conception (USGS 2004).
36 Although the sea otter population is concentrated in central California, otters are
37 frequently sighted south of Point Conception. In January 1999, more than 150 otters
38 were counted south of Point Conception (Aspen 2005). In the spring 2004 sea otter
39 survey, 8 sea otters were observed southeast of Point Conception and in spring 2006,

1 93 sea otters were counted east of the Point (USGS 2004, 2006). Sea otters are
2 relatively rare in the vicinity of Ellwood but they would be expected to occur in the
3 Project area. A sea otter was sighted off More Mesa (Howarth 2006) and in September
4 of 2006, one was seen in Goleta Bay (N. Davis, personal observation 2006). Sea otters
5 usually inhabit shallow near-shore waters with rocky or sandy bottoms that support
6 large populations of their benthic invertebrate prey (Aspen 2005). In California, otters
7 generally live in waters less than 60 feet deep and less than 1.2 miles offshore.

8 **Blue Whale (*Balaenoptera musculus*) – Federal Endangered:** In the eastern north
9 Pacific, blue whales are found from the Gulf of Alaska south to at least Costa Rica
10 (Aspen 2005). In Southern California, blue whales tend to aggregate in the Santa
11 Barbara Channel along the shelf break at about the 650 feet isobath (Aspen 2005). Blue
12 whale occurrence in Southern California is strongly seasonal. Blue whales tend to be
13 present in California waters in June through October with peak numbers in August
14 through October (Larkman and Veit 1998). They are almost never seen in winter. Blue
15 whale sightings are most frequent west of San Miguel Island and along the north sides
16 of San Miguel, Santa Rosa, and the western half of Santa Cruz Island. All blue whales
17 observed in the study area during CalCOFI cruises between 1987 and 1995 were
18 offshore of the Channel Islands (Larkman and Veit 1998). The largest aggregations
19 were seen off San Miguel Island and southwest of the south end of San Clemente
20 Island. The stock estimate was 1,480 whales in 2004 (Carretta et al. 2004).

21 **Sei Whale (*Balaenoptera borealis*) – Federal Endangered:** Sei whales migrate
22 northward from wintering grounds in temperate and subtropical waters to feeding
23 grounds that extend from west of the Channel Islands as far north as Alaska in the
24 summer (Aspen 2005). Sei whales are rare in California waters. The population off
25 California is believed to be very low (i.e., tens to several hundred).

26 **Fin Whale (*Balaenoptera physalus*) – Federal Endangered:** Fin whales occur year-
27 round off central and Southern California with peak numbers in summer and fall (Aspen
28 2005). In the study area, summer distribution is generally offshore and south of the
29 northern Channel Island chain, particularly over the Santa Rosa-San Nicolas Ridge.
30 Estimates place the fin whale population between California and Washington at about
31 3,279 animals (Carretta et al. 2004). Fin whales may occasionally occur within the
32 Project area, but they would be expected to be rare.

33 **Humpback Whale (*Megaptera novaeangliae*) – Federal Endangered:** Humpback
34 whales occur in California in summer through fall. In the study area, humpback whales
35 tend to concentrate along the shelf break off the Channel Islands (Aspen 2005).
36 Humpbacks often migrate along submarine ridges and occasionally enter the coastal
37 waters of the San Pedro and Santa Barbara channels (Lagomarsino and Price 2001).
38 The total humpback whale population in the North Pacific is now believed to number

1 more than 6,000 animals with the 2004 estimate for the California/Mexico stock at 681
2 (Carretta et al. 2004).

3 **North Pacific Right Whale (*Eubalaena japonica*) – Federal Endangered:** Since 1955,
4 only five sightings of right whales have been recorded in waters off Southern California
5 (Aspen 2005). All of these sightings were recorded between February and May.

6 **Sperm Whale (*Physeter macrocephalus*) – Federal Endangered:** Sperm whales are
7 the largest of the toothed whales. Off California, sperm whales are present in offshore
8 waters year-round, with peak abundance from April to mid-June and again from late
9 August through November as they pass by during migration (Aspen 2005). Sperm
10 whales are a pelagic species and usually are found in water depths greater than 3,300
11 feet. A 2004 abundance estimate for the sperm whale population along the west coast
12 of the U.S. between Washington and California was 1,233 whales (Carretta et al. 2004).

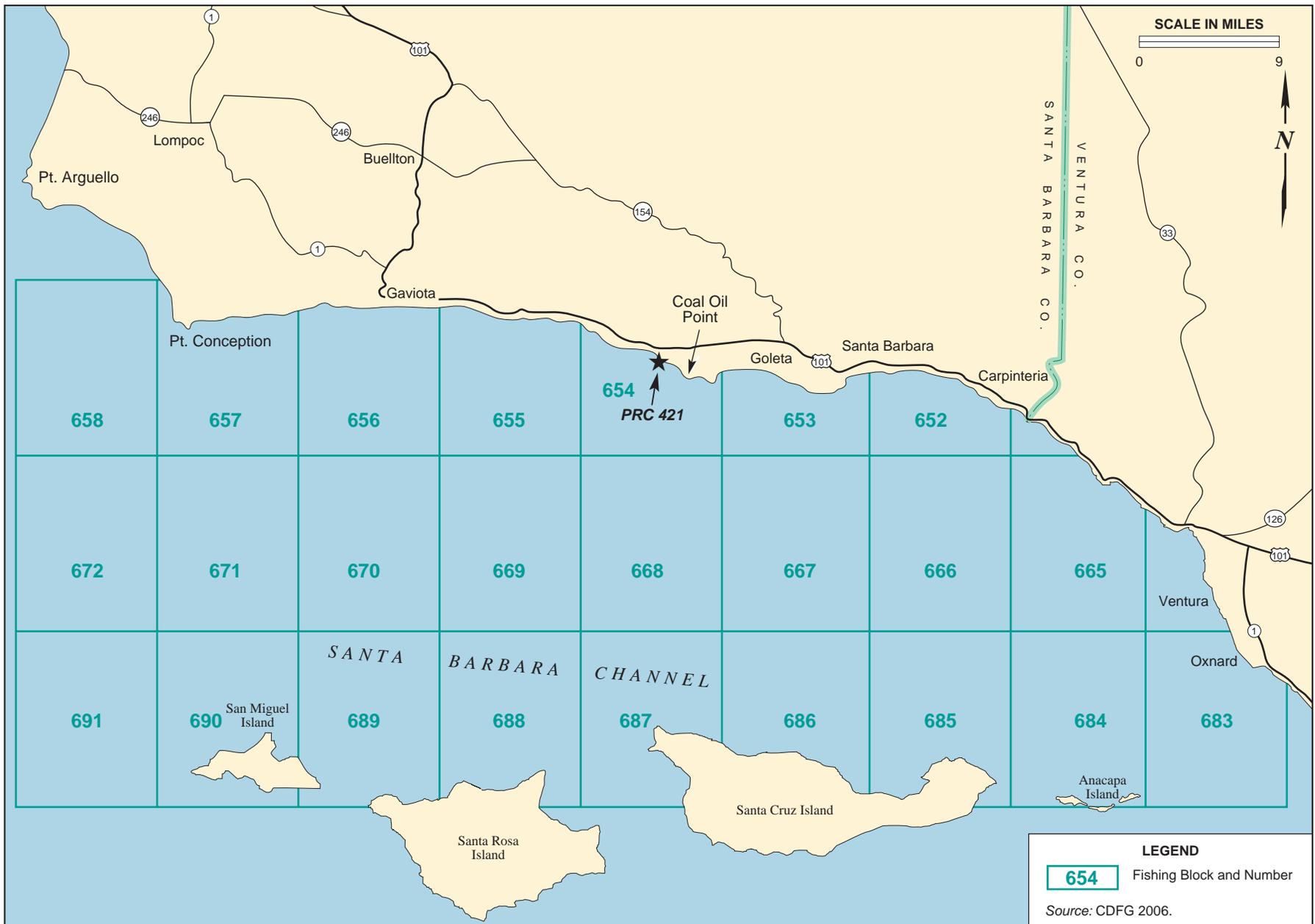
13 In addition to the aforementioned Federal and State threatened and endangered marine
14 species, several species of special concern to the State are known to frequent the
15 Project area. These include, but are not limited to, great egret (*Ardea alba*), great blue
16 heron (*Ardea herodias*), and long-billed curlew (*Numenius americanus*).

17 **Commercial and Recreational Fishing**

18 *Fisheries in the Santa Barbara Channel*

19 A wide variety of finfish and shellfish species are harvested in the Santa Barbara
20 Channel. Commercial and recreational fish harvests are tracked by the California
21 Department of Fish and Wildlife (CDFW) and monthly catch data are reported within
22 rectangular blocks, covering 100 square miles (mile²) each. A total of 179 different fish
23 taxa were harvested commercially in the 27 fish blocks within the Santa Barbara
24 Channel from 1999 to 2005 (CDFW 2006). From 1999 to 2005, the 199,000-ton harvest
25 was valued at \$92.1 million.

26 A few major taxonomic groups represented the bulk of the commercial catch in the
27 Santa Barbara Channel. In particular, market squid (*Loligo opalescens*) represented
28 almost 70 percent of the biomass and 44 percent of the dollar value of the catch.
29 Urchins (*Strongylocentrotus franciscanus*), California spiny lobster (*Panulirus*
30 *interruptus*), California halibut, crab (*Cancer* spp.), prawns (*Sicyonia ingentis* and
31 *Pandalus platyceros*), sardines (*Sardinops sagax*), and anchovies (*Engraulis mordax*)
32 made up most of the remaining biomass. Together with the market squid, these groups
33 made up nearly 92 percent of the catch value and 98 percent of the catch biomass
34 within the Channel between 1999 and 2005.



California Department of Fish and Wildlife
Fish Blocks within the Santa Barbara Channel

FIGURE
4.6-3

1 The commercial fishery within the Santa Barbara Channel may fluctuate dramatically
 2 during El Niño events, and landings differ substantially among ports. In addition, the
 3 catch is not uniformly distributed across the Channel. Instead, it is heavily weighted
 4 toward the Channel Island area (catch blocks 684 through 690 in Figure 4.6-3), which
 5 encompass only 12.8 percent of the Santa Barbara Channel area, yet accounted for 50
 6 percent of the value and 44 percent of the total biomass of the commercial fisheries
 7 within the Channel between 1999 and 2005. Comparatively, the Project area (catch
 8 block 654) accounted for 2 percent of the total value and 0.31 percent of the total
 9 biomass caught within the Santa Barbara Channel between 1999 and 2005. The total
 10 value for catch landed from block 654 was \$1.8M, which consisted primarily of lobster,
 11 prawns, urchin, halibut, and sea cucumber.

12 *Recreational Fishing*

13 Recreational fishing in the Santa Barbara Channel is conducted from private or charter
 14 vessels, piers, or from the shoreline (e.g., beaches, jetties, breakwaters). Other than
 15 fishing logs maintained by the commercial passenger fishing vessel (CPFV) fleet,
 16 reliable recreational fish-landing data are not available. Fish landed (numbers of fish) by
 17 the CPFV fleet that fished in the Santa Barbara Channel area from 1997 through 2003
 18 are provided in Table 4.6-2. The numbers are conservative estimates of CPFV catch
 19 because not all CPFV operators participate in the logbook program (CSLC 2009).

Table 4.6-2. Ranking of Fish Recreationally Harvested in the Santa Barbara Channel from 1997 to 2003

Common Name	Scientific Name	SB Channel Total ¹	Island Fraction ²	Mainland/Open Fraction
Rockfish	<i>Sebastes</i> sp.	724,782	64.3%	35.7%
Kelp Bass	<i>Paralabrax clathratus</i>	251,840	40.9%	59.1%
Barred Sand Bass	<i>Paralabrix nebulifer</i>	249,997	8.5%	91.5%
Ocean Whitefish	<i>Caulolatilus princeps</i>	168,015	84.6%	15.4%
Barracuda	<i>Sphyræna</i> sp.	119,611	48.6%	51.4%
Rock Scallop	<i>Crassedoma giganteum</i>	67,804	98.3%	1.3%
Scorpionfish	<i>Scorpaena guttata</i>	53,964	70.4%	29.6%
Sheephead	<i>Semicossyphus pulcher</i>	30,157	87.2%	12.8%
Halfmoon	<i>Sebastes chrysomelas</i>	29,798	87.0%	13.0%
Mackerel	<i>Trachurus symmetricus</i> and <i>Scomber japonicus</i>	26,157	8.3%	91.7%
Yellowtail	<i>Seriola lanandi</i>	24,397	86.1%	13.9%
Lobster	<i>Panulirus interruptus</i>	23,124	99.6%	0.4%
Other Fish		88,911	69.7%	30.3%
Taxa Total		1,858,557	56.8%	43.2%

¹ Total fish count over five years based on CPFV logs.

² Fraction of the Santa Barbara Channel fish caught in the seven blocks (684 through 690) that encompass the Channel Islands and cover 12.8 percent of the Channel area.

Source: CSLC 2009.

1 Over half (56.8 percent) of the total CPFV catch in the Santa Barbara Channel occurred
2 near the Channel Islands. The CPFV catch fraction around the islands significantly
3 exceeded the fractional area for all but two major taxa (barred sand bass and
4 mackerel).

5 Abalone (*Haliotis* sp.) were once common in the rocky coastal habitat of the Santa
6 Barbara Channel, but currently all five major species of abalone in central and Southern
7 California are depleted, a result of cumulative impacts from commercial harvest,
8 increased market demand, sport fishery expansion, depredation by sea otters, pollution
9 of mainland habitat, disease, loss of kelp populations associated with El Niño events,
10 substantial poaching losses, and inadequate wild stock management. The California
11 Fish and Game Commission closed the commercial and recreational abalone fishery in
12 southern and central California under emergency action in May 1997. By legislative
13 action in January 1998, the closure was extended indefinitely (CSLC 2009). The
14 Cultured Abalone, a local abalone mariculture company, operates near Dos Pueblos
15 Canyon.

16 *Kelp Beds and Mariculture*

17 In addition to providing habitat as described above, kelp is harvested commercially
18 within the Santa Barbara Channel for various uses. Algin is extracted from a large
19 proportion of the harvest and used as a thickening, stabilizing, suspending, and gelling
20 agent in a wide variety of food, paper, pharmaceutical, cosmetic, and dental products.
21 Mariculture companies are also increasingly using giant kelp as food for their abalone
22 stock. Kelp beds along the coast can produce as much as 1,000 tons of kelp per year,
23 much of which is harvested for use by abalone farming operations.

24 **4.6.2 Regulatory Setting**

25 Federal and State laws that may be relevant to the Project are identified in Table 4.0-1.
26 Local laws, regulations, and policies are discussed below.

27 **Local**

28 *Santa Barbara County*

29 The coastal reaches adjacent to PRC 421 fall under the local jurisdictions of the City of
30 Goleta and Santa Barbara County. Santa Barbara County's LCP (Santa Barbara County
31 1982) identifies ESHAs in the Project vicinity, which include the rocky intertidal habitat
32 at Coal Oil Point and between Point Conception and Ellwood, harbor seal hauling
33 grounds east of Naples, Naples Reef and kelp beds from Jalama to Carpinteria.

1 *City of Goleta General Plan/Coastal Land Use Plan (GP/CLUP)*

2 City of Goleta GP/CLUP policies that are relevant to the Project in regard to marine
3 biological resources are:

- 4 · Policy CE 1 – To identify, preserve, and protect the city’s natural heritage by
5 preventing disturbance of ESHAs.
- 6 · Policy CE 6 – Preserve and protect the biological integrity of marine habitats and
7 resources within and adjacent to Goleta.
- 8 · Policy 8 – To preserve and protect habitats for threatened, endangered, or other
9 special-status species of plants and animals to maintain biodiversity.

10 **4.6.3 Significance Criteria**

11 An impact on biological resources would be considered significant if any of the following
12 apply:

- 13 · There is a potential for any part of the population of a threatened, endangered, or
14 candidate species to be directly affected or if its habitat is lost or disturbed;
- 15 · If a net loss occurs in the functional habitat value of: a sensitive biological habitat,
16 including salt, freshwater, or brackish marsh; marine mammal haul-out or
17 breeding area; eelgrass; river mouth; coastal lagoons or estuaries; seabird
18 rookery; ESHA or Area of Special Biological Significance;
- 19 · Permanent change in the community composition or ecosystem relationships
20 among species recognized for scientific, recreational, ecological, or commercial
21 importance;
- 22 · Prolonged disturbance to or destruction of habitat (or functional habitat value) of
23 a species recognized as biologically or economically significant in local, State, or
24 Federal policies, statutes, or regulations;
- 25 · There is a potential for the movement or migration of fish or wildlife to be
26 impeded; or
- 27 · If a substantial loss occurs in the population or habitat of any native fish, wildlife,
28 or vegetation or if there is an overall loss of biological diversity. Substantial is
29 defined as any change that could be detected over natural variability.

30 An impact to commercial or recreational fishing would be considered significant if the
31 Project would:

- 32 · Temporarily reduce any fishery in the vicinity by 10 percent or more during a
33 season, or reduce any fishery by 5 percent or more for more than one season;
- 34 · Affect kelp and aquaculture harvest areas by 5 percent or more;

- 1 · Result in loss or damage to commercial fishing or kelp harvesting equipment; or
- 2 · Harvesting time lost due to harbor closures, impacts on living marine resources
- 3 and habitat, and equipment or vessel loss, damage, or subsequent replacement.

4 **4.6.4 Impact Analysis and Mitigation**

5 Potential construction- and operations-related impacts to marine biological resources
6 are evaluated below. Table 4.6-3, located at the end of Section 4.6.4, provides a
7 summary of such impacts and recommended MMs to address these impacts.

Impact MBIO-1: Disturbance to Intertidal Organisms during Construction

8 **Construction activities during recommissioning activities at Pier 421-2 and**
9 **following decommissioning and removal of Pier 421-1 would disturb and kill**
10 **intertidal invertebrates and might dislodge grunion eggs (Less than Significant**
11 **with Mitigation).**
12

13 **Impact Discussion**

14 Disturbance of sediment during construction activities associated with caisson repairs
15 on Pier 421-2 and recommissioning of Well 421-2 have the potential to impact marine
16 resources due to excavation and jetting of sand around the piles. Additionally,
17 decommissioning and removal of Pier 421-1, estimated to occur 1 year following Project
18 completion, would produce similar potential impacts.

19 The Project would require operation of heavy construction equipment on the beach to
20 improve all three non-seaward-facing walls on the caisson at Pier 421-2 as well as to
21 perform repairs to the 25-foot section of 6-inch pipeline near the 12th tee of the
22 Sandpiper Golf Course. These Caisson reinforcements would include construction of
23 walls similar to the one built on the seaward-facing side of Pier 421-2 in 2011. This
24 would include installation of steel piles in 25-foot-deep holes drilled around the caisson
25 and concrete panels between the steel piles. Concrete slurry will then be poured
26 between the new panels and the old caisson walls. To perform this work, an excavator
27 would be located on the beach to scrape sand from between the piles and cut into the
28 bedrock to key the concrete panels in the Monterey shale base. As the bottom panel of
29 each section is being set, a sand jet unit on top of the caisson would clear the sand so
30 that the panel would sit directly on or near the Monterey shale base. The excavation of
31 sand at the base of the caisson would kill intertidal invertebrates living in the sand. The
32 amount of sandy intertidal habitat affected by these construction activities would be
33 small (less than 0.5 acre). Additionally, repair of the 25-foot section of 6-inch pipeline
34 along the access road would also require that construction equipment access the beach
35 adjacent to this section of pipeline. Intertidal invertebrate communities are adapted to
36 the seasonal shifting of sand off and on the beach and repopulate rapidly. Because of
37 the small amount of intertidal habitat that would be affected and the fact that the

1 intertidal invertebrate community would be expected to re-establish within a year, these
2 impacts would be less than significant.

3 Decommissioning and removal of Pier 421-1, including the well, pier, and caisson,
4 would disturb the sand at the base of the pier and the surrounding area. Removal of
5 Pier 421-1 would require operation of heavy construction equipment on the beach to
6 decommission the well and deconstruct and remove the caisson and the pier. This
7 activity would include excavating around the piles to perform thermal cuts below the
8 existing ground surface so that the piles can be removed from the beach. This activity
9 would kill intertidal invertebrates living in the sand; however, the construction area
10 would be small and the invertebrate community would be expected to re-establish within
11 a year. This construction activity would be located approximately 250 feet west of the
12 construction activity associated with improvements to Pier 421-2, which is anticipated to
13 occur 1 year earlier. Therefore, it would not interfere with recently recovered or
14 recovering invertebrate populations at Pier 421-2. Because of the small amount of
15 intertidal habitat that would be affected and the fact that the intertidal invertebrate
16 community would be expected to re-establish within a year, these impacts would be less
17 than significant.

18 If caisson repair on Pier 421-2 or decommissioning and removal of Pier 421-1 occurs
19 between March and September, excavation or jetting of sand would potentially expose
20 grunion eggs deposited in the high intertidal zone. Because grunion populations are
21 declining and the beaches where they spawn are limited, destruction of grunion eggs
22 would result in a loss of the functional value of the beach as grunion spawning habitat.
23 The deposition of grunion eggs on a beach is patchy and even a small area can contain
24 a significant number of grunion eggs (Martin 2006). The destruction of grunion eggs is
25 considered less than significant with mitigation.

26 **Mitigation Measures**

27 **MM MBIO-1. Avoid Caisson Repair on Pier 421-2 and Removal of Pier 421-1**
28 **during Grunion Spawning Season.** Project activities that require equipment
29 access on the beach shall be scheduled to avoid, to the extent possible,
30 anticipated California grunion runs. In the event that construction will occur
31 during the seasonally predicted run period and egg incubation period for
32 California grunion as identified by the California Department of Fish and
33 Wildlife, a Project Biological Monitor, hired by the City of Goleta and paid by
34 Venoco, shall be present on the Project site each night, for the entire night,
35 from one night before the beginning of each seasonally predicted grunion run
36 until one night after the end of each run to monitor the presence of grunion on
37 the site. If any adult grunion are observed at the Project site, no construction
38 activities requiring equipment access within the area of the observed grunion
39 will be allowed until after the next predicted grunion run (or two weeks after the
40 last run in August) in which no adult grunion have been observed on the

1 Project site, unless otherwise approved by the California State Lands
2 Commission staff.

3 **Rationale for Mitigation**

4 Avoiding caisson repair and pier removal activities during the grunion spawning season
5 would ensure that no grunion eggs were killed or damaged by these activities. If pier
6 removal or caisson repair must occur between March and September, monitoring of
7 grunion spawning and avoiding disturbance to any areas where spawning occurred
8 would also avoid impacts to grunion eggs. Full implementation of MM MBIO-1 would
9 reduce Impact MBIO-1 to less than significant.

10 **Impact MBIO-2: Impacts to Marine Organisms from Sediment Resuspension in the** 11 **Near-Shore Zone due to Disturbance of Sediments during Construction**

12 **Activities during construction activities such as caisson repairs on non-seaward**
13 **facing walls on Pier 421-2 and later decommissioning and removal of Pier 421-1**
14 **would have the potential to resuspend sediments in near-shore waters due to the**
15 **disturbance of beach sediments. Resuspension of sediment, particularly**
16 **contaminated sediments, could have adverse impacts on marine organisms (Less**
17 **than Significant with Mitigation).**

18 **Impact Discussion**

19 Caisson repairs of the non-seaward facing walls on Pier 421-2 would disturb sediments
20 by excavation, jetting and the removal and placement of structures in the sand.
21 Additionally, decommissioning and removal of Pier 421-1, expected to occur about 1
22 year following recommissioning of Pier 421-2, would disturb the sand at the base of the
23 pier and the surrounding area during removal of the pier and caisson. Because the piers
24 are located in the intertidal zone, some of this sediment may become suspended in
25 near-shore waters. Suspended sediment may have a number of adverse effects on
26 marine organisms. Sand can interfere with the appendages of filter feeding
27 invertebrates and clog respiratory appendages of invertebrates. The gills of fishes may
28 become abraded by sediments, but usually fishes move out of the area before they
29 suffer harm. Suspended sediments may increase turbidity over the short term and
30 interfere with the foraging activities of visual predators including fishes, marine
31 mammals, and seabirds such as California brown pelicans and California least terns.

32 The proposed repair of the caisson at Pier 421-2 and future removal of the pier and
33 caisson at Pier 421-1 would disturb sand in the surf zone. These sediments would be
34 expected to settle rapidly and would not create extensive turbidity plumes. Marine
35 macrophytes like surfgrass, eelgrass, and kelp require light and, therefore, can be
36 affected adversely if turbidity reduces light levels for an extended period of time. No
37 surfgrass occurs in the Project vicinity. Some eelgrass and kelp beds are found
38 offshore. Because kelp and eelgrass are adapted to periods of natural turbidity,

1 temporary increases in turbidity during construction would not be expected to have an
2 adverse impact on these habitats. Impacts to marine organisms from suspended
3 sediments would be minimal because of the short duration and limited spatial extent of
4 the impacts and because turbidity would occur in the intertidal and shallow subtidal
5 zones that typically are subjected to sediment resuspension from wave action. Impacts
6 would be less than significant.

7 As discussed in Section 4.5, Hydrology, Water Resources, and Water Quality, although
8 no contaminants were discovered during recent repairs, subsurface soils and soil
9 surrounding the piers have some potential to be contaminated. If these sediments are
10 released into the marine environment during construction, contaminants may be at
11 levels that could have an adverse impact on marine organisms. This impact would be
12 less than significant with mitigation.

13 **Mitigation Measures**

14 Implement MMs WQ-1a through WQ-1b and MMs HAZ-1c through HAZ-1-d.

15 **Rationale for Mitigation**

16 Removal of contaminated sediments prior to in-water construction activities would
17 prevent the release of existing petroleum hydrocarbons resulting from Project activities.
18 Removal of contaminated sub-soil mobilized during drilling would prevent it reaching the
19 surf zone. Erection of a silt curtain would reduce the dispersion of contaminated
20 sediments from the soils surrounding the piers into the water column and would prevent
21 resuspended sediments from dispersing beyond the immediate construction area. Full
22 implementation of these measures would reduce Impact MBIO-2 to less than significant.

23 **Impact MBIO-3: Noise Impacts to Marine Life During Caisson Repairs on Pier 421- 24 2 and Decommissioning and Removal of Pier 421-1**

25 **Construction activities during caisson repairs on non-seaward facing walls on
26 Pier 421-2 and decommissioning and removal of Pier 421-1 have the potential to
27 generate noise from operation of heavy construction equipment and from
28 excavation to install new piles and panels. Jetting of sand also can create high
29 noise levels. Construction noise may disturb marine animals, especially marine
30 mammals (Less than Significant).**

31 **Impact Discussion**

32 Construction activities associated with the repair of the caisson on Pier 421-2, as well
33 as to perform repairs to the 25-foot section of 6-inch pipeline near the 12th tee of the
34 Sandpiper Golf Course have the potential to produce loud noises due to operation of
35 heavy equipment on the beach, including excavation for the installation of new piles and
36 panels. Additionally, decommissioning and removal of PRC 421, expected to occur 1

1 year following recommissioning of Pier 421-2, would also require operation of heavy
2 equipment on the beach. The noise and activity of construction may alter the behavior
3 of fishes in the immediate vicinity of the pier or cause them to avoid the construction
4 area temporarily. Information on the sound levels to which fishes are sensitive is limited.
5 Fish sensitivity to noise depends on whether they have any sort of auditory mechanisms
6 for improving hearing sensitivity (Southall 2005). Most fishes do not have special
7 auditory mechanisms and are hearing generalists with relatively poor hearing sensitivity
8 over a narrow band of low sound frequencies (about 0.1 to 1.0 kilohertz [kHz]). Hearing
9 specialists have unique anatomical features that afford them greater hearing sensitivity
10 over a relatively wider range of low sound frequencies (about 0.1 to 3.0 kHz). Hastings
11 et al. (1996) exposed fish (*Astronotus ocellatus*, the oscar) in the laboratory to sounds
12 to determine the effects of sound at various levels typical of man-made sources on the
13 sensory epithelia of the ear and the lateral line. Sounds varied in frequency (60 to 300
14 hertz [Hz]), duty cycle (20 percent or continuous) and intensity (100, 140, or 180
15 decibels standardized at 1 micropascal at 1 meter [dB//1uPa]). The only damage that
16 was observed was in four of five fish stimulated with 300-Hz continuous tones at 180
17 dB//1uPa and allowed to survive for four days. Damage was limited to small regions of
18 the ear. These data suggest that for at least some types of fish only limited physical
19 damage will occur even at exposure to very high levels.

20 Loud noises may disturb California brown pelicans and cormorants roosting on the
21 structures offshore from Piers 421-1 and 421-2. Varanus Biological Services monitored
22 the behavior of brown pelicans roosting on the breakwater during dredging of the Marina
23 del Rey entrance channel (Varanus 1999). Punctuated events including dredge start-up
24 after periods of inactivity and the tugboat passing between the dredge and the breakwater
25 to retrieve the haul barge caused disturbance to the colony including movements of
26 occasionally large numbers of birds. However, these impacts were generally of short
27 duration (a few minutes) and resulted in pelicans shifting positions along the breakwater.
28 Unusual, sudden or infrequent events of a dramatic nature (fireworks, spotlighting the
29 colony by a boat closely approaching the breakwater, illuminating the breakwater by the
30 dredge after long periods of inactivity) displaced roosting pelicans from the breakwater for
31 lengthy periods of time. The largest reaction to disturbance observed during the
32 monitoring was to an earthquake. All the pelicans left the breakwater in reaction to the
33 event and did not return for 45 minutes. The Bird Island structures are located over 800
34 feet offshore from the Project site. Noise from Project construction would be expected to
35 attenuate to the 60 to 65 dBA range by this distance and it is unlikely the noise would
36 disturb the roosting birds on the structure.

37 Noise associated with any potential excavation or drilling would not disturb marine
38 mammals. Baleen whales are thought to be most sensitive to low frequency sounds
39 (about 0.01 kHz to 5 kHz) based on characteristics of their auditory morphology and
40 sound production (Southall 2005). Most odontocete cetaceans that have been directly
41 tested have relatively good hearing sensitivity across a broader range of mid to high

1 frequencies (about 4 kHz to 100 kHz). Sea lions and fur seals have been shown to be
2 sensitive to a fairly wide range of mid frequencies (about 1 kHz to 30 kHz). True seals
3 are generally capable of hearing across a wide range of low to mid sound frequencies
4 (about 0.2 kHz to 50 kHz). The dominant components of the "communication" calls of
5 most marine mammals fall within the 20 Hz to 20 kHz range (CSLC 2009).

6 NMFS has adopted 160 decibels (dB) as an acceptable level of impulsive underwater
7 sound. Based on available scientific evidence, acoustic harassment of marine mammals
8 would not be expected to occur below this conservative level. No Project activities are
9 expected to exceed 160 dB; therefore, pier removal and caisson repair operations
10 would not have the potential to produce noises at a level high enough to have adverse
11 impacts to marine mammals.

12 Marine mammal monitors were present during caisson repair on Pier 421-1 in 2004 and
13 on Pier 421-2 in 2011 (City of Goleta 2006; J. Storrer pers. comm. 2011). A 500-foot
14 safety zone was established for marine mammals and a vibrating pile driver was used,
15 which generated greater noise levels than would occur under the Project. During pile
16 driving activities, monitors neither observed any marine mammals within the 500-foot
17 safety zone nor did they observe changes in the movement or behavior of more distant
18 individuals that would indicate any reaction to pile driving noise.

19 Because no adverse impacts to marine mammals were noted during previous pile
20 driving operations at PRC 421, and Project activities would generate less noise than
21 occurred during those activities, the Project would have less than significant effects on
22 marine life.

23 **Mitigation Measures**

24 None required.

25 **Impact MBIO-4: Oil Spill Impacts to Marine Resources**

26 **Leaks and spills of petroleum hydrocarbons into the ocean could adversely affect**
27 **marine organisms (Significant and Unavoidable).**

28 **Impact Discussion**

29 Oil production on PRC 421 and transport of crude oil from the Project via onshore
30 pipeline have the potential to result in the accidental release of limited quantities of
31 petroleum hydrocarbons. Potential oil spill releases from the Project are discussed in
32 Section 4.2, Safety. A release at Pier 421-2 or from PRC 421 pipelines under most
33 conditions would immediately contact the shore. Oil released to marine waters from the
34 PRC 421 Project area was assumed to be transported approximately 1 mile west of the
35 site and 2 miles to the east, as shown in Figure 4.2-9. A number of sensitive marine
36 habitats occur within the area most vulnerable to a Project-related oil spill such as those

1 within the Campus Point SMCA. The Bell Canyon Creek lagoon and the Devereux
2 Slough estuary are estuarine habitats that would be highly likely to suffer impacts in the
3 event of a Project-related oil spill if their mouths were open. Tecolote Creek estuary also
4 is within the area most likely to be affected by an oil spill from the Project.

5 Significant rocky intertidal habitat that would be vulnerable to a Project oil spill occurs
6 near Coal Oil Point east of PRC 421 and within the bend of "Ellwood Cove"
7 approximately 0.5 mile east of the Project site. Rocky intertidal habitat, primarily
8 boulders and cobble, also occurs west of the Project area up-coast from the Bacara
9 Resort. These rocky intertidal areas are used for research by UCSB.

10 A sizable kelp bed is located approximately 500 feet offshore of the existing caissons
11 and extends for over 1 mile southeast along the Ellwood Coast. Some eelgrass also
12 occurs offshore the PRC 421 piers.

13 The Bird Island structures, constructed about 850 feet offshore Pier 421-1, support large
14 numbers of roosting seabirds including the brown pelican and double-crested
15 cormorant, a California Species of Special Concern. These birds would be vulnerable to
16 an oil spill when they are foraging in the water. A Project-related spill could also impact
17 beaches used as foraging and nesting habitat by the Federal threatened western snowy
18 plover and waters used for foraging by the State and Federal endangered California
19 least tern, which nests at Coal Oil Point. Although not common, the Federal threatened
20 southern sea otter occurs in the Project area. This species is very vulnerable to oil.

21 Small spills from the Line 96 pipeline (less than 1 gallon) would be highly unlikely to
22 reach the marine environment. Significant impacts to marine biological resources could
23 result in the unlikely event that a large spill from the Line 96 pipeline (greater than 1
24 gallon) occurred during high winds or tides that would convey the spilled material
25 towards the shoreline and to sensitive habitats such as Devereux Slough, Goleta
26 Slough, Naples Reef, or Refugio Canyon.

27 Oil spills have been found to have varying effects on marine resources (Aspen 2005).
28 Documented biological damage from an oil spill has ranged from little apparent damage
29 in the Apex Galveston Bay spill (Greene 1991) to widespread and long-term damage,
30 such as the 1969 West Falmouth spill (Sanders 1977). Some factors influencing the
31 extent of damage caused by a spill are the dosage of oil, type of oil, local weather
32 conditions, location of the spill, time of year, methods used for cleanup, and the affected
33 area's previous exposure to oil. Other levels of concern are the possibility of food chain
34 contamination by petroleum products and the impact of an oil spill on the structure of
35 biological communities as a whole. The effects of the 2010 spill in the Gulf of Mexico
36 from the Deepwater Horizon are still under investigation, but research published to date
37 on the short-term impacts indicates increased developmental abnormalities in fish
38 (Dubansky et al. 2013; Whitehead 2012), substantial shifts in the composition of

1 microbial species in the water column (Rivers et al. 2013), and significant reductions in
2 the abundance and diversity of benthic fauna (Montagna et al. 2013).

3 Oil spilled into the ocean gradually changes in chemical and physical makeup as it is
4 dissipated by evaporation, dissolution and mixing, or dilution in the water column.
5 Various fractions respond differently to these processes, and the weathered residue
6 behaves differently from the material originally spilled. Toxicity usually tends to
7 decrease as oil weathers. Depending on tidal stage and wave energy, oil can become
8 deeply buried in sand and later re-exposed, causing recurrent releases, possibly
9 spanning months or longer.

10 Laboratory tests have demonstrated the toxicity of petroleum hydrocarbons for many
11 organisms. Soluble aromatic compounds in crude oil are generally toxic to marine
12 organisms at concentrations of 0.1 to 100 ppm. Planktonic larval stages are usually the
13 most sensitive. Very low levels of petroleum, below 0.01 mg/L, can affect such delicate
14 organisms as fish larvae (National Response Center [NRC] 1985). Concentrations as
15 low as 0.4 parts per billion (ppb) caused premature hatching and yolk-sac edema in
16 Pacific herring eggs exposed to weathered Alaska crude oil (NRC 2003).

17 Biological impacts of oil spills include lethal and sublethal effects and indirect effects
18 resulting from habitat alteration and/or destruction or contamination of a population's
19 food supply. Directly lethal effects may be chemical (i.e., poisoning by contact or
20 ingestion) or physical (i.e., coating or smothering with oil). A second level of interaction
21 is sublethal effects, which are those which do not kill an individual but which render it
22 less able to compete with individuals of the same and other species.

23 Impacts to plankton from oil pollution could range from direct lethal effects caused by
24 high concentrations of oil in the surface layers of the water column after a major spill to
25 a variety of sublethal effects such as decreased phytoplankton photosynthesis and
26 abnormal feeding and behavioral patterns in zooplankton. Studies of oil spills have
27 generally failed to document major damage to plankton, although lethal effects or
28 severe oiling of individual zooplankton organisms in the immediate vicinity of a spill has
29 been reported in a number of studies. Because plankton distribution and abundance are
30 variable in time and space, any evidence of damage would be very difficult to document.

31 Plankton populations on the open coast are expected to have low vulnerability to a
32 project-related oil spill. Even if a large number of individual organisms were oiled, rapid
33 replacement by individuals from adjacent waters is expected. In addition, the
34 regeneration time of phytoplankton cells is rapid (9 to 12 hours) and zooplankton
35 organisms are characterized by wide distributions, large numbers, short generation
36 times, and high fecundity (NRC 1985). The impacts to plankton of a spill from PRC 421
37 operations are expected to be adverse but less than significant.

1 Open coast sandy beaches, like those immediately adjacent to Piers 421-1 and 421-2
2 generally would not be expected to suffer long-term damage from a project-related oil
3 spill. Once the oil has been removed, recolonization by sandy beach organisms tends to
4 be rapid (Aspen 2005). However, if large amounts of oil coat the beach, substantial loss
5 of intertidal organisms could occur. Sand and gravel beach habitat was adversely
6 affected by the 1997 Torch/Platform Irene spill off the south-central coast of California
7 (Torch/Platform Irene Trustee Council 2006). After the spill, invertebrates on the beach,
8 particularly sand crabs, and Pismo clams, likely suffered significant mortality due to
9 smothering under blankets of oil and sand compression caused by heavy equipment
10 from cleanup operations. Therefore, in the event of a large spill, impacts to sandy beach
11 habitat could be significant.

12 Most studies of oil spills have shown that rocky intertidal communities tend to suffer
13 harmful impacts, although spills have occurred where no impacts to this habitat were
14 observed (e.g., Chan 1987). Oil represents a physical and chemical hazard, and
15 intertidal organisms are especially vulnerable to the physical effects of oil (Percy 1982).
16 Sessile species, such as barnacles, may be smothered, while mobile animals, such as
17 amphipods, may be immobilized and glued to the substrate or trapped in surface slicks
18 in tidepools. It has been hypothesized (Hancock 1977) that organisms in the upper
19 intertidal areas where the oil dries rapidly are more apt to be affected by physical effects
20 of oil, such as smothering, whereas organisms in the lower intertidal areas are more
21 exposed to the chemical toxic effect of the liquid petroleum.

22 The 1997 Torch/Platform Irene spill oiled rocky intertidal habitat in many places along
23 the shoreline. Although levels of injury greater than 10 percent were not documented,
24 the oil exposure was thought to cause low levels of injury to a variety of rocky intertidal
25 species including crustacea, mollusks, arthropods, and algae (Torch/Platform Irene
26 Trustee Council 2006). Black abalone (*Haliotis cracherodii*) and mussel beds were
27 observed to be coated with oil along or near the shores of Vandenberg Air Force Base
28 and at other nearby rocky shorelines.

29 If an intertidal area suffers severe damage from an oil spill, it may take years for
30 complete recovery. A study of recovery of rocky intertidal communities of central and
31 northern California (Foster et al. 1991) suggested that the high intertidal, algal-
32 dominated *Endocladia/Mastocarpus* community would take one to six years to recover
33 in places where a large area had been decimated, while the mid-intertidal mussel bed
34 assemblage would be likely to take more than 10 years to recover from a disturbance
35 that affected a large area. Mussel beds have been found to trap oil and under some
36 circumstances may allow the oil to persist for years after a spill (NRC 2003).
37 Documented recovery times of intertidal communities from actual oil spills have varied,
38 but have been generally consistent with the above predictions. In contrast, McCall and
39 Pennings (2012) found intertidal crabs and terrestrial arthropods (insects and spiders) to

1 be resilient to oil exposure; although populations were suppressed following the 2010
2 Deepwater Horizon spill in the Gulf of Mexico, they had largely recovered after 1 year.

3 Impacts to valuable intertidal habitat in the immediate Project area is of particular
4 concern because oil spilled from the piers or pipelines could reach these areas rapidly.
5 Rocky intertidal ESHAs occur at “Ellwood Cove” east of the site, Coal Oil Point, and
6 areas along the Gaviota Coast. Impacts to rocky intertidal habitat from a Project-related
7 petroleum spill could potentially be significant.

8 Compared to the readily observable impact on intertidal communities, impacts on
9 benthic subtidal communities have been more difficult to document. This lack of
10 documented impacts has been found both in the shallow (6 to 60 feet) and deep (>60
11 feet) subtidal areas. However, the studies that have shown impacts have generally been
12 of shallow water benthic habitats. Often the lack of effects on subtidal communities
13 appears to be because oil does not sink to the bottom. For example, in shallow subtidal
14 SCUBA diving surveys following the 1988 Nestucca spill in Gray’s Harbor, Washington,
15 no evidence of subtidal oil deposits was found, and no sediment samples contained oil
16 and grease above detection limits (Carney and Kvitek 1990).

17 Most studies have failed to document negative effects of oil spills on kelp beds.
18 However, Thom et al. (1993) found that the tissues of bull kelp, *Nereocystis luetkeana*,
19 were damaged following direct exposure to several oil types, including intermediate fuel
20 oil, diesel fuel, and Prudhoe Bay crude oil. Furthermore, oil can cling to kelp and cause
21 the surrounding shoreline to be repeatedly doused by oil as happened in the 1992 Avila
22 spill (Togstad 1993). Kelp holdfasts also can retain oil for years after a spill (NRC 2003).
23 Impacts to Project area kelp beds are unlikely to significantly affect the kelp itself but the
24 oil could persist and affect the associated ecosystem.

25 Oil spills can affect seabirds directly through oil contamination and indirectly through
26 degradation of important habitat. The direct effect of oiling on birds is predominantly
27 contamination of feathers, removing insulative qualities and reducing buoyancy (Holmes
28 and Cronshaw 1977; Moskoff 2000). Oiling of feathers leads to elevated metabolic rate
29 and hypothermia (Hartung 1967). Oiled birds may also ingest oil through preening of
30 feathers or feeding on contaminated prey. Effects of ingested oil can range from acute
31 irritation and difficulties in water absorption to general pathologic changes in some
32 organs (e.g., Crocker et al. 1974; Fry 1987; Nero and Associates 1983). Ingestion of oil
33 can also result in changes in yolk structure, and reduction in number of eggs laid and
34 egg hatchability (Hartung 1965; Grau et al. 1977). Oiled birds that are able to return to a
35 nest can contaminate the exterior of eggs, reducing hatchability (e.g., Hartung 1965;
36 Patten and Patten 1977). Indirect effects result principally from contamination of habitat
37 where feeding occurs.

1 Marine birds are known to be conspicuous casualties of oil spills (Hope-Jones et al.
2 1970; Ford et al. 1991; Torch/Platform Irene Trustee Council 2006). For example, it has
3 been estimated that between 100,000 and 435,000 birds died within three months of the
4 Exxon Valdez spill (Moskoff 2000). Nearly 11 million gallons of oil, orders of magnitude
5 more oil than could be spilled from the Project, were spilled in the 1989 Exxon Valdez
6 spill, but the effects of the Exxon Valdez spill are mentioned to illustrate the extreme
7 vulnerability of seabirds to spilled oil. Those species suffering greatest mortality from
8 past spills along the outer coast have been alcids, cormorants, loons, grebes, and
9 scoters (Smail et al. 1972; Dobbin et al. 1986; Page and Carter 1986). These groups
10 are more vulnerable because they are found in large numbers on the water. Other birds
11 (e.g., gulls and pelicans) typically spend less time on the water or will relocate from the
12 area affected by a spill (Sowls et al. 1980). In the years since the Exxon Valdez spill
13 several species of birds have demonstrated indirect or delayed responses to the spill
14 (NRC 2003). These responses were found in sea ducks and shorebirds, species that
15 forage primarily on intertidal and shallow subtidal invertebrates, as well as several
16 species that forage on small fish found in inshore waters.

17 The Torch/Platform Irene spill is estimated to have adversely impacted between 635
18 and 815 seabirds and shorebirds (Torch/Platform Irene Trustee Council 2006). Seabird
19 species impacted by the spill included Brandt's cormorants, common murre (*Uria*
20 *aalgae*), western grebe, rhinoceros auklet (*Cerorhinca monocerata*), pigeon guillemot
21 (*Cephus columba*), elegant tern (*Sterna elegans*), common loon (*Gavia immer*),
22 California brown pelican and several species of shearwaters and gulls.

23 California brown pelicans and cormorants roosting on the Bird Island structures on PRC
24 421 are likely to suffer impacts from a Project-related oil spill at Pier 421-2. These birds
25 would be expected to forage in Project area waters and are likely to be oiled. If a spill
26 occurred during the least tern nesting season, California Least Terns from the colony at
27 the Coal Oil Point Reserve might be impacted by the oil. Clearly, a Project-related oil
28 spill has the potential to significantly impact seabirds.

29 Direct effects of oiling on pinnipeds and sea otters include both surface contamination of
30 fur and possible ingestion of oil while grooming or during suckling of pups. Harbor seals,
31 elephant seals, and sea lions rely predominantly on subcutaneous fat and a high
32 metabolic rate to keep warm. In contrast, fur seals and sea otters depend on the
33 integrity of an air layer trapped in clean fur to provide insulation and buoyancy. Harbor
34 seal pups may be born with a lanugo coat of dense wooly fur to keep them warm until
35 they have stored sufficient subcutaneous fat. These fur-bearing pinnipeds are at
36 particular risk from an oil spill because oiling can reduce the heat-retaining properties of
37 the fur and result in hypothermia and death.

38 Sea otters, fur seals, and very young harbor seal pups are at extreme risk of mortality
39 from oil spills. Although the main sea otter population is north of Point Conception and

1 would only be vulnerable to a Project-related spill from the transportation of PRC 421 oil
2 to the San Francisco area, sea otters do occur in the Ellwood area and one or more
3 otters could be oiled from a spill at Pier 421-2 or the pipeline to the EOF. There is no
4 evidence that sea otters are able to successfully avoid oiling if a spill reaches near-
5 shore waters, and both adults and younger animals are equally susceptible to death
6 from oiling. Fur seals, while sensitive to oiling, are typically found over the continental
7 slope and waters farther offshore and are rare in Project area waters. Harbor seal pups
8 with a lanugo coat are susceptible to impacts from oil spills in the first week of life. After
9 molt of the natal fur, and when sufficient fat has been acquired, oil contamination is not
10 likely to have adverse effects. If oil spilled in Project area waters reached the harbor
11 seal rookery east of Naples when pups were present, their fur could become oiled.
12 Impacts of an oil spill on sea otters or harbor seal pups would be significant.

13 Cetaceans have smooth skin to which oil does not readily adhere. Direct effects of oil
14 spills are limited in large part to inhalation of volatile components and ingestion during
15 feeding by baleen whales. Baleen whales feed opportunistically, but regularly visit
16 specific feeding grounds where euphausiid crustaceans and other invertebrates or small
17 fish form dense shoals. Gray whales, although abundant in winter and spring, feed
18 infrequently and only opportunistically during migration.

19 The extent to which large whales will avoid oil spills is still unclear. Migrating gray
20 whales have been noted making some attempt to avoid natural oil seeps, but the
21 behavior is inconsistent (Kent et al. 1983). Humpback whales have been observed
22 feeding in an area off Cape Cod where thin oil sheens were present from the Regal
23 Sword spill (Goodale et al. 1979).

24 Toothed whales, which use echo-location to orient and find prey, may be able to avoid
25 oil slicks. In studies with captive animals, bottlenose dolphins were found to reliably
26 detect oil in a slick one millimeter thick and avoid contact (Geraci et al. 1983; Smith et
27 al. 1983). However, a recent study in the Gulf of Mexico after the Deepwater Horizon
28 spill found increased rates of lung disease and hypoadrenocorticism in bottlenose
29 dolphins (Schwake 2013).

30 **Mitigation Measures**

31 In addition to the measures listed below, MM BIO-4a from the Line 96 Modification
32 Project EIR required update of the OSCP to protect sensitive resources along the
33 pipeline route, and reduces impacts to marine biological resources from oil spills that
34 could reach the ocean through drainages.

35 **MM MBIO-4a. Update South Ellwood Field Oil Spill Contingency Plan (OSCP)**
36 **to Address a Spill from Lease PRC 421 Oil Production.** Prior to beginning
37 construction at PRC 421 and prior to the City of Goleta's issuance of the Land
38 Use permit, Venoco shall update the South Ellwood Field OSCP to address

1 protection of sensitive biological resources disturbed during an oil spill or
2 cleanup activities. The revised OSCP shall include specific measures to avoid
3 impacts on Federal- and State-listed endangered and threatened species, and
4 shall specifically identify training and procedures to contain oil spilled from
5 production at Lease PRC 421. The OSCP shall identify sensitive resources,
6 including the birds on the Bird Island platforms, kelp beds offshore the piers,
7 intertidal and subtidal resources within the Campus Point SMCA such as those
8 at Coal Oil Point, the harbor seal rookery at Burmah Beach and Naples Reef,
9 and the Naples MPA that could be oiled rapidly from a spill on PRC 421. Rapid
10 response procedures to protect those sensitive resources shall be identified.
11 Venoco shall submit the updated South Ellwood Field and OSCP to the
12 California State Lands Commission, Department of Fish and Wildlife Office of
13 Spill Prevention and Response, California Coastal Commission, Santa Barbara
14 County, and City of Goleta staffs for review and approval prior to operation of
15 the recommissioned facilities.

16 **MM MBIO-4b. Develop a Protection Plan to Keep Birds Roosting on Bird Island**
17 **from Harm in the Event of an Oil Spill on Lease PRC 421.** Prior to starting
18 construction at PRC 421 and prior to the City of Goleta's issuance of a Land
19 Use Permit, Venoco shall engage a biologist experienced with wildlife and bird
20 rehabilitation to determine whether it is necessary to develop a plan specifically
21 to protect pelicans and cormorants roosting on the Bird Island platforms from
22 harm in the event of an oil spill. The biologist shall submit a memorandum
23 explaining their position to the California State Lands Commission staff for
24 review and approval. If the biologist deems plan preparation necessary,
25 Venoco shall include this plan within the revised OSCP, potentially including
26 methods to deter the birds from feeding or resting in oiled waters. The plan
27 also shall include procedures to capture and rehabilitate oiled birds. If the plan
28 is deemed necessary, Venoco shall submit the Plan to the California State
29 Lands Commission, California Coastal Commission, Santa Barbara County,
30 and City of Goleta staffs for review and approval prior to operation of the
31 recommissioned facilities.

32 **Rationale for Mitigation**

33 The South Ellwood Field EAP refers to the beachfront leases of PRC 421 but no
34 procedures specific to those leases are identified. With the resumption of oil production
35 from PRC 421, the potential exists for oil to be spilled from Pier 421-2 and during
36 transport by onshore pipeline. Procedures to protect sensitive marine resources in the
37 immediate vicinity of Pier 421-2 would help to keep oil from reaching these resources.
38 Pelicans and cormorants roosting on the Bird Island platforms in Lease PRC 421 are in
39 immediate danger from a spill at the lease. The development of specific procedures to
40 deter birds from oiled areas and rehabilitate oiled birds would help to reduce impacts on
41 these species.

1 **Residual Impacts**

2 Even with specific procedures to protect sensitive marine resources in the Project
3 vicinity, impacts of a major oil spill would be significant and unavoidable.

4 **Impact MBIO-5: Oil Spill Impacts to Commercial and Recreational Fishing**

5 **Accidental discharge of petroleum hydrocarbons into marine waters would**
6 **adversely affect commercial and recreational fishing (Significant and**
7 **Unavoidable).**

8 **Impact Discussion**

9 A wide variety of fish and shellfish species are commercially harvested in the Project
10 area and biota residing in intertidal and shallow subtidal habitats are vulnerable to oil
11 spills. Several species are commercially and recreationally harvested in the intertidal
12 zone. Sea urchins, for example, ranked first in both pounds landed and dollar value over
13 the six-year period from 1999 to 2005. Both sea urchins and lobsters are high-value
14 species that are harvested commercially and recreationally in the immediate Project
15 area. In addition, market squid alone accounted for over half (70 percent) of the dollar
16 value of the commercial catch during the six years, and accounted for 44 percent of the
17 total catch in biomass. Other intertidal or shallow subtidal organisms such as sea
18 cucumbers and whelks are also harvested within the Santa Barbara Channel.
19 Additionally, The Cultured Abalone relies on kelp harvest from lease 27 located near the
20 Project area.

21 In the event of an oil spill, impacts could occur to the local commercial and recreational
22 fishing industry. The degree of oiling and the oil spill impacts depend on several factors.
23 These include location of spill, volume, type of oil, amount of weathering, evaporation,
24 dispersion of oil into the water column or shoreline, weather conditions at the time of the
25 spill and immediately following, and the amount of oil that is contained and cleaned
26 immediately after a spill. Although large spills, e.g., greater than 2,000 barrels, are rare,
27 the Santa Barbara oil spill of 1969 was estimated at 80,900 barrels (CSLC 2009). The
28 1997 spill from the rupture of the Torch Pedernales pipeline was estimated at 163 to
29 1,242+ barrels (CSLC 2009). While the probability for a spill that would cause oil to
30 contact and foul the shoreline or shallow subtidal areas where commercial or
31 recreational species are harvested is low, the potential for such a spill exists. While
32 contaminated shorelines may be cleaned, in some instances, depending on substrate
33 type, oil may persist in sediments for several years.

34 Since the Exxon Valdez spill in 1989 and the Deepwater Horizon spill in 2010 several
35 studies have described the effects of oil spills in marine environments, the results of
36 which are incorporated into this analysis by reference (Hayes and Michel 1998, Coats et
37 al. 1999, Spies et al. 1996, and Brown et al. 1996; Dubansky et al. 2013; Rivers et al.
38 2013; Montagna et al. 2013). Adult fish, due to their mobility, may be able to avoid or

1 minimize exposure to spilled oil. However, there is no conclusive evidence that fish
2 would avoid spilled oil. Egg and larval stages would also not be able to avoid exposure
3 to spilled oil. The resultant potential losses to commercial and recreational fish
4 resources and those losses due to closure of fishing areas for most or all of a fishing
5 season is considered a potentially significant impact. In addition, fish harvested from
6 contaminated areas may also be reduced in value, and fishing gear may be damaged
7 due to oil fouling, causing additional significant impacts. This impact would be significant
8 and unavoidable.

9 **Mitigation Measures**

10 Implementation of MMs identified in Sections 4.2, Safety; 4.5, Hydrology, Water
11 Resources, and Water Quality; and 4.7, Terrestrial Biological Resources, for
12 contingency planning and spill response would be required.

13 **Rationale for Mitigation**

14 The measures presented in the above-mentioned sections provide improved oil spill
15 response capabilities, oil spill containment measures, and protection of resources. With
16 implementation of those measures, the risk to the marine environment and impacts to
17 commercial and recreational fishing may be reduced.

18 **Residual Impacts**

19 Because there are limitations to thorough containment and cleanup of an offshore oil
20 spill, significant impacts would remain for commercial and recreational fisheries in the
21 intertidal and shallow subtidal zones after mitigation.

22 **Impact MBIO-6: Impacts to Kelp Harvesting**

23 **Oil spills could cause damage to kelp beds, which would subsequently affect kelp**
24 **harvesting. Damage would likely be minor, and kelp would likely recover rapidly**
25 **(Less than Significant).**

26 **Impact Discussion**

27 The effects of oil spills from the Project on beds of giant kelp along the Pacific Coast
28 have been examined several times. Oil spills have caused little damage to the giant kelp
29 beds, even with considerable quantities of crude oil fouling the surface canopies (CSLC
30 2009). It appears crude oil stays on the surface of the water and does not tend to
31 adhere to the fronds of the giant kelp. The literature indicates that an oil spill and its
32 cleanup cause little damage to kelp beds. Should damage occur, recruitment and
33 recolonization occur rapidly. Therefore, although impacts could occur to kelp canopies,
34 which could affect commercial kelp harvesting, they are generally localized and

1 temporary in nature. Hence, impacts to kelp and commercial and recreational kelp
 2 harvesting operations are adverse but not significant.

3 **Mitigation Measures**

4 None required.

Table 4.6-3. Summary of Marine Biological Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
MBIO-1: Disturbance to Intertidal Organisms during Construction	MBIO-1a. Avoid Caisson Repair or Pier Removal During the Grunion Spawning Season.
MBIO-2: Impacts to Marine Organisms from Sediment Resuspension in the Near-Shore Zone due to Disturbance of Sediments during Construction	HAZ-1c. Soil Sampling. HAZ-1d. Removal Action Plan. WQ-1a. Avoidance of High Tides and Silt Curtain. WQ-1b. Water Quality Certification.
MBIO-3: Noise Impacts to Marine Life during Removal of Pier 421-1 and Caisson Repairs on Pier 421-2	None required.
MBIO-4: Oil Spill Impacts to Marine Resources	MBIO-4a. Update the South Ellwood Field OSCP to Address a Spill from Lease PRC 421 Oil Production. MBIO-4b. Develop a Protection Plan to Keep Birds Roosting on Bird Island from Harm in the Event of an Oil Spill on Lease PRC 421. <u>MM BIO-4a (update Emergency Action Plan and Oil Spill Contingency Plan) contained in the certified Line 96 Modification Project EIR.</u>
MBIO-5: Oil Spill Impacts to Commercial and Recreational Fishing	Implementation of MMs identified in Sections 4.2, Safety; 4.5, Hydrology, Water Resources, and Water Quality; and 4.7, Terrestrial Biological Resources for contingency planning and spill response.
MBIO-6: Impacts to Kelp Harvesting	None required.

5 **4.6.5 Cumulative Impacts Analysis**

6 The proposed oil development on PRC 421 would add to the cumulative risk of impacts
 7 to marine resources from an oil spill.

8 **Impact MBIO-7: Cumulative Impacts of an Oil Spill on Marine Resources**
 9 **Oil development at PRC 421 would add to the cumulative risk that marine**
 10 **resources would be impacted by one or more oil spills (Significant and**
 11 **Unavoidable).**

12 **Impact Discussion**

13 Oil development projects that would add to the risk of an oil spill in the study area
 14 include the Carpinteria Field Redevelopment Project, with the proposed drilling of up to
 15 25 new wells from Platform Hogan, Venoco’s Carpinteria Onshore Project, Venoco’s

1 South Ellwood Field Project, and maintenance projects such as the Santa Ynez Unit
2 Offshore Power System Reliability – B Project. The maintenance of the cooperative oil
3 response company, Clean Seas, helps to address cumulative oil spill impacts by
4 maintaining oil spill containment and clean-up equipment, vessels and trained personnel
5 in the study area. The Project-specific contribution of the Project on PRC 421 to
6 cumulative oil spill impacts would be addressed by its EAP for the South Ellwood Field
7 and the SPCC Plan for PRC 421. Project specific MMs MBIO-4a and MBIO-4b would
8 apply to the Project's share of the cumulative oil spill risk; however, potential cumulative
9 impacts would remain significant and unavoidable.

10 **Mitigation Measures**

11 Implementation of MMs MBIO-4a and MBIO-4b would be required.

12 **Rationale of Mitigation**

13 Implementation of Project-specific MMs would help to reduce the impacts of a Project-
14 related oil spill.

15 **Residual Impact**

16 Even with specific procedures to reduce the risk of a Project-related oil spill, the
17 cumulative impacts of an oil spill would remain significant and unavoidable.

1 **4.7 TERRESTRIAL BIOLOGICAL RESOURCES**

2 This section describes terrestrial biological resources in the Project vicinity including
3 local habitats, communities, and sensitive species and evaluates the impacts that
4 implementation of the Project may have on these resources. This analysis focuses on
5 terrestrial biological resources that could be affected by construction and operation as
6 well as removal of primary Project components, including operation of Well 421-2 and
7 decommissioning and removal of Well 421-1 and the associated pier. This analysis also
8 briefly discusses area resources that could be affected by the operation of secondary
9 Project components (existing facilities not proposed for modification) such as the Line
10 96 pipeline.

11 This analysis is based on reconnaissance level fields surveys, information from the
12 California Natural Diversity Database (CNDDDB) (California Department of Fish and
13 Wildlife [CDFW] 2013), U.S. Fish and Wildlife Service (USFWS), City of Goleta 2006
14 Mitigated Negative Declaration (MND) (06-MND-001), and Santa Barbara County 2001
15 MND (01-ND-34) and an accompanying wetland delineation study prepared by URS
16 Corporation, incorporates by reference the conclusions of the Ellwood Marine Terminal
17 (EMT) Lease Renewal Environmental Impact Report (EIR) (California State Lands
18 Commission [CSLC] 2009) and Line 96 Modification Project EIR (Santa Barbara County
19 2011) regarding area biological resources and the potential impacts on such resources
20 associated with operation of the Line 96 pipeline, and summarizes these where
21 appropriate.

22 **4.7.1 Environmental Setting**

23 **Study Area Location and Description**

24 The primary Project study area comprises the immediate onshore areas of the Ellwood
25 Coast that could be subject to direct impacts as a result of Project implementation. This
26 area includes existing PRC 421 facilities, access road, the flowline route along the
27 access road, coastal bluff, golf course easement, and tie-in at the existing Ellwood
28 Onshore Facility (EOF) and adjacent habitats such as Bell Canyon Creek. The
29 secondary Project study area includes the Gaviota Coast and is only discussed in
30 environmental issue areas where the potential exists for impacts that are different from
31 those identified in the certified Line 96 Modification Project EIR.

32 The primary Project site is located west of the Ellwood-Devereux Open Space and
33 Habitat area and is bordered to the north by the Sandpiper Golf Course. The
34 undeveloped open space surrounding the Ellwood Mesa and Devereux Slough supports
35 the largest complex of coastal ecosystems remaining in the urban area of the south
36 coast of Santa Barbara County. To the west of the primary Project area is Bell Canyon,
37 which drains northwestern Goleta and coastal slopes of the Transverse Range.

1 The secondary study area includes an 8.5-mile-long segment of the Gaviota Coast that
2 is traversed by the Line 96 pipeline, particularly drainages such as Tecolote, Las Varas,
3 Gato, Dos Pueblos, and Las Flores Creeks.

4 Sensitive area habitats in these areas include native grasslands, vernal pools, riparian
5 areas, coastal salt marsh and freshwater wetlands, coastal dunes, strand, and sage
6 scrub. These sensitive habitats support a variety of rare plant and animal species which
7 are discussed below. For more details on these habitats and associated species, see
8 the EMT Lease Renewal and Line 96 Modification Project EIRs. To the south of the
9 Project study areas lies the Santa Barbara Channel, which supports a variety of marine
10 species and habitats. Section 4.6, Marine Biological Resources, discusses area marine
11 biological resources and impacts of the Project on such resources.

12 **Historical Repairs of PRC 421 Access Road**

13 As discussed further below, the PRC 421 access road crosses three wetland areas of
14 concern. In 2001, Venoco was granted emergency permits by Santa Barbara County to
15 conduct major repairs on the PRC 421 access road to permit access to PRC 421-1 and
16 421-2 for a major well stabilization project. According to the County's environmental
17 document (Santa Barbara County 01-ND-34), the access road to PRC 421 had become
18 "severely eroded and was in need of major repair." Based on 01-ND-34, Venoco used
19 an "excavator, grading tractor, front end loader, backhoe, compactor, road grader, 10
20 wheeler trucks, and a 2,000 gallon water truck" to effectuate major repairs to the road.
21 Approximately 200 tons of rip rap were installed within the gaps of the existent
22 beachside rock revetment to enhance road stability and afford protection from wave
23 erosion. The access road was graded and compacted and then topped with at least 3
24 inches of road base gravel. Float rock was installed beneath the road base in areas with
25 poor subsurface drainage (e.g., wetland areas). One hundred tons of both road base
26 and float rock were used to adequately secure the road for heavy equipment travel.

27 URS Corporation prepared a wetland delineation report for three wetlands along the
28 PRC 421 access road, which totaled 6,125 square feet at that time and supported
29 hydrophytic vegetation, wetland hydrology, and hydric soils. Two of the smaller wetland
30 areas were filled in with float rock and road base as avoidance was deemed infeasible.
31 The third (easternmost) wetland at the end of the access road at PRC 421-2 was more
32 substantial, encompassing approximately 5,855 square feet, with wetland hydrology and
33 vegetation. The County estimated that 19.8 percent (1,157 square feet) of that wetland
34 would be impacted through installation of rock base in the area to provide an adequate
35 road and load-bearing surface. In order to stabilize the road, topsoil and biomass in
36 wetland areas, ranging between 6 inches and 2.5 feet deep were removed and three
37 layers of rock were used to fill the excavated area, angular large rock (4- to 12-inch size
38 rock), crushed rock (2-inch size rock), and a final 3-inch layer of road base to complete
39 the surface construction of the area. The County required a 3:1 replacement ratio for the

1 first and second (westernmost) wetland areas, while a 5:1 ratio was used for the larger,
2 more significant third (easternmost) wetland area. This information remains relevant to
3 the remaining wetlands along this road with potential to be impacted by the Project.

4 **Biological Communities**

5 The following habitats occur in the Project vicinity and are considered in the City of
6 Goleta General Plan to be ESHAs: marine resources, beach and shoreline resources,
7 coastal dunes, coastal bluff scrub, foredune, oak woodlands/savannah, dense stands of
8 native grasslands, all wetlands such as vernal pools, riparian habitats, butterfly roosts,
9 raptor roosts and nests, and habitats that support special-status plant and wildlife
10 species, including western snowy plover habitat.

11 *Upland Habitats*

12 Native upland habitat in the Project vicinity consists of southern coastal bluff scrub,
13 which consists of dwarf shrubs, herbaceous perennials, and annuals; and may also
14 include succulent species. It occurs on poor soils exposed to high salt- and moisture-
15 content winds. Dominant species of this habitat in the area include Brewer's saltbush
16 (*Atriplex lentiformis* ssp. *breweri*), lemonade berry (*Rhus integrifolia*), and seashore blite
17 (*Suaeda taxifolia*) (CSLC 2009). Coyote bush (*Baccharis pilularis* ssp. *consanguinea*)
18 and prickly pear cactus (*Opuntia* sp.) were also noted in the area during a field visit.
19 Since the shoreline area of the Project is armored with a seawall, southern dune
20 habitats are absent from the immediate area of the Project. Therefore, southern coastal
21 bluff scrub habitat begins at the upper boundary of the beach and extends to the bluff
22 crest. Within this habitat, particularly in the vicinity of the seawall, giant reed (*Arundo*
23 *donax*) has begun to colonize the area just above the armoring structure.

24 The area north and northeast of the Project above the bluff crest consists of the
25 Sandpiper Golf Course and can be characterized as a developed area; however, the
26 golf course vegetation does include species which are used by wildlife, including
27 eucalyptus, coyote bush, and coast live oaks (*Quercus agrifolia*).

28 *Wetland Habitats*

29 Wetlands and wetland buffers are protected habitat under the Goleta General Plan and
30 the Coastal Act. Although no wetland delineation has been conducted for the Project, at
31 least four wetlands are located in close proximity to the to the Project site. Three of
32 these wetland areas are supported by seeps located along the toe of the bluff
33 immediately adjacent to the project access road. As discussed above, this access road
34 consists of 3 inches of road base gravel and overlies a layer of larger float rock. In
35 addition, each of these wetland areas appears to have been at least partially or wholly
36 excavated and backfilled with rock during past emergency repairs. The largest
37 (approximately 5,440 square feet) and most diverse of the three seep-related wetlands

1 is located east of the access road terminus and Well 421-2. The dominant species in all
2 of these seep-related wetland areas is saltgrass (*Distichlis spicata*). The larger seep-
3 related fresh/brackish water marsh wetland also supports cattail (*Typha domingensis*),
4 rabbitsfoot grass (*Polypogon monspeliensis*), African brassbuttons (*Cotula*
5 *coronopifolia*), and saltmarsh sandspurry (*Spergularia marina*). The surface waters
6 present in at least this larger wetland are sufficient to support breeding populations of
7 Pacific tree frogs (*Pseudacris regilla*) and western toads (*Anaxyrus boreas*), and as
8 habitat for avian species. These wetlands are generally located landward of the existing
9 roadbed; however, wet un-vegetated soils exist within the roadbed.

10 The fourth wetland area is at Bell Canyon Creek, located approximately 100 feet west of
11 the access road (Figure 4.7-1). Portions of the marsh nearest the beach outlet function
12 as a saltmarsh and exhibit typical southern coastal salt marsh vegetation including
13 saltgrass, pickleweed (*Salicornia virginica*), and the non-native giant reed. Limited areas
14 of dune habitat are also present, especially along the western mouth of the canyon.
15 Upper reaches of Bell Canyon in the Project area function as coastal freshwater marsh,
16 riparian scrub, or riparian forest. In the immediate vicinity of the Project site, vegetation
17 includes Brewer's saltbush and bush sunflower (*Encelia californica*). The eastern bank
18 of the canyon has also been used as an oak woodland mitigation site for impacts due to
19 the construction of the Bacara Resort, which is located west of the canyon.

20 Two other significant coastal estuaries exist in the Project vicinity. Tecolote Creek,
21 located approximately 0.25 mile east of the Project site, is characterized by habitats and
22 species similar to those found at Bell Canyon Creek. Tecolote Creek exhibits the same
23 type of small coastal estuary fronted by a small dune area, with limited open water and
24 salt marsh habitat, which transition into freshwater and riparian areas away from the
25 beach. To the east, approximately 2 miles from the primary Project site, lies regionally
26 significant Devereux Slough coastal salt marsh. The Devereux Slough and surrounding
27 areas support a variety of wetland habitats and associated rare and endangered
28 species and is fronted by the largest coastal dune complex on the south coast of Santa
29 Barbara County. In recognition of its ecological significance, the Devereux Slough and
30 portions of the surrounding habitats have been incorporated into the University of
31 California Santa Barbara's (UCSB's) Natural Land and Water Reserve system as the
32 Coal Oil Point Ecological Reserve. See the EMT Lease Renewal EIR (CSLC 2009) for a
33 complete discussion of these habitats.

34 **Special Status Species**

35 Special status species data were collected from a variety of sources, including the
36 CNDDDB, California Native Plant Society's (CNPS's) Inventory of Rare and Endangered
37 Plants of California (2013), and available literature for information on the presence and
38 distribution of State or Federal endangered species.



1 *Special Status Plant Species*

2 No Federal- or State-listed rare, threatened, or endangered plant species are known to
 3 occur within the Project area; however, several rare, threatened, or endangered plant
 4 species are reported or have been recorded to occur in the Project vicinity, and are
 5 listed in Table 4.7-1.

Table 4.7-1. Sensitive Plants that are Known or Have the Potential to Occur in the Project Vicinity

Species	Status ¹	Notes/Occurrence
<i>Atriplex coulteri</i> Coulter's saltbush	List 1B	Spreading perennial, occurs on coastal bluffs. Reported to occur on ocean bluffs near UCSB.
<i>Atriplex serenana</i> ssp. <i> davidsonii</i> Davidson's saltbush	List 1B	Annual herb, occurs in coastal bluff scrub. May be extirpated from Santa Barbara County, historical occurrence at UCSB.
<i>Baccharis plummerae</i> ssp. <i> plummerae</i> Plummer's baccharis	List 4	Shrub, may occur in coastal scrub. Reported to occur at UCSB lagoon and Coal Oil Point Reserve.
<i>Calystegia sepium</i> ssp. <i> binghamiae</i> Santa Barbara morning-glory	List 1A	Perennial herb, occurs in marshes and swamps. Presumed extinct, noted to have historically occurred in the Project area in a local lagoon.
<i>Centromadia parryi</i> ssp. <i> australis</i> Southern tarplant	List 1B	Annual herb, occurs in moist places such as margins of marshes and mesic grassland.
<i>Horkelia cuneata</i> ssp. <i> puberula</i> Mesa Horkelia	List 1B	Perennial herb, may occur in sandy/gravelly coastal shrub habitat; listed in the Dos Pueblos Canyon U.S. Geological Survey (USGS) grid (CNPS 2013); not known to occur at the Project site.
<i>Lasthenia conjugens</i> Contra Costa goldfields	List 1B	Annual herb, occurs in Isla Vista open space and vernal pool reserves; not known to occur in area
<i>Lonicera subspicata</i> ssp. <i> subspicata</i> Santa Barbara honeysuckle	List 1B	Shrub, occurs in chaparral and coastal scrub. Known to occur at scattered locations in the Project vicinity.
<i>Malacothrix incana</i> Dunedelion	List 4	Perennial herb, occurs in coastal dunes and coastal scrub. Reported from dunes near Goleta Slough. Not known to occur in Project area.
<i>Malacothrix saxatilis</i> var. <i> saxatilis</i> Cliff malacothrix	List 4	Perennial herb, occurs in coastal bluff scrub and coastal scrub. Known to occur in the Project vicinity.
<i>Scrophularia atrata</i> Black-flowered figwort	List 1B	Perennial herb, occurs in chaparral, coastal scrub, coastal dunes and riparian scrub. Reported from dunes near Devereux Slough and Coal Oil Point.
<i>Suaeda esteroa</i> Estuary seablite	List 1B	Perennial herb, occurs in coastal salt marshes. Historically reported from Goleta Slough near the beach.
<i>Suaeda taxifolia</i> Woolly seablite	List 4	Shrub, occurs on margins of salt marshes and in coastal scrub and coastal bluff scrub. Present on the Ellwood Mesa and West Campus Bluffs Nature Park.

¹ California Native Plant Society status codes:

List 1A Presumed extinct in California

List 1B Rare, threatened, or endangered in California and elsewhere

List 4 Plants of limited distribution

Sources: CSLC 2009; CNPS 2013.

1 Of the plant species listed in Table 4.7-1, only the southern tarplant (*Centromadia*
2 [=*Hemizonia*] *parryi* ssp. *australis*) is known to occur in the immediate vicinity of the
3 Project. Southern tarplant is an annual herb that gemminates in the spring and blooms
4 from June to November. It is a member of the sunflower family and has small, yellow
5 flowers and green, bristly, spine-tipped leaves. The largest local population of this
6 species is reported to occur within the EMT lease boundary, which would not be
7 affected by the Project (CSLC 2009).

8 *Avian Special Status Species*

9 A number of avian special status species inhabit the Project area, including the Western
10 snowy plover (*Charadrius alexandrinus nivosus*), Belding's savannah sparrow, and
11 white-tailed kites (*Elanus leucurus*) (City of Goleta 2004). The CNDDDB also lists the
12 ferruginous hawk (*Buteo regalis*), a State watch list species, within the Dos Pueblos
13 Canyon USGS grid. These individual species, as well as other potentially occurring
14 special status species, are further discussed below.

15 **Western Snowy Plover.** The Western snowy plover was listed by the USFWS as
16 threatened on March 5, 1993. Critical habitat was designated for this species in 1999
17 and a draft recovery plan for the Western snowy plover is available. A revised version of
18 critical habitat has been proposed for the species which includes a series of beaches
19 along the Pacific coastline from Washington to Southern California, and includes beach
20 habitat along the western side of Coal Oil Point (USFWS 2011).

21 The Western snowy plover breeds on the Pacific coast from southern Washington to
22 southern Baja California, Mexico, and in interior areas of Oregon, California, Nevada,
23 Utah, New Mexico, Colorado, Kansas, Oklahoma, and north-central Texas, as well as
24 coastal areas of Texas and possibly northeastern Mexico. The Pacific coast population
25 of the Western snowy plover (defined as those individuals that nest adjacent to or near
26 tidal waters, and includes all nesting colonies on the mainland coast, peninsulas,
27 offshore islands, adjacent bays, and estuaries) is genetically isolated from Western
28 snowy plovers breeding in the interior. The coastal population of the Western snowy
29 plover consists of both resident and migratory birds; some birds winter in the same
30 areas used for breeding (CSLC 2009). Migratory individuals of the coastal Western
31 snowy plover travel either north or south within their coastal range.

32 The Western snowy plover forages primarily in wet sand at the beach-surf interface and
33 feeds on marine worms, small crustaceans, and insects. This species is most likely to
34 nest in shallow depressions on undisturbed, flat areas with loose substrate, such as
35 sandy beaches and dried mudflats along the California coast. Normally, two to three
36 eggs are laid and incubated by both sexes, and hatch in 25 to 30 days. Hatchlings
37 fledge at about 31 days. The breeding season for this species can extend from mid-
38 March through mid-September.

1 The decline in the Western snowy plover population is attributed primarily to human
2 disturbance, predation, and loss of nesting habitat to encroachment of introduced
3 European beachgrass (*Ammophila arenaria*), and urban development (CSLC 2009).

4 Devereux Beach is included as a critical habitat unit for 3.1 miles of beach along Coal
5 Oil Point, to the east of the Project site. Beginning at the western limit of Isla Vista
6 County Park, the critical habitat unit follows the beach around Coal Oil Point to the
7 beach adjacent to the end of Santa Barbara Shores Drive and covers a total of 36 acres
8 (CSLC 2009). Within Coal Oil Point Reserve, the mouth of the Devereux Slough is
9 overwintering and breeding habitat for the Western snowy plover (City of Goleta 2004).
10 The wintering plover population reached a maximum of 406 individuals in 2003. The
11 number of breeding pairs reached a maximum of 26 in 2004 (CSLC 2009).
12 Management efforts to protect these plovers include the installation of signage and
13 fences delineating protected areas to limit impacts from beach use on this sensitive
14 species.

15 **Belding's Savannah Sparrow.** Belding's savannah sparrows (*Passerculus*
16 *sandwichensis beldingi*) are non-migratory, year-round residents of coastal salt marshes
17 from Santa Barbara County south into Baja California, Mexico. Their wintering habitat
18 may also include upland habitats. As with other coastal marsh species, development
19 along Southern California's coastline has eliminated much of the sparrow's habitat.
20 Many of the high tidal marsh areas used by this species for nesting have been diked or
21 filled for houses, roads, and other uses. In response to a decline in populations and
22 habitat fragmentation, the Belding's savannah sparrow was listed as endangered under
23 the California Environmental Species Act (CESA) on January 10, 1974; in 1986, a
24 survey of 27 California marsh areas found approximately 2,274 pairs of Belding's
25 savannah sparrows. Approximately 45 percent of the individuals are located on U.S.
26 Navy lands and in the Tijuana Estuary National Wildlife Refuge (CSLC 2009).

27 Belding's Savannah sparrows feed on sand flies and insects found on mudflats,
28 beaches and coastal vegetation. The breeding season ranges from February through
29 September, with nesting usually occurring from mid-March through early July. Pairs may
30 have multiple clutches in a breeding season. They nest in pickleweed, just above the
31 high tide line, and have also been observed to nest in salt grass. A concealed cup nest
32 is constructed, usually with its rim flush to the ground. Belding's savannah sparrows
33 have been observed on the Ellwood Mesa and within the Goleta Slough (CSLC 2009).
34 Territorial pairs and adults with fledglings have been observed in salt marsh vegetation
35 around Devereux Slough since the spring of 1990 (City of Goleta 2004). There is
36 potential for Belding's savannah sparrows to occur in the Bell Canyon Creek habitat.

37 **Raptors.** Due to the presence of grassland habitat at Ellwood Mesa and open space at
38 the Sandpiper Golf Course, numerous raptor species have been observed in the Project
39 vicinity. Cooper's hawk (*Accipiter cooperi*), ferruginous hawk, loggerhead shrike, long-

1 eared owl, and northern harrier, all of which are California watch-listed species, and
2 white-tailed kites (a California fully protected species) have been documented to occur
3 in the Project vicinity (City of Goleta 2004, CNDDDB 2013). Other raptors observed in the
4 Project vicinity include sharp-shinned hawk, burrowing owls, and American prairie
5 falcon.

6 Turkey vulture (*Cathartes aura*) roosting sites (which are listed as “an ecological
7 community of great interest” in the Santa Barbara County (2002) Comprehensive Plan
8 and nesting sites of other raptors have also been observed in the area. Nests and
9 breeding sites of these species (and others) are protected under the Migratory Bird
10 Treaty Act (MBTA). Lands near to the Project area include large eucalyptus trees which
11 may be used by these species for reproduction. As such, trees would be protected from
12 disruption if breeding or nesting activities occurred in them during the breeding season.

13 **Light-footed Clapper Rail.** With fewer than 400 breeding pairs left in the wild, the
14 Federal- and State-endangered light-footed Clapper Rail (*Rallus longirostris levipes*) is
15 one of the most endangered birds in California. The decline of the light-footed clapper
16 rail is believed to be directly related to the degradation and destruction of coastal salt
17 marsh habitat. The light-footed clapper rail was last documented in the Goleta Slough
18 marshes in the 1960s and in Devereux Slough during the 1940s (Lehman 1994). It is
19 considered a rare migrant and unlikely to occur in the Project area due to lack of
20 suitable habitat and extreme rarity.

21 **California Least Tern.** Information on the California least tern (*Sterna antillarum*
22 *browni*), which was federally listed as endangered in 1970 and State-listed in 1971, is
23 provided in Section 4.6.1, Environmental Setting (Marine Biological Resources).

24 *Invertebrate Special Status Species*

25 Two local beetle species are included on the CDFW Special Animals list, but are not
26 formally protected. They inhabit foredune habitat, and are therefore unlikely to reside in
27 the immediate vicinity of the Project site (due to the armoring present at the base of the
28 bluff); however, suitable habitat for these species is present in the Project vicinity.

29 **Globose Dune Beetle.** The globose dune beetle (*Coelus globosus*) is one of four
30 species of dune beetles restricted to coastal sand dunes and beaches along the Pacific
31 Coast. This species, similar to the other three, is strongly fossorial (burrowing). The
32 globose dune beetle’s distribution covers coastal dunes from northwestern Baja
33 California Norte in Mexico to British Columbia (City of Goleta 2004). It is further
34 restricted to foredunes immediately adjacent to the ocean and can tolerate frequent
35 inundation from ocean tides. Globose dune beetles occur in foredunes around Bell
36 Canyon and Tecolote creeks (City of Goleta 2004). The globose dune beetle has not
37 been recorded within the primary Project area; the nearest observation was within the
38 dune system at Haskell’s Beach, approximately 1,800 feet west of the EOF (CDFW

1 2013). With the exception of a limited dune field at Bell Canyon Creek mouth, existing
2 intertidal ephemeral beach habitats adjacent to Pier 421-1 and 421-2 do not provide
3 high quality habitat for this species which generally requires foredunes or at least
4 persistent beach berms.

5 **Sandy Beach Tiger Beetle.** The sandy beach tiger beetle (*Cicindela hirticollis grandid*)
6 occupies sandy beaches and coastal scrub habitats near estuaries in central and
7 Southern California. The larvae use the moist margin of estuaries for burrowing. The
8 adult beetles are carnivorous and feed on flies and other insects common to the tidal
9 zone. The sandy beach tiger beetle has been observed around the mouth of Devereux
10 Slough on the Coal Oil Point Reserve and at Goleta Beach. Suitable habitat also occurs
11 in foredunes at the base of the bluffs along the Ellwood Mesa (City of Goleta 2004). The
12 sandy beach tiger beetle has not been recorded within the primary project area; the
13 closest known observation is within the dune system in the Coal Oil Point Reserve,
14 approximately one mile east of the site (CDFW 2013). With the exception of a limited
15 dune field at Bell Canyon Creek mouth, existing intertidal ephemeral beach habitats
16 adjacent to Pier 421-1 and 421-2 do not provide high quality habitat for this species
17 which generally requires foredunes or at least persistent beach berms.

18 **Monarch Butterfly.** The monarch butterfly (*Danaus plexippus*) is a common winter
19 migrant in Santa Barbara County known to occur within 1 mile of the Project site.
20 Monarchs are included in the CDFW's Special Animals List, and overwintering sites are
21 protected under the Santa Barbara County Local Coastal Program (LCP) and City of
22 Goleta (2006) General Plan/Coastal Land Use Plan (GP/CLUP) as environmentally
23 sensitive habitat (ESH). Butterfly aggregation sites within the City of Goleta's portion of
24 Open Space Plan Area are referred to as the Ellwood Complex (CSLC 2009; City of
25 Goleta 2004). The Ellwood Complex consists of six localized sites. All of these sites
26 consist of large clusters or windrows of eucalyptus trees. Roosting monarch butterflies
27 have not been observed at the Project site.

28 *Estuarine and Riparian Special Status Species*

29 Bell Canyon to the west of the Project site contains marsh habitats which qualify both as
30 estuarine (due to the influence of the adjacent ocean) and freshwater (further
31 upstream). Two special status species have been documented to reside in the area and
32 are discussed below:

33 **Southwestern Pond Turtle.** The southwestern pond turtle (*Clemmys marmorata*
34 *pallida*) is a California Species of Special Concern and is currently listed as a candidate
35 for Federal protection. Historically, the southwestern pond turtle had a relatively
36 continuous range along the Pacific slope drainages from southern Washington to Baja
37 California. Habitat requirements for this species include still or slow-moving water and
38 the availability of aerial and aquatic basking sites. The southwestern pond turtle is

1 known to occur in Devereux Slough, Goleta Slough, and the Campus Lagoon at UCSB.
2 There is potential for this species to occur in the middle and upper portions of Ellwood
3 Canyon, Bell Canyon Creek, and Tecolote Creek (City of Goleta 2004).

4 **Tidewater Goby.** The tidewater goby (*Eucylogobius newberryi*) was federally listed as
5 endangered in 1994 by the USFWS. It is a small estuarine fish reaching only 2 inches in
6 length. Preferred habitat for this species includes lagoons, marshes, and tributaries with
7 tidal influence between Del Norte County and San Diego County, California. The goby
8 resides in coastal streams within 2 miles of the ocean and slow, shallow, brackish
9 water. They usually inhabit water with salinities less than 10 parts per thousand (ppt)
10 (City of Goleta 2004); however, they can tolerate salinities up to 60 ppt. This species
11 feeds on small aquatic invertebrates and insect larvae. The majority of tidewater gobies
12 live only one year, making this species highly sensitive to adverse environmental
13 conditions during the breeding season. In the spring and summer of 1998, 1999, and
14 2002, dense populations of juvenile and adult tidewater gobies were present in the
15 terminal lagoons and lower reaches of Tecolote Creek and Bell Canyon Creek (City of
16 Goleta 2004).

17 **California Red-Legged Frog.** The California red-legged frog is listed as threatened by
18 the USFWS, and is considered a Species of Special Concern (CDFW 2009). Its
19 preferred habitats are freshwater marshes and streams with thick growths of emergent
20 vegetation in association with “plunge pools” of moderately deep water. According to the
21 City of Goleta General Plan Conservation Element, California red-legged frogs have
22 been recorded in Bell Canyon and Tecolote creeks (City of Goleta 2006).

23 **Invasive and Non-Native Species**

24 The giant reed, an invasive species native to the Middle East, is apparent in some areas
25 of the Project site and is believed to have been introduced to the area from upstream
26 sources or via rafting. In particular, loosely distributed clumps of the reed are present in
27 the vegetated areas just upslope from the shoreline armoring structures. The California
28 Invasive Plant Council (CIPC) has ranked the giant reed as a species with “severe
29 ecological impacts on physical processes, plant and animal communities, and
30 vegetation structure” (CIPC 2006).

31 **Overview of Biological Resources in the Secondary Study Area**

32 The 8.5-mile-long Line 96 oil pipeline traverses a range of habitat types which support a
33 variety of sensitive species. Most of the reach of this pipeline crosses agricultural lands,
34 disturbed or ruderal habitats along roadways and road corridors, and non-native annual
35 grasslands that do not typically support sensitive species. However, the pipeline also
36 crosses known environmentally sensitive habitats, particularly those found within and on
37 the slopes above drainages including Tecolote, Las Varas, Gato, Dos Pueblos, and Las
38 Flores Creeks. These coastal streams typically support coastal sage scrub and oak

1 woodland habitats on the slopes that are traversed by the Line 96 pipeline as well as
2 sensitive riparian woodlands along much of the pipeline's route. Where these creeks
3 drain to the Pacific Ocean, small estuaries and wetlands are present.

4 A variety of sensitive species that could be affected by operation of the Line 96 pipeline
5 can be found within these drainages. Of particular concern are sensitive in-stream fauna
6 that could be affected by a potential future oil spill from this pipeline, including the
7 federally endangered southern steelhead trout (*Oncorhynchus mykiss iridius*), the
8 federally threatened California red-legged frog (*Rana draytonii*), and the southwestern
9 pond turtle, a California species of special concern.

10 The habitats and sensitive species found along the Line 96 pipeline alignment that could
11 potentially be affected by pipeline operation are discussed in detail in the Line 96
12 Modification Project EIR (Santa Barbara County 2011).

13 **4.7.2 Regulatory Setting**

14 Terrestrial biological resources in and around the Project area are governed by a variety
15 of Federal, State, and local laws and regulations. Quantitative guidelines, standards,
16 limits, and restrictions promulgated in the regulations form the basis for many for the
17 criteria used to evaluate the significance of the Project's impacts to biological resources.
18 Federal and State laws that may be relevant to the Project, including the California and
19 Federal Endangered Species Acts, are identified in Table 4.0-1. Local laws, regulations,
20 and policies are discussed below.

21 **Local**

22 *The City of Goleta GP/CLUP*

23 The City of Goleta GP/CLUP has established policies relating to protecting biological
24 resources in the city limits in the Open Space and Conservation Elements. These
25 policies focus on the preservation and protection of Goleta's environmental resources,
26 including valuable habitat areas, to the maximum extent feasible, while allowing
27 reasonable development in conformance with the provisions of the Land Use Element.

28 *The Santa Barbara County Comprehensive Plan*

29 The Santa Barbara County Comprehensive Plan has established policies related to
30 protecting biological resources in the County. The Environmental Thresholds and
31 Guidelines Manual (1995), including Appendix A of the Manual, established significance
32 criteria and thresholds that supplement those provided in the State CEQA Guidelines for
33 determination of significant environmental effects. For the purpose of this analysis, the
34 Project is subject to Comprehensive Plan policies.

1 4.7.3 Significance Criteria

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

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

24 4.7.4 Impact Analysis and Mitigation

25 Potential construction- and operations-related impacts to terrestrial biological resources
26 are evaluated below. Table 4.7-2, located at the end of this section, provides a
27 summary of these impacts and recommended MMs to address these impacts.

28 **Impact TBIO-1: Short-Term Construction Impacts to Biological Resources**

29 **Construction activities associated with installation of underground cables, repair**
30 **of pipelines, recommissioning of Pier 421-2, and decommissioning and removal**
31 **of Pier 421-1 and related infrastructure may impact existing wetlands along the**
32 **project access road and nearby ESHAs (Less than Significant with Mitigation).**

1 **Impact Discussion**

2 Project construction in the area involves the following components: (1) extending and
3 upgrading the existing 6-inch line to accommodate one internal 3-inch flowline from Pier
4 421-2 to the tie-in at the EOF; (2) installing subsurface cables for power and system
5 control between the EOF and Pier 421-2; ~~and~~ (3) installing an ESP and other equipment
6 to facilitate recommissioning of Pier 421-2; and (4) installing support equipment within
7 the already developed areas of the EOF, including the programmable logic controller
8 cabinet, variable speed drive package, transformer, and various pressure sensors and
9 gauges. This equipment would be located approximately 25 to 50 feet from the western
10 fenceline of the EOF and Bell Canyon Creek beyond, immediately adjacent to existing
11 industrial equipment. Additionally, within 90 days of recommissioning of Pier 421-2
12 Venoco would apply for decommissioning and removal of Pier 421-1 and its associated
13 well and caisson; this latter activity is expected to occur approximately 1 year following
14 Project construction, and is considered in this analysis. Designated Environmental
15 Sensitive Habitat Areas (ESHAs) of sage scrub/dune/bluff scrub are located on the bluff
16 behind the PRC 421 piers and Bell Canyon Creek and Sperling Preserve are located
17 less than 300 feet from the area that would be impacted by construction activities
18 related to the Project, including the subsequent decommissioning and removal of Pier
19 421-1.

20 Excavation for the new subsurface cables would occur in the vicinity of the 12th tee of
21 Sandpiper Golf Course, a highly disturbed area of limited habitat value, with the
22 exception of possible use by raptors for foraging. Use of this area would be expected to
23 include golfing and recreation, and the habitat value is therefore judged to be of similar
24 negligible value. ~~Further, only a~~ Areas near the ends of the 6-inch line would be affected
25 as construction procedures entail opening both ends of the line and sliding the internal
26 3-inch flowline inside. Additionally, the 6-inch pipeline extensions at both ends, including
27 the approximately 50-foot section by the EOF and 450-foot section along Pier 421-2 and
28 between Piers 421-1 and 421-2, as well as the repair of the 25-foot section near the 12th
29 tee of the Sandpiper Golf Course, would involve some excavation along and adjacent to
30 the access road. No excavation would occur within Bell Canyon Creek and no native
31 riparian vegetation would be removed in this area. Excavation of cable trenches and
32 installation of power and system control lines would take place along the PRC 421
33 access road right of way, an area which borders three small known wetlands. Impacts to
34 native species and habitats could occur through disturbance to fresh-/brackish-water
35 marsh wetland habitats and associated plant and wildlife species by trenching,
36 deposition of spoils, and operation of heavy equipment resulting in ground disturbance
37 and increased noise levels. Installation of support equipment at the EOF would occur
38 within the existing developed area of the EOF, adjacent and east of the access road,
39 removed by 25 to 50 feet from the ESHA within Bell Canyon Creek. Impacts to special
40 status species potentially including California red-legged frogs are not expected as a
41 result of these construction activities; however, incidental disturbance by equipment,

1 indirect construction effects, and impacts from accidental fuel or oil releases are
2 possible. If nesting birds are present near the Project, these animals could be disturbed
3 by construction activities. This impact would be less than significant with mitigation.

4 **Mitigation Measures**

5 In addition to mitigation listed below, MM WQ-2 would apply and would require wetland
6 avoidance and minimization measures be in place before construction commences.

7 **MM TBIO-1a. Locate Power Cables and Pipeline Outside ESHA.** To the
8 maximum extent feasible, Venoco shall locate new power cables and pipeline
9 repair activities outside existing wetland areas ~~and wetland buffers (defined as~~
10 ~~undeveloped lands surrounding wetlands)~~ along the access road. A wetland
11 delineation shall be performed in accordance with MM WQ-2. The delineation
12 report and related restoration plan, if required, will establish construction
13 avoidance techniques and restoration where impacts cannot be avoided. The
14 City of Goleta requires a minimum 3 to 1 ratio for wetland or wetland buffer
15 impacts. The wetland delineation, wetland protection plan, and related
16 restoration plan shall be prepared by Venoco for the City of Goleta and Coastal
17 Commission comment and final approval prior to issuance of the City's Land
18 Use Permit. To protect adjacent small wetlands from disturbance, the inland
19 edge of the access road shall be fenced prior to commencement of
20 construction activities. Any unavoidable intrusion of construction activities into
21 this area shall only be performed under the supervision of a City of Goleta-
22 approved biologist. Venoco shall also engage a qualified biologist to prepare a
23 Native Habitat and Special Status Species Survey and Protection Plan
24 (Protection Plan) to be submitted to the City of Goleta and the California
25 Coastal Commission for review and approval prior to the issuance of the City's
26 Land Use Permit. The Protection Plan will map and describe accurate locations
27 of resources in the City's jurisdiction, from the mean high tide line north to
28 Hollister Avenue, in the context of the Project features and all construction
29 staging, laydown, stockpile, and parking areas and shall identify methods to
30 avoid or reduce related impacts to sensitive biological resources and resource
31 buffers. Protection measures will include, at a minimum, a requirement for pre-
32 construction surveys, worker training, the presence of the Project Biological
33 Monitor during all construction activities, and authorization of the Project
34 Biological Monitor to stop work if threats to any sensitive species or habitats
35 are identified during monitoring.

36 **MM TBIO-1b. Project Biological Monitors.** The City of Goleta shall hire a Project
37 Biological Monitor, paid for by Venoco, to supervise pipeline and cable
38 installation, and oversee all construction activities that cross sensitive biological
39 areas and habitat restoration and enhancement activities. The Project
40 Biological Monitor shall ensure that damage to any sensitive wetland habitat
41 within or adjacent to construction zones is minimized. The Project Biological
42 Monitor and the project engineer shall clearly designate "sensitive resource
43 zones" on the project maps and construction plans, which would include the
44 mouth of Bell Canyon Creek. Sensitive resource zones shall be defined in the

1 Native Habitat and Special Status Species Survey and Protection Plan
2 (required under MM TBIO-1a), to avoid impacts to special status biological
3 resources. If the Project Biological Monitor determines that birds are nesting
4 and/or breeding in the Project vicinity, Venoco shall cease Project activities that
5 may affect these birds during the breeding season.

6 **MM TBIO-1c. Restoration Plan/Restoration.** Venoco shall submit a Restoration
7 Plan prepared by a consultant specializing in restoration ecology to the City,
8 California State Lands Commission, California Coastal Commission, and
9 California Department of Fish and Wildlife staffs for review and approval prior
10 to the issuance of the City's Land Use Permit. The Restoration Plan shall
11 include at least the following elements and shall be consistent with the wetland-
12 specific guidance and Native Habitat and Special Status Species Survey and
13 Protection Plan associated with implementation of MM WQ-2a and TBIO-1a.

- 14 · Venoco shall restore any plant communities disturbed by Project
15 construction activities within 90 days of completion of Project construction in
16 conformance with the City-approved Restoration Plan.
- 17 · The Plan shall include criteria for evaluating success of restoration efforts
18 and contingencies in the event efforts are not successful.
- 19 · Any salvaging and replanting of existing native vegetation shall be
20 undertaken as much as feasible at the direction of the Project Biological
21 Monitor.
- 22 · Only native vegetation and locally derived seeds shall be planted in project
23 restoration areas.
- 24 · Monitoring and reporting of restored sites by the Project Biological Monitor
25 shall occur for a minimum of 5 years after Project completion, with changes
26 made as necessary based on annual monitoring reports.

27 **MM TBIO-1d. Protect Stockpiles of Excavated Material.** In addition to Best
28 Management Practices identified in the State Water Resource Control Board
29 401 certification, materials excavated to install the underground cables shall be
30 stockpiled in such a way that they will not inadvertently spill into or be washed
31 into wetland areas. Stockpile areas shall be located at least 100 feet from
32 delineated wetlands. Drainages and any riparian areas shall be prohibited from
33 use for disposal or temporary placement of excess fill. The Project Biological
34 Monitor shall ensure compliance with this mitigation measure during
35 construction monitoring activities.

36 **MM TBIO-1e. Equipment Use, Storage, and Maintenance.** Prior to issuance of the
37 Project Land Use Permit, Venoco shall submit an equipment use, storage, and
38 maintenance work plan to the City of Goleta and California State Lands
39 Commission staffs for review and approval. The work plan shall include at least
40 the following elements.

- 41 · Heavy equipment and construction activities shall be restricted to the
42 defined construction right-of-way. Vehicles and personnel shall only use
43 existing access roads to the maximum degree feasible.

- 1 · Emergency provisions shall be in place at all drainage crossings prior to the
- 2 onset of construction to deal with accidental spills.
- 3 · All equipment used on site and in or near drainages shall be maintained
- 4 such that no leaks of oil, fuel, or vehicle residues will take place.
- 5 · Provisions shall be in place to remediate any accidental spills.
- 6 · All machinery shall be stored and fueled in designated locations, such as
- 7 the equipment laydown areas next to the Ellwood Onshore Facility, as
- 8 specified in previous sections.

9 **MM TBIO-1f. Biological Enhancement Activities.** Where possible (e.g., not
 10 including steep slopes adjacent to the roadway), existing native habitats within
 11 100 feet of the proposed trenching activities shall be enhanced in terms of their
 12 biological value through removal of invasive, non-native species and the
 13 planting of appropriate native species. Enhancement activities are to include
 14 removal of the non-native giant reed (*Arundo donax*) and other invasive
 15 species identified by the Project Biological Monitor. Hand-removal of above-
 16 ground stalk and rhizome biomass shall be undertaken to prevent damage to
 17 adjacent native plants. Monitoring and reporting of restored sites by the Project
 18 Biological Monitor shall occur for a minimum of 5 years after Project
 19 completion, with changes made as necessary based on annual monitoring
 20 reports.

21 **Rationale for Mitigation**

22 Implementation of MMs TBIO-1a through TBIO-1f would reduce short-term construction
 23 related impacts to onshore biological resources by protecting sensitive resources in the
 24 immediate Project area, providing for construction supervision, and requiring
 25 restoration-enhancement of impacted habitats.

26 After implementation of MMs TBIO-1a through TBIO-1f, impacts to terrestrial biological
 27 resources from short-term construction activities would be mitigated to a less than
 28 significant level.

29 **Impact TBIO-2: Oil Spill Impacts to Terrestrial Biological Resources**

30 **An accidental oil spill and subsequent cleanup efforts during operation of the**
 31 **Project would potentially result in the loss or injury of threatened, endangered, or**
 32 **candidate species such as the Western snowy plover; the loss or degradation of**
 33 **functional habitat value of sensitive biological habitats such as coastal wetlands;**
 34 **or cause a substantial loss of a population or habitat of native fish, wildlife, or**
 35 **vegetation (Significant and Unavoidable).**

36 **Impact Discussion**

37 An oil spill could occur from Project components including the wells or caisson at Pier
 38 421-2 the pipeline from Pier 421-2 to the EOF, or the Line 96 pipeline; an oil spill would

1 cause a potentially significant impact to biological resources. Spills in the primary study
2 area would likely be limited to a maximum of 1.7 barrels and those within the secondary
3 study area to a maximum of 60 barrels along the Line 96 pipeline for Llagas Creek and
4 52 barrels from Corral Canyon. While these spills are relatively small, the threshold for
5 such spills is zero and impacts would be considered potentially significant.

6 These impacts could include (1) the loss or injury of Federal- or State-listed wildlife
7 species, (2) the loss or degradation of upland, wetland, aquatic, or sensitive biological
8 habitat (including salt, freshwater, or brackish marsh; river mouth; coastal lagoons,
9 estuaries, and breeding habitat designated as critical for the Western snowy plover), or
10 (3) injury to plants and terrestrial and aquatic wildlife (potentially including California red-
11 legged frogs) through direct toxicity, smothering, or entrapment from cleanup efforts.
12 Small leaks or spills that would be contained and remediated quickly could have minor
13 or negligible impacts on biological resources while large spills have the potential to
14 spread onto larger surface areas and may increase the potential for long-term impacts
15 on biological resources. Any large spill from the onshore pipeline would require
16 subsequent cleanup. The cleanup operations and repair would result in impacts on
17 habitat in the Project vicinity, with the extent of disturbance determined by the
18 magnitude of the spill.

19 Spills from activities from the wells, caissons, pipelines near or on the beach, or
20 disturbances resulting from cleanup efforts within the sandy beach and foredune
21 habitats could affect Western snowy plover and California least tern, especially if a spill
22 were to occur during the breeding seasons for these species. Western snowy plovers
23 use Devereux Slough and the adjacent beaches to the west as wintering and nesting
24 sites. Proposed critical habitat for the Western snowy plover would include Devereux
25 Beach. Effects of an oil spill in this area during the breeding season would potentially
26 increase mortality of nesting plovers, chicks, and fledglings depending on the timing of
27 the spill. A spill would also contaminate or increase mortality of invertebrates that are
28 forage material for the plover, therefore resulting in indirect impacts on individual
29 plovers and/or breeding success. Western snowy plover populations have been
30 decreasing throughout California; however, the population at Coal Oil Point Reserve
31 has increased since 2001 due to successful management efforts by the reserve's staff
32 and volunteer docents (Coal Oil Point Reserve 2008). An accidental oil spill and cleanup
33 activities would interfere with restoration efforts intended to improve the status of the
34 species and would degrade critical habitat. Other sensitive beach area species
35 potentially affected by a spill include the globose dune beetle, the sandy tiger beetle,
36 California red-legged frog, and the tidewater goby in the Bell Canyon and Tecolote
37 Creek marshes, or to steelhead or steelhead Critical Habitat in Tecolote Creek.

38 Similarly, spills from activities from the wells, caissons, pipelines near or on the beach,
39 or disturbances resulting from cleanup efforts within areas coastal estuaries such as
40 Tecolote Creek and the Devereux Slough could impact sensitive coastal wetland

1 habitats and dependent species. See the EMT Lease Renewal EIR (CSLC 2009) and
2 Line 96 Expansion Project EIR (Santa Barbara County 2011) for more discussions of
3 potential impacts to regional wetland habitat areas from an oil spill.

4 A rupture in the proposed 3-inch flowline connecting Well 421-2 to the EOF would likely
5 be contained within the 6-inch line and detected at the control facility where a proper
6 response would be initiated. However, if a spill was not contained, it would likely flow
7 downhill through the coastal bluff scrub habitat and potentially onto the upper intertidal
8 and/or into marsh areas adjacent to the site (either at the terminus of the access road or
9 Bell Canyon). Alternatively, if the spill occurred along the western portion of the pipeline,
10 oil would flow into Bell Canyon Creek. Due to the area's topography, most spills from
11 this portion of the pipeline with sufficient volume to have overland flow would potentially
12 affect the coastal bluff scrub, marsh, dune, and marine habitats.

13 Spills that enter drainages or riparian corridors along the Line 96 pipeline route to the
14 Plains All American Pipeline L.P. (PAAPLP) Coastal Pipeline tie-in could affect federally
15 listed species, including southern steelhead trout, California red-legged frog, and
16 tidewater goby, especially if a spill occurred during these species' breeding season.
17 Line 96 is designed with numerous safety systems to prevent spills and minimize the
18 potential amount of oil that can be spilled into sensitive areas. These include regular
19 pipeline monitoring and inspection, block valves and flow controls. However, the Project
20 would result in an incremental increase in oil transport operations associated with the
21 Line 96 pipeline, which would incrementally increase the potential for a pipeline failure.
22 Small leaks or spills that could be contained and remediated quickly would potentially
23 have minor or negligible impacts on onshore biological resources. In contrast, large
24 spills or pipeline ruptures that have the potential to spread onto larger surface areas
25 would have significant impacts to terrestrial biological resources. The new pipeline
26 crosses several major streams and tributaries that flow to the Pacific Ocean.

27 The effects of spilled oil on terrestrial biological resources would depend on factors such
28 as the physical and chemical properties of the oil, specific environmental conditions at
29 the time of the spill, and the species present. Certain types of communities would be
30 more severely affected by an oil spill than others. Salt or fresh water marshes would be
31 most sensitive because the biological activity is concentrated near the soil or water
32 surface where oil would be stranded. Oil could also be potentially widely dispersed by
33 stream or tidal flow, depending on season and meteorological conditions.

34 An oil spill would impact vegetation both directly and indirectly. Direct effects include
35 smothering of plants that would reduce the availability of water, nutrients, and oxygen to
36 the plant root system. This would potentially result in reduced growth or death.
37 Vegetation recovery would potentially be slow in areas of oiled soils because of
38 lingering toxicity or altered soil characteristics. Impacts of cleanup might be more
39 substantial than the effect of the spilled oil, depending on the remediation method.

1 Clearing or grading would potentially be required to provide access to ruptured pipelines
2 and oiled vegetation; soils would likely need to be removed and disposed.

3 Direct impacts on wildlife from oil spills include physical contact with oil, ingestion of oil,
4 and loss of food and critical nesting and foraging habitats. Aquatic reptiles, amphibians,
5 and birds would be the most vulnerable to oil spills. For any impacted sensitive wildlife
6 species, the level of impact would depend on the size and location of the spill, the
7 amount of habitat affected, and the number of individuals and species affected. Impacts
8 on sensitive wildlife species could be short to long term depending on the amount of oil
9 spilled, environmental conditions at the time, containment and cleanup measures taken,
10 and length of time for habitat and sensitive species recovery. This impact would be
11 significant and unavoidable.

12 **Mitigation Measures**

13 Venoco currently maintains an oil spill contingency ~~plan~~ plan (OSCP) that addresses
14 spill response actions to be completed in the event of a “significant event” (Venoco
15 2011a; 2011b). Where a spill or cleanup has the potential to result in impacts on
16 sensitive biological resources or the loss of native vegetation, implementing the
17 following updates to the Venoco OSCP would reduce impacts to onshore biological
18 resources.

19 **MM TBIO-2a. Oil Spill Contingency Plan (OSCP) Measures Regarding**
20 **Protection of Biological Resources.** Before re-starting production at PRC
21 421, Venoco shall revise and update the OSCP to address protection of
22 sensitive biological resources disturbed during an oil spill or cleanup activities.
23 The revised OSCP shall, at a minimum, include: (1) specific measures to avoid
24 impacts on Federal- and State-listed endangered and threatened species and
25 Environmentally Sensitive Habitat Areas (ESHAs) during response and
26 cleanup operations; (2) identify, feasible, low-impact, site-specific, and species-
27 specific techniques; (3) identify standards of a spill response personnel training
28 program; (4) funding (up to \$5,000 each) for City and Coal Oil Point Reserve
29 updates to multi-hazard response plans and other emergency response
30 documents (e.g., those for Coal Oil Point Reserve) to ensure clear internal and
31 inter-agency communication in the event of an accident and for spill clean-
32 up/restoration; and (5) provide one-time training and a brief checklist regarding
33 the OSCP and the Emergency Action Plan for Neighborhood Services and
34 Public Safety Department and Planning and Environmental Review
35 Department, and the staff of the Coal Oil Point Reserve. Venoco shall submit
36 the updated OSCP to the California State Lands Commission, Department of
37 Fish and Wildlife Office of Spill Prevention and Response, California Coastal
38 Commission, Santa Barbara County, and City of Goleta staffs for review and
39 approval prior to operation of the recommissioned facilities.

40 **MM TBIO-2b. Oil Spill Contingency Plan (OSCP) Measures Regarding Habitat**
41 **Protection and Restoration.** Before re-starting production at PRC 421,

1 Venoco shall revise and update the OSCP to address revegetation of any
2 areas disturbed during an oil spill or cleanup activities. The revised OSCP shall
3 include: (1) preemptive identification of access and egress points, staging
4 areas, and material stockpile areas that avoid sensitive habitat areas; (2)
5 stipulations for development and implementation of site-specific habitat
6 restoration plans and other site-specific and species-specific measures; (3)
7 identification of sources for restoration project implementation (e.g., restoration
8 contractors, seed vendors, native plant nursery facilities, academic institution
9 support); (4) procedures for timely re-establishment of vegetation; (5)
10 monitoring procedures and minimum success criteria to be satisfied for
11 restoration areas; (6) funding (up to \$5,000 each) for City and Coal Oil Point
12 Reserve updates to multi-hazard response plans and other emergency
13 response documents to ensure clear internal and inter-agency communication
14 in the event of an accident and for spill clean-up/restoration; and (7) provide
15 one-time training a brief checklist regarding the OSCP and the Emergency
16 Action Plan for Neighborhood Services and Public Safety Department and
17 Planning and Environmental Review Department. Venoco shall submit the
18 updated OSCP to the California State Lands Commission, Department of Fish
19 and Wildlife Office of Spill Prevention and Response, California Coastal
20 Commission, Santa Barbara County, and City of Goleta staffs for review and
21 approval prior to operation of the recommissioned facilities.

22 The certified Line 96 Modification Project EIR (Santa Barbara County 2011) also
23 included MM BIO-4a that required an update to the OSCP to protect sensitive biological
24 resources in the vicinity of the pipeline route; that MM has been implemented.

25 **Rationale for Mitigation**

26 MM TBIO-2a would provide greater specificity to the OSCP by planning for targeted
27 efforts to minimize remediation impacts on special status species and their habitats,
28 identifying methodologies to reduce impacts from an oil spill, and minimizing the use of
29 procedures that have the potential to cause more damage to a sensitive habitat than the
30 oil spill itself. This measure would also permit training and provide funding for related
31 revisions to plans by the two understaffed agencies most responsible for oversight of
32 the sensitive biological resources potentially affected by a Project-related oil spill.

33 MM TBIO-2b would ensure that restoration efforts after an impacting event are
34 undertaken efficiently and effectively by establishing plans for mitigating impacts on
35 local populations of sensitive wildlife species and to restore native plant and animal
36 communities to pre-spill conditions. It would include preemptive identification of access
37 and egress points, staging areas, and material stockpile areas that avoid sensitive
38 habitat areas. Assistance and training would be provided to the two agencies with
39 management authority for wetlands and beaches potentially affected by such a spill.

1 Residual Impacts

2 An oil spill that potentially results in impacts on Federal- or State-listed wildlife species,
 3 such as the Western snowy plover and California least tern, cannot be reduced below
 4 significance criteria. Although implementation of MMs TBIO-2a and TBIO-2b would
 5 reduce impacts on plant communities and common wildlife species, and could reduce
 6 impacts on Federal- and State-listed species and other sensitive plant and wildlife
 7 species and their habitats, it would not entirely eliminate the risk of spill impacts to these
 8 and other biological resources.

9 MM TBIO-2a would require Venoco to undertake a planning effort addressing
 10 contingencies for an oil response. Contingencies would be targeted and focused on
 11 preserving species of concern and their habitat and other plant and wildlife communities
 12 to the maximum extent practicable. MM TBIO-2b would provide greater information and
 13 capabilities on how to develop and implement habitat restoration plans needed to
 14 effectively restore native plant and animal communities to pre-spill conditions and
 15 provide monitoring effectiveness criteria. These would help minimize potential oil spill-
 16 induced impacts on biological resources including sensitive species, sensitive species
 17 habitat, the nearby dune swale pond, surrounding wetland areas, and Devereux Slough.
 18 Revegetating with native species in areas where vegetation is removed or otherwise
 19 impacted by a spill or cleanup activities would potentially reduce significant impacts on
 20 native vegetation and wildlife habitats to below significance criteria; however, large spills
 21 that result in impacts to designated (or proposed) critical habitat, wetland and aquatic
 22 habitats, and biota, including Federal- and State-listed species would remain significant
 23 even after mitigation.

24 MM BIO-4a from the Line 96 Modification Project EIR required update of the OSCP to
 25 ensure protection of sensitive resources, and ensures that response capabilities are in
 26 place to address potential future oil spills from this pipeline as required to ensure spill
 27 cleanup and protection of sensitive habitats and species.

Table 4.7-2. Summary of Terrestrial Biological Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
TBIO-1: Short-Term Construction Impacts to Biological Resources	TBIO-1a. Locate Power Cables and Pipeline Outside ESHA. TBIO-1b. Project and Biological Monitors. TBIO-1c. Restoration Plan/Restoration. TBIO-1d. Protect Stockpiles of Excavated Material. TBIO-1e. Equipment Use, Storage, and Maintenance. TBIO-1f. Biological Enhancement Activities. WQ-2. <u>Wetland Delineation, Avoidance and Impact Minimization</u>
TBIO-2: Oil Spill Impacts to Biological Resources	TBIO-2a. OSCP Measures Regarding Protection of Biological Resources. TBIO-2b. OSCP Measures Regarding Habitat Protection and Restoration. MM BIO-4a (update <u>Emergency Action Plan and Oil Spill Contingency Plan</u>) contained in the certified Line 96 Modification Project EIR.

1 4.7.5 Cumulative Impacts Analysis

2 **Impact TBIO-3: Cumulative Impacts to Terrestrial Biological Resources**

3 **Potential oil spills occurring as a result of recommissioning Pier 421-2 could**
4 **result in contributions to cumulative terrestrial biological resource impacts**
5 **(Significant and Unavoidable).**

6 **Impact Discussion**

7 Potential Project-related oil spills could contribute to cumulative impacts to terrestrial
8 biological resources in the Project vicinity. Section 3, Cumulative Impacts Methodology,
9 details projects in the surrounding area that could produce impacts to terrestrial
10 biological resources similar to those anticipated by the Project. Several residential,
11 commercial, institutional, and recreational projects are under environmental review,
12 pending approval, or approved in the Project vicinity and Line 96 pipeline. All of these
13 projects would involve ground disturbance that may impact onshore biological resources
14 in the Project area, as may other approved and probable future projects. The region of
15 influence for onshore biological resource impacts includes Devereux, Bell, Tecolote,
16 Eagle, Dos Pueblos, Las Varas, Gato, Las Llagas, El Capitan, and Corral/Las Flores
17 creeks. Much of the past, present and foreseeable onshore development activity is
18 concentrated within the Devereux Creek area. Potential oil spills from production at
19 PRC 421 and transport through the Line 96 pipeline, when combined with the potential
20 for spills from on-going operations at the LFC processing facility and the PAAPLP
21 Coastal Pipeline could result in adverse biological impacts to Corral/Las Flores Creek.
22 Potential oil spills occurring as a result of Project completion could cumulatively
23 contribute to those impacts. Because of the severity of impacts associated with potential
24 large oil spills from the EOF or Line 96 pipeline, the Project's contribution to the
25 cumulative degradation of Devereux Slough and other waterways and habitat along the
26 pipeline route would be significant and unavoidable.

27 **Mitigation Measures**

28 MMs TBIO-2a and -2b would apply to this impact. MM BIO-4a from the Line 96
29 Modification Project EIR required update of the OSCP to protect sensitive resources,
30 which further protects sensitive terrestrial biological resources.

31 **Residual Impacts**

32 Each of these projects must meet regulatory requirements designed to reduce the
33 probability and consequences of accidental releases to the environment. However, even
34 the best designed and implemented MMs, such as safe design of the facilities, oil spill
35 contingency plans, training and drills, and availability of oil spill cleanup means, cannot
36 eliminate all risk of an oil spill. The Project's contribution to cumulative impacts would
37 remain significant and unavoidable.

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1 **4.8 LAND USE, PLANNING, AND RECREATION**

2 This section details the existing land use, planning, and recreation conditions in the
3 Project vicinity, outlines applicable land use plans and policies, and summarizes
4 potential land use, planning, or recreation impacts and mitigation measures (MMs)
5 associated with the Project. Information in this section is primarily based on the:

- 6 · City of Goleta General Plan/Coastal Land Use Plan (GP/CLUP) Land Use, Open
7 Space, and Conservation Elements;
- 8 · City of Goleta Coastal Zoning Ordinance;
- 9 · City of Goleta GP/CLUP Environmental Impact Report (EIR); and
- 10 · Santa Barbara County Comprehensive and Coastal Plans.

11 This section also summarizes and incorporates by reference the conclusions of the
12 Ellwood Marine Terminal (EMT) Lease Renewal EIR (California State Lands
13 Commission [CSLC] 2009) and Line 96 Modification Project EIR (Santa Barbara County
14 2011) regarding potential land use impacts, including agriculture resources, associated
15 with operation of the Line 96 pipeline. This document also incorporates data from Santa
16 Barbara County 01-ND-34 and City of Goleta 06-MND-001.

17 **4.8.1 Environmental Setting**

18 **Study Area Location and Description**

19 The primary Project study area comprises the areas of the Ellwood coast that surround
20 the Project site and would be subject to land use or recreational impacts or potential
21 policy inconsistencies as a result of Project implementation. The secondary Project
22 study area includes the Gaviota Coast as discussed in the certified Line 96 Modification
23 Project EIR.

24 The Project site is located in Santa Barbara County in the City of Goleta, just south of
25 the Sandpiper Golf Course, east of the Bacara Resort north of the Pacific Ocean, and
26 west of the Ellwood Mesa Open Space. As shown in Figure 4.8-1, jurisdiction over the
27 primary Project elements is shared by the CSLC, California Coastal Commission (CCC),
28 and City of Goleta. Santa Barbara County would also have permit authority over
29 changes to facilities under its jurisdiction that may be required as mitigation for this
30 Project, as well as operation and maintenance of the Line 96 pipeline. The majority of
31 the Project located below the mean high tide line (i.e., caissons, wells, electric
32 submersible pump (ESP), and associated construction activities) is under the
33 jurisdiction of the CSLC and CCC, while portions of the Project located above the mean
34 high tide line (including the piers, pipelines, and access road are under the jurisdiction
35 of the City of Goleta and the CCC.

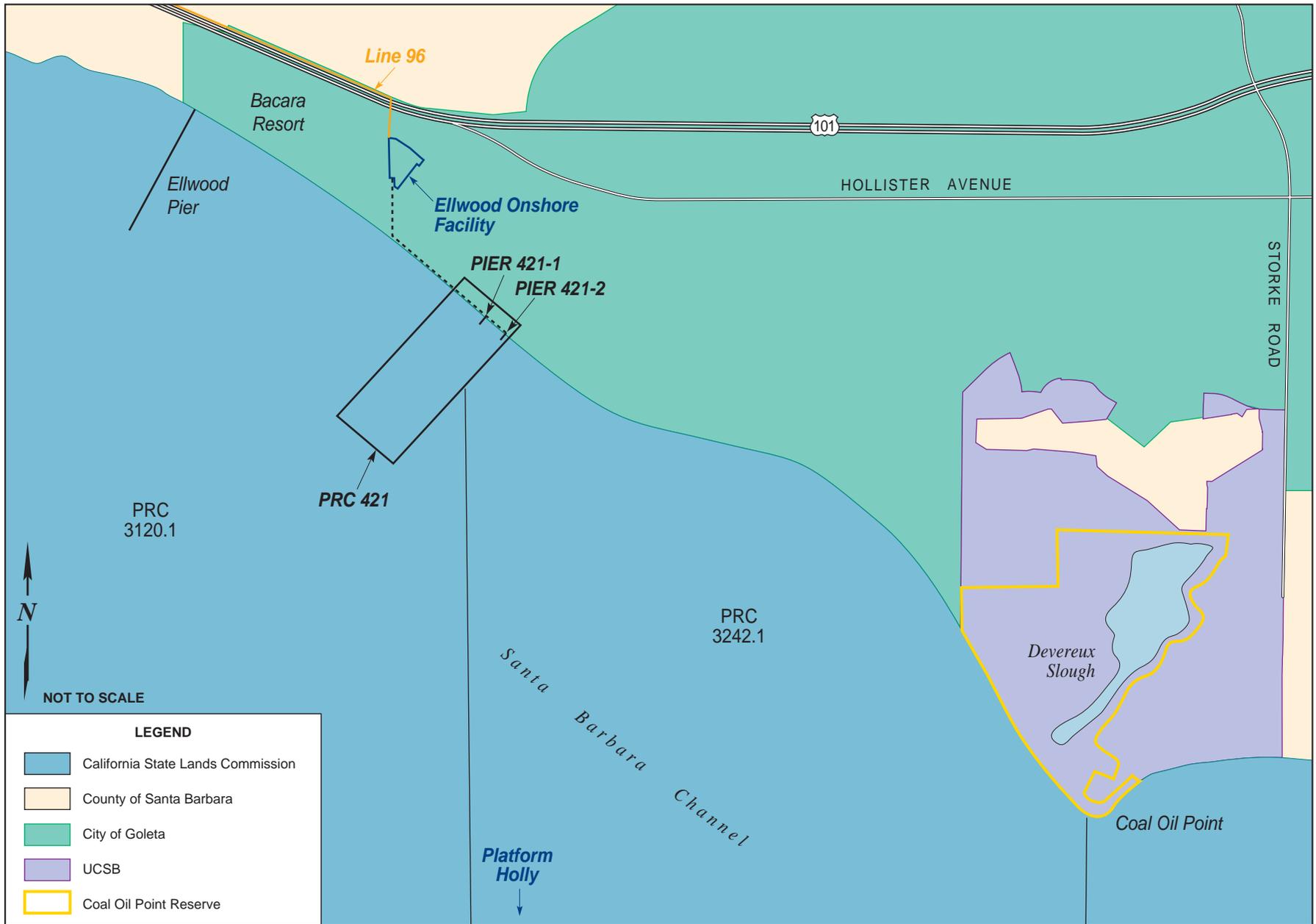


FIGURE 4.8-1

1 **4.8.2 Land Use and Zoning Designations**

2 **State Oil and Gas Lease PRC 421 (PRC 421)**

3 As stated above, the PRC 421 wells and caissons are primarily under the jurisdiction of
4 the CSLC and the CCC, as all or most of these facilities are located below the mean
5 high tide line.¹⁰ Land surrounding the piers that is above the mean high tide line is within
6 the City of Goleta and is designated as a Open Space/Active Recreation area by the
7 City's Land Use Element and is zoned as Recreation by the City's Coastal Zoning
8 Ordinance (City of Goleta 2006b, 2006c). Figure 4.8-2 summarizes land use in the
9 Project vicinity. While the PRC 421 piers are not used for recreational purposes, the site
10 is surrounded by recreational uses including the Sandpiper Golf Course, the Bacara
11 Resort, and by Ellwood and Haskell's beaches, which serve as major public coastal
12 access points and are frequented by beach goers, joggers, surfers and walkers (City of
13 Goleta 2006c). The Ellwood Onshore Facility (EOF) and Sandpiper Golf Course are
14 designated as Open Space/Active Recreation and zoned Coastal Recreation. The
15 Bacara Resort is designated as Commercial Visitor-Serving by the Goleta GP/CLUP
16 and is zoned C-V, Resort/Visitor Serving Commercial (City of Goleta 2006b, 2006c).

17 **Other Ellwood Area Facilities Related to the Project**

18 Ellwood Onshore Facility: The Project would transport oil/gas/water pumped at Pier
19 421-2 to existing facilities at the EOF for processing, along with Platform Holly
20 production, and subsequent delivery into the Line 96 pipeline. The Project would also
21 modify and depend upon control facilities located at the EOF. The EOF is zoned
22 Recreation and has been a legal nonconforming use since implementation of this
23 designation in 1991 (City of Goleta 2006b, 2006c). The change in land-use and zoning
24 designations in 1991 converted the EOF to a legal nonconforming use that allows the
25 facility to continue to operate under the rights of its current permit, but not to expand,
26 extend, enlarge, or exceed the current rights. The existing EOF is an oil and gas
27 treating facility with the capability to treat 20,000 barrels of oil per day (BOPD) of wet oil
28 and 20,000 million standard cubic feet per day of gas. Currently, Santa Barbara County
29 APCD Permit 7904-R7 limits throughput at the EOF to 13,000 BOPD dry basis
30 (excluding water content), based on permit emissions limits of dry crude oil tanks TK-
31 202 and TK-203.

¹⁰ The mean high tide demarcates the jurisdiction boundary between local governments such as the City of Goleta and the inter-tidal or offshore waters under jurisdiction of the CSLC. Determination of the mean high tide line requires a survey which has not been performed to date. For that reason, the precise boundary between State and local jurisdiction is not determined.



Land Use Designations in the Project Vicinity

FIGURE 4.8-2

1 **Line 96 Pipeline:** The Project would use the 8.5-mile-long Line 96 pipeline to transport
2 oil produced at PRC 421. This pipeline connects to the Plains All American Pipeline L.P.
3 (PAAPLP) Coastal Pipeline west of Las Flores Canyon (LFC). This pipeline is mostly
4 located in areas under County jurisdiction, with a limited portion located under City of
5 Goleta jurisdiction (see Figure 4.8-1). The lands under County jurisdiction are primarily
6 zoned for agricultural use. Impacts to agricultural resources were fully analyzed and
7 mitigated for the construction and operation of the new pipeline in the Line 96
8 Modification Project EIR (Santa Barbara County 2011).

9 **4.8.3 Recreation**

10 The Project site is located in a region that offers a wealth of recreational opportunities,
11 due to its natural beauty, undeveloped beaches and open space, topography, and
12 climate (Figure 4.8-3). PRC 421 is located on the beach, just east of the Bacara Resort,
13 the only beachfront resort in the City of Goleta, and due south of Sandpiper Golf
14 Course, which is open to the public. Sands Beach, the University of California Santa
15 Barbara's (UCSB's) Coal Oil Point Reserve and open lands, and the Ellwood Mesa
16 Open Space and associated five coastal access points are all located east of and within
17 2 miles of the site. These undeveloped open spaces and beaches are major coastal
18 recreational areas used by thousands of beach goers annually. The combination of the
19 miles of beach front, varied ecological habitats, and scenic ocean and mountain vistas
20 attracts many visitors to the area. This is a heavily used, passive recreation area that
21 provides high quality recreational opportunities to the inhabitants of the surrounding
22 areas, as well as of the greater Santa Barbara area and beyond. Passive recreational
23 activities currently take place over most of the area that is accessible to the public.

24 The primary recreational activities that currently take place in the Project vicinity include
25 walking, jogging, picnicking, wildlife viewing, mountain biking, horseback riding, sun
26 bathing, swimming, surfing, surf fishing, dog walking, bird-watching, and photography.
27 One public golf course is in the immediate vicinity of the Project area: the 200-acre, 18-
28 hole Sandpiper Golf Course, located due north of and adjacent to the Project area
29 (CSLC 2009). Additional recreational resources are maintained and operated by a
30 number of entities, including Santa Barbara County, City of Goleta, and private
31 providers.

32 The City of Goleta has six park types including one community center, three mini parks,
33 five community parks, seven regional open spaces, eight neighborhood parks, and 14
34 neighborhood open spaces, totaling approximately 526 acres. The three larger City-
35 owned regional open space preserves—the Sperling Preserve, Santa Barbara Shores
36 Open Space (which together comprise the Ellwood Mesa), and Lake Los Carneros
37 Natural and Historical Preserve—collectively account for 363 acres.

1 Approximately 40 percent of the city's 2.0 miles of Pacific shoreline is in city ownership
2 (City of Goleta 2006c). The Santa Barbara Shores Park is located due east of
3 Sandpiper Golf Course and the Sperling Preserve adjacent to the eastern boundary of
4 the park, approximately 0.8 mile east of the Project site (City of Goleta 2006c). The
5 Santa Barbara Shores Park currently provides an entry point for equestrian use for the
6 system of interconnected trails in the Ellwood-Devereux open space area (CSLC 2009).

7 **4.8.4 Regulatory Setting**

8 No Federal regulations, authorities, or administering agencies that regulate land use are
9 specifically applicable to recreational resources with respect to the Project; State laws,
10 regulations, and policies, including those of the California Coastal Act, are discussed in
11 Table 4.0-1, while the local regulatory setting is discussed below.

12 The Coastal Commission (CCC) was established by voter initiative in 1972 (Proposition
13 20) and later made permanent by the Legislature through adoption of the California
14 Coastal Act of 1976. The CCC, in partnership with coastal cities and counties, plans and
15 regulates the use of land and water in the coastal zone. Development activities, which
16 are broadly defined by the Coastal Act to include (among others) construction of
17 buildings, divisions of land, and activities that change the intensity of use of land or
18 public access to coastal waters, generally require a coastal permit from either the CCC
19 or the local government. Implementation of Coastal Act policies is accomplished
20 primarily through the preparation of local coastal programs (LCPs) that are required to
21 be completed by each of the counties and cities located in whole or in part in the coastal
22 zone. Completed LCPs must be submitted to the CCC for review and approval.
23 Following certification of an LCP, coastal permit authority is delegated to the local
24 jurisdiction, but the CCC retains original permit jurisdiction over certain specified lands
25 (such as tidelands and public trust lands). The CCC also has appellate authority over
26 development approved by local governments in specified geographic areas as well as
27 certain other developments (e.g., oil and gas projects). The City of Goleta has not yet
28 submitted their LCP to the CCC for certification and as such, Project components within
29 the coastal zone of the City will require a coastal development permit from the CCC.
30 The standard of the review for the CCC is the Chapter 3 policies of the Coastal Act.
31 Table 4.8-2, located at the end of Section 4.8, summarizes some of the Coastal Act
32 policies as they relate to the Project.

33 The CSLC has jurisdiction and management authority over all ungranted tidelands,
34 submerged lands, and the beds of navigable lakes and waterways. All tidelands and
35 submerged lands, granted or ungranted, as well as navigable lakes and waterways, are
36 subject to the protections of the Common Law Public Trust.

37 As general background, the State of California acquired sovereign ownership of all
38 tidelands and submerged lands and beds of navigable lakes and waterways upon its

1 admission to the United States in 1850. The State holds these lands for the benefit of all
2 people of the State for statewide Public Trust purposes, which include but are not
3 limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat
4 preservation, and open space.

5 **Local**

6 *Santa Barbara County Goleta Community Plan*

7 The Goleta Community Plan provides development policies, including the general type
8 and location of land uses, specifically tailored for the unincorporated Goleta area and
9 identifies measures to implement those policies. All development within the
10 unincorporated Goleta area must comply with the policies set forth in the Goleta
11 Community Plan. In addition, those portions of the Goleta Community Plan located
12 within the coastal zone have also been incorporated into Santa Barbara County's LCP.

13 *Santa Barbara County LCP*

14 The LCP contains principal land use policies for development within the coastal zone in
15 Santa Barbara County. The project component that lies in the jurisdictional authority of
16 the County's LCP is the Line 96 pipeline that extends west from the City of Goleta. The
17 County's LCP, pursuant to requirements of the Coastal Act (section 30108.5), contains
18 the relevant portion of a local government's general plan, or local coastal element,
19 which indicates the kinds, location, and intensity of land uses, the applicable resource
20 protection and development policies, and a listing of implementing actions. The LCP
21 first came into effect in 1982, and has been revised periodically to update policies. The
22 CLUP represents one component of the LCP, which also includes the Land Use Maps
23 of the Coastal Zone, the Coastal Zoning Ordinance (codified as Article II of Chapter 35
24 in the Santa Barbara County Code), and the Coastal Zoning Maps (CSLC 2009).

25 The County has incorporated numerous goals and policies into the LCP to ensure
26 conformance with Coastal Act policies. These include multiple policies intended to
27 protect environmentally sensitive habitats and associated species. Some recent
28 amendments to these policies are intended to update the county's oil transportation
29 policies to bring the policies and ordinances into accordance with present-day
30 circumstances and into consistency with current California law, including amendments
31 to the Coastal Act contained in Assembly Bill (AB) 16, which was adopted in 2003.
32 These amendments would revise several sections of the Coastal Plan and Land Use
33 Element of Santa Barbara's County's Comprehensive Plan, and sections of the Coastal
34 and Inland Zoning Ordinances (Articles II and III, Chapter 35, Santa Barbara County
35 Code); however, these amendments have not been certified by the CCC (CSLC 2009).

1 *Santa Barbara County Land Use Development Code*

2 The Santa Barbara County Land Use and Development Code, adopted January 2007,
3 constitutes a portion of Chapter 35 of the Santa Barbara County Code. This Code
4 carries out the policies of the Santa Barbara County Comprehensive Plan and LCP by
5 classifying and regulating the uses of land and structures within the County. The Land
6 Use Development Code describes numerous land use zones, including Coastal Zone,
7 Oil and Gas Facilities, and describes allowed uses and permitting provisions. However,
8 the Coastal Zone portions of the Land Use Development Code must be certified by the
9 CCC, and there is currently no estimated time when that will occur. Until the Coastal
10 Zone portions are certified, Article II (Coastal Zoning Ordinance) is still in effect.

11 *City of Goleta GP/CLUP*

12 The Goleta GP/CLUP, which was adopted on October 2, 2006, governs land use and
13 physical development within the city limits. The Coastal Zone portions of this GP/CLUP
14 have not yet been certified by the CCC; until these portions of the GP/CLUP are
15 certified, the CCC retains jurisdiction over the Coastal Zone.

16 The Goleta GP/CLUP includes elements that contain policies to guide development
17 while protecting the natural resources within and integrity of the city (City of Goleta
18 2006c). Because the GP/CLUP has not been certified by the CCC, the City's policies do
19 not apply to the issuance of a CDP for the Project; the standard of review for issuance
20 of a CDP for the Project is Chapter 3 of the Coastal Act. City policies apply to other
21 required City permits and approvals. The standard of review for any Project components
22 within the City of Goleta will be the following elements of the Goleta GP/CLUP
23 governing land use at the Project site:

- 24 · *Land Use Element* – The Land Use Element consists of a policy statement and a
25 land use plan map showing the spatial distribution, location, and extent of lands
26 designated for housing, business, industry, open space, agriculture, and other
27 categories of public and private uses of land.
- 28 · *Open Space Element* – The Open Space Element ensures that Goleta
29 recognizes that open space land is a limited and valuable resource that must be
30 conserved wherever possible and establishes policies to protect open space in
31 the city.
- 32 · *Conservation Element* – The Conservation Element addresses conservation,
33 development, and use of natural resources, including water, creeks, soils,
34 wildlife, and other natural resources. Population growth and development
35 generally require the consumption of both renewable and nonrenewable natural
36 resources. One role of the Conservation Element is to establish policies that
37 reconcile conflicting demands placed on natural resources and define the
38 balance sought between managed use and preservation of resources

- 1 · *Visual and Historic Resources Element* – This element establishes policies and
2 development standards to protect scenic resources and viewsheds.
- 3 · *Safety Element* – The Safety Element addresses general safety policies, as well
4 as bluff erosion and retreat, beach erosion and shoreline hazards, soil and slope
5 stability hazards, flood hazards, urban and wildland fire hazards, oil and gas
6 industry hazards, airport-related hazards, hazardous materials and facilities, and
7 emergency preparedness. The Safety Element contains policies that prevent
8 development or land use activities in hazardous areas, and/or require appropriate
9 mitigation to minimize hazards.
- 10 · *Noise Element* – The Noise Element identifies and evaluates noise problems in
11 the surrounding community and includes current and projected noise contour
12 maps showing the intensities of noise associated with various sources such as
13 highways, freeways, railroads, airports, industrial plants, etc. Noise contours are
14 considered in establishing the pattern of land uses in a manner that minimizes
15 the exposure of residents to excessive noise.
- 16 · *Public Facilities Element* – The Public Facilities Element addresses the nature of
17 existing infrastructure facilities and services, available service capacities,
18 generalized long-term policies to meet future needs, and financing options. This
19 element discusses acceptable levels of service, funding priorities, timing of
20 facility or service availability, and the location of future facilities and
21 improvements to ensure that facilities and services are provided to existing and
22 future development in an efficient and cost-effective manner.
- 23 · *Transportation Element* – The Transportation Element guides the continued
24 development and improvement of the transportation system to support land uses.
25 This element contains policies and plans that integrate the transportation and
26 circulation system with planned land uses, promotes the safe and efficient
27 transport of goods and the safe and effective mobility of all segments of the
28 population, and protects environmental quality and promotes the wise and
29 equitable use of economic and natural resources.

30 Key policies from these elements of the Goleta GP/CLUP and their relationship to the
31 Project are summarized in Table 4.8-3 at the end of Section 4.8. Although the Project is
32 in the Coastal Zone, which is currently governed by the Coastal Act, a policy
33 consistency analysis is included in Table 4.8-3 for information purposes and to address
34 consistency with the GP/CLUP when these policies become active.

35 *City of Goleta Coastal Zoning Ordinance*

36 The City of Goleta Coastal Zoning Ordinance is the tool used to implement the policies
37 of the GP/CLUP. This ordinance largely mirrors County Coastal Zoning Ordinance,

1 Article II, which restricts the location and type of development permissible within the
2 city. The following provisions are most applicable to the Project (City of Goleta 2006b):

- 3 · **Section 35-61: Beach Development.** Prohibits permanent above-ground
4 structures on the dry sandy beach except facilities necessary for public health
5 and safety, such as lifeguard towers, or where such restriction would cause the
6 inverse condemnation of the lot by the county. This section also requires all new
7 development between the first public road and the ocean to grant lateral
8 easements to allow for public access along the shoreline. In coastal areas, where
9 the bluffs exceed 5 feet in height, the lateral easement shall include all beach
10 seaward of the base of the bluff.
- 11 · **Section 35-89: Recreation District.** This district provides open space for
12 various forms of outdoor recreation of either a public or private nature. The intent
13 is to encourage outdoor recreational uses which will protect and enhance areas
14 which have both active and passive recreation potential because of their beauty
15 and natural features. No permits for development including grading shall be
16 issued except in conformance with an approved Final Development Plan, as
17 provided in Sec. 35-174 (Development Plans), and with Sec. 35-169 (Coastal
18 Development Permits).
- 19 · **Section 35-160, Nonconforming Structures and Uses, Purpose and Intent.**
20 This section permits nonconformities until they are removed, but does not
21 encourage their survival.
- 22 · **Section 35-174: Development Plans.** No permit shall be issued for any
23 development, including grading, for any property subject to the provisions of this
24 section until a Preliminary and/or Final Development Plan has been approved.

25 **4.8.5 Significance Criteria**

26 Land use and recreational impacts will be considered significant if the Project would
27 result in:

- 28 · Conflicts with adopted land use plans, policies, or ordinances, including the
29 Coastal Act and Goleta GP/CLUP and zoning ordinance;
- 30 · Conflicts with planning efforts to protect recreational resources of the Project
31 area;
- 32 · Incompatible adjacent land uses as defined by planning documentation; or
- 33 · Residual impacts on sensitive shoreline lands, and/or water and non-water
34 recreation due to a release of oil.

1 **4.8.6 Impact Analysis and Mitigation**

2 The Project could create short-term episodic impacts to public recreation due to
3 disruption of ongoing recreational activities during Project construction. These would be
4 considered insignificant due to their short-term nature (3 months) and because the
5 project contains best management practices (BMPs) (e.g., roping off construction areas,
6 directing beach users around the site, removal of equipment from the beach) which
7 would ensure that recreation activities are not unduly disrupted during construction.
8 Table 4.8-1, located at the end of this section, provides a summary of these impacts
9 and recommended MMs to address these impacts.

10 **Impact LU-1: Conflicts with Goleta General Plan/Coastal Land Use Plan and**
11 **underlying Coastal Act Policies**

12 **Production of oil and gas at PRC 421 would increase the potential for accidental**
13 **releases of oil into the environment and conflict with policies contained within the**
14 **Goleta General Plan/Coastal Land Use Plan (GP/CLUP) Land Use, Open Space, or**
15 **Conservation Elements and relevant underlying Coastal Act policies (Significant**
16 **and Unavoidable).**

17 **Impact Discussion**

18 Implementation of the Project, particularly the potential for impacts resulting from the
19 accidental release of oil into the environment, would conflict with the City of Goleta
20 Coastal Zoning Ordinance, several policies of the Goleta GP/CLUP, and with the
21 Coastal Act upon which the Goleta GP/CLUP is based. Direct releases of oil onto
22 Goleta area beaches are projected to be limited to approximately 1.7 barrels of oil;
23 however, the Project would incrementally contribute to larger spills upcoast into Gaviota
24 area streams, with a low potential for spills as large as 60 barrels of oil, a portion of
25 which could find its way to the shoreline and potentially onto downcoast Goleta area
26 beaches. However, the Project has been designed to minimize potential for an
27 accidental release of oil and to be generally consistent with the policies included in the
28 Goleta GP/CLUP and the Coastal Act.

29 **Coastal Zoning Ordinance Section 35-160, Nonconforming Structures and Uses,**
30 **Purpose and Intent.** This ordinance directs that the City shall not encourage the
31 survival of nonconforming uses such as the EOF by permitting modifications that may
32 increase its utility or extend its useful life. The Project is potentially inconsistent with this
33 ordinance, though it is not clear that the proposed minor changes to the EOF qualify as
34 “modifications” under this ordinance.

35 The Goleta GP/CLUP is not yet certified by the CCC, so it does not currently act as the
36 standard of review for issuance of a CDP for the Project. However, the city has adopted
37 the program and, following certification these policies, the Goleta GP/CLUP will become
38 the governing policy document for the primary Project study area. Therefore, the

1 following policy consistency analysis is currently informational, but addresses
2 consistency with the GP/CLUP when these policies become active.

3 **Policy LU 10.1: Oil and Gas Processing Facilities.** This policy details City support for
4 the County's policies that emphasize consolidation of oil and gas processing in the
5 South Coast Consolidation Planning Area¹¹, located at LFC in the unincorporated area
6 west of Goleta, and emphasizes that the EOF is currently operating as a nonconforming
7 use of the Project site. The new or upgraded support facilities proposed to be added to
8 the EOF to accommodate production of the PRC 421 product may be considered an
9 enlargement, expansion or extension of the EOF's nonconforming use that is prohibited
10 by the Goleta Municipal Code, section 35-160 et seq. The Goleta Municipal Code also
11 requires the City to approve a Development Permit and Major Conditional Use Permit
12 (CUP) for Venoco to process the PRC 421 product at the EOF. Therefore, the Project
13 would potentially be inconsistent with Policy LU 10.1 and impacts would be significant
14 and unavoidable.

15 **Policy LU 10.4: CSLC Lease PRC 421.** This policy documents the city's intention not
16 to support recommissioning oil production at PRC 421 due to the environmental
17 hazards posed by the resumption of oil production and processing over coastal waters
18 and the impacts to visual resources and recreation at the beach. The policy states:

19 *Unless it is determined that there is a vested right to resume production at PRC*
20 *421, the city supports termination of the lease by the CSLC and/or a quitclaim of*
21 *the lease by the owner/operator.... If resumption of production is considered for*
22 *approval, on pier processing...shall not be approved unless it is demonstrated*
23 *that there is no feasible and less damaging alternative....*

24 Recommissioning of oil production at Pier 421-2 would incrementally increase the
25 potential for oil spills from the Project site; however, the Project has been designed to
26 minimize the potential for spills in the tidal zone by moving all processing of
27 oil/gas/water to the EOF. This would eliminate the need for processing on Pier 421-2
28 demonstrating a feasible and less environmentally damaging alternative, consistent with
29 Policy LU 10.4. Additionally, the Project calls for decommissioning Pier 421-1

¹¹ The Santa Barbara County's consolidation policy (Zoning Code, Art. II, § 35-154) provides that all "new production" must be processed at designated consolidated oil and gas processing sites on the South Coast. New production is defined as:

- "The development of any oil and/or gas after the adoption of these policies which requires new discretionary local, state, or federal permits unless it's from an existing well or platform; or
- The development of any oil and/or gas which, after the adoption of these policies, requires approval of a new platform, or a new subsea or onshore well completion."

Because the PRC 421 wells were in existence (producing and operating) as of the date of the adopted policies and there is an existing lease with existing wells, production from PRC 421 is not considered new production under the above definition; therefore, the production is not subject to the consolidation policy. Processing PRC 421 oil at the EOF, however, could be in conflict with other policies due to the nonconforming use of the EOF.

1 immediately and proper abandonment of all PRC 421 facilities at the end of the Project
2 life, including restoration of the site to its natural conditions. Nonetheless, because oil
3 production would be resumed at PRC 421, the Project would be inconsistent with the
4 intent of Policy 10.4 and impacts to land use from the Project are would be significant
5 and unavoidable.

6 **Mitigation Measures/Rationale for Mitigation**

7 Implementation of MMs identified in Sections 4.1, Geological Resources; 4.2, Safety,
8 4.3 Hazardous Materials; 4.5, Hydrology, Water Resources, and Water Quality; 4.6,
9 Marine Biological Resources, and 4.7, Terrestrial Biological Resources for properly
10 engineered reinforcement of caisson containment walls and contingency planning and
11 spill response would reduce oil spill impacts (see cited Sections for rationale).

12 **MM LU-1a. Obtain Property Owner Authorizations.** Prior to issuance of any Land
13 Use Permit, Venoco shall secure all required property owner authorizations or
14 other documentation, including encroachment permits or easements to the
15 satisfaction of the City allowing the project on or within property not owned by
16 the permittee, including, but not limited to property owned by Sandpiper Golf
17 Trust and the City.

18 **MM LU-1b. Obtain Permits Required by Title 15 of Goleta Municipal Code.**
19 Venoco shall obtain from the City's Planning and Environmental Review
20 Department all Building, Electrical, Well or other Permits required by Title 15 of
21 the Goleta Municipal Code prior to the construction, erection, moving,
22 alteration, enlarging, rebuilding of any building, structure, or improvement, or
23 any other action(s) requiring a Building Permit pursuant to Title 15 of the
24 Goleta Municipal Code.

25 **MM LU-1c. Obtain City Land Use Permit Prior to Development.** The permittee
26 shall obtain from the City's Planning and Environmental Review Department a
27 Land Use Permit prior to commencement of any uses and/or development
28 authorized by this permit.

29 **Residual Impacts**

30 With implementation of MMs for oil spill impacts, land- and water-related land use and
31 recreational uses may be impacted from oil spills from primary Project components.
32 Implementation of MM LU-1a through -1c would reduce but not eliminate the conflict
33 with Goleta GP/CLUP Policies, inconsistency with GP Land Use designations, or
34 inconsistency with City zoning; therefore, this impact would remain significant and
35 unavoidable.

Impact LU-2: Oil Releases Could Affect Recreational Activities

High-quality recreational resources are located within the area and could be impacted by the spread of oil from an accidental release from surf zone production activities at Pier 421-2, associated pipelines, and transportation by the Line 96 pipeline. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water, resulting in significant impacts to on- and off-shore public recreation (Significant and Unavoidable).

Impact Discussion

Impacts from accidental oil releases could preclude the use of beach areas and associated recreational activities. The degree of impact is influenced by many factors including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability.

Spill risk is addressed in Section 4.2, Safety. The greatest risk of spills occurs at Pier 421-2, where small spills could occur during normal operations, as well as from leaks at pipe fittings and valves. Direct releases of oil onto Goleta area beaches are projected to be limited to approximately 1.7 barrels of oil; however, the Project would incrementally contribute to larger spills upcoast into Gaviota area streams, with a low potential for spills as large as 60 barrels of oil, a portion of which could find its way to the shoreline and potentially onto downcoast Goleta area beaches. The capability to immediately respond and deploy appropriate containment booming would also influence the extent of affected area. Response capability is analyzed in Section 4.2, Safety.

As discussed above, the Project area provides high quality recreational opportunities for local residents and tourists. Shoreline and water-related uses would be disrupted by oil on the beach and in the water. While not readily quantifiable, a coastal spill could significantly affect coastal recreation and tourism, resulting in lost commercial recreation and tourism revenues. Several sections of this EIR (e.g., Sections 4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.12, and 4.13) discuss in detail the effects of a spill on the local environmental resources. Because it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be significant and unavoidable, because large spills could have residual impacts that could affect the beach and recreational uses.

Mitigation Measures/Rationale for Mitigation

Implementation of MMs identified in Sections 4.1, Geological Resources; 4.2, Safety; 4.3 Hazardous Materials; 4.5, Hydrology, Water Resources, and Water Quality; 4.6, Marine Biological Resources; and 4.7, Terrestrial Biological Resources, for protection of the proposed oil separator, reinforcement of caisson containment walls, and

1 contingency planning and spill response would reduce impacts to recreational activities
2 associated with oil releases (see cited Sections for rationale).

3 **Residual Impacts**

4 Even with implementation of MMs for oil spill impacts, land- and water-related
5 recreational uses may be impacted from large spills and impacts would remain
6 significant and unavoidable.

7 **Impact LU-3: Oil Releases from Pier 421-2 or Pipelines Could Affect Sensitive** 8 **Area Resources and Raise Consistency Issues with Adopted Policies.**

9 **Spills that reach the shore along sensitive land use areas or heavily used areas,**
10 **including recreational areas, would limit or preclude such uses and result in**
11 **significant adverse impacts (Significant and Unavoidable).**

12 **Impact Discussion**

13 Depending on spill size and location, a spill could affect sensitive resources in the area
14 including Environmentally Sensitive Habitat Areas (ESHAs) and sensitive species.
15 Direct releases of oil onto Goleta area beaches are projected to be limited to
16 approximately 1.7 barrels of oil, a relatively modest amount; however, the Project would
17 incrementally contribute to larger spills upcoast into Gaviota area streams, with a low
18 potential for spills as large as 60 barrels of oil, a portion of which could find its way to
19 the shoreline and potentially onto downcoast Goleta area beaches. Although spills from
20 Project facilities are anticipated to be limited, even spills of limited magnitude would
21 exceed adopted thresholds. Conflicts with the Goleta GP/CLUP Conservation Element
22 Policy would result from an oil spill impacting such resources. Specific to the Project,
23 Policy CE 1.2 designates all marine areas offshore from Goleta extending from the
24 mean high tide line seaward to the outer limit of State waters and all areas extending
25 from the mean high tide line landward to the top of the ocean bluffs as ESHAs, as well
26 as Tecolote Creek and Lagoon, Bell Canyon Creek and Lagoon, Sandpiper Golf Course
27 pond, and Devereux Creek. Therefore, the vast majority of the immediate Project area
28 and several key nearby resources are designated as ESHAs. An oil spill from the
29 Project could impact these resources and violate the intentions of several Conservation
30 Element policies including CE 1.6, Protection of ESHAs, CE 6.2, Protection of Marine
31 ESHAs, and CE 7.3, Protection of Beach Areas.

32 Spills on the shore would damage existing resources and would result in significant
33 adverse impacts (see Sections 4.1, Geological Resources; 4.4, Air Quality; 4.5,
34 Hydrology, Water Resources, and Water Quality; 4.6, Marine Biological Resources; 4.7,
35 Terrestrial Biological Resources; 4.12, Aesthetic/Visual Resources; and 4.13, Cultural,
36 Historical, and Paleontological Resources).

1 Transportation of oil through the Line 96 pipeline from the EOF to the PAAPLP Coastal
2 Pipeline west of LFC could create potential impacts through an increased potential for
3 spills from the pipeline, potentially inconsistent with City of Goleta policies (e.g., LU 10.1
4 and 10.3) as well as with County LCP policies regarding protection of ESHAs, certain
5 other creeks, associated riparian and wetland habitats, and agricultural areas. Although
6 the possibility of a spill or release exists, pipelines are the safest method available for
7 the transportation of crude oil. Further, the new 8.5-mile-long pipeline is equipped with
8 state-of-the-industry safety measures, including cathodic protection against corrosion,
9 check valves and shut off valves to limit accidental releases both up and downstream of
10 major creek crossings and “smart pigging” capabilities. These new state-of-the-industry
11 construction and safety features, when combined with the Project’s operating horizon
12 would substantially reduce the potential for pipeline spills (see Impact S-6).

13 Because it is impossible to predict with any certainty the potential consequences of
14 spills, impacts are considered to be significant and unavoidable since severe spills
15 could have residual impacts that could affect the beach and/or recreational uses.

16 **Mitigation Measures/Rationale for Mitigation**

17 Implementation of MMs identified in Sections 4.2, Safety; 4.5, Hydrology, Water
18 Resources, and Water Quality; 4.6, Marine Biological Resources; and 4.7, Terrestrial
19 Biological Resources, for reinforcement of caisson containment walls and contingency
20 planning and spill response (see cited Sections for rationale.) The certified Line 96
21 Modification Project EIR (Santa Barbara County 2011) provides MM AG-2 that is
22 incorporated by reference into this document (see Appendix H). This MM requires all
23 agricultural areas contaminated as a result of an oil leak or spill along the pipeline route
24 be restored to their prior state with equivalent soils and agricultural resources resulting
25 in a less than significant impact.

26 **Residual Impacts**

27 Even with implementation of MMs for oil spill impacts, sensitive biological and water
28 resources may be impacted from large spills and impacts would remain significant and
29 unavoidable.

Table 4.8-1. Summary of Land Use and Recreation Impacts and Mitigation Measures

Impact	Mitigation Measures
<p>LU-1: Conflicts with Goleta GP/CLUP Policies</p>	<p><u>MMs identified in Sections 4.1, Geological Resources; 4.2, Safety, 4.3 Hazardous Materials; 4.5, Hydrology, Water Resources, and Water Quality; 4.6, Marine Biological Resources, and 4.7, Terrestrial Biological Resources.</u> MM LU-1a. Obtain Property Owner Authorizations. MM LU-1b. Obtain Permits Required by Title 15 of Goleta Municipal Code. MM LU-1c. Obtain City Land Use Permit Prior to Development.</p>
<p>LU-2: Oil Releases Could Affect Recreational Activities</p>	<p>Implementation of those measures identified in Sections 4.1, Geological Resources; 4.2, Safety, 4.3 Hazardous Materials; 4.5, Hydrology, Water Resources, and Water Quality; 4.6, Marine Biological Resources; and 4.7, Terrestrial Biological Resources.</p>
<p>LU-3: Oil Releases from Pier 421-2 or Pipelines Could Affect Sensitive Area Resources and Raise Consistency Issues with Adopted Policies</p>	<p>Implementation of those measures identified in Sections 4.1, Geological Resources; 4.2, Safety, 4.3 Hazardous Materials; 4.5, Hydrology, Water Resources, and Water Quality; 4.6, Marine Biological Resources; and 4.7, Terrestrial Biological Resources. <u>MM AG-2 contained in the certified Line 96 Modification Project EIR would also apply to LU-3.</u></p>

1 **4.8.7 Cumulative Impacts Analysis**

2 Project impacts were assessed in conjunction with the projects identified in Table 3-2.

3 **Impact LU-4: Cumulative Impacts of Potential Project-Related Oil Spills on Area**
 4 **Land Use and Recreational Uses**

5 **Impacts to sensitive shoreline lands, and/or water and non-water recreation due**
 6 **to a release of oil would result in potentially significant impacts. When the**
 7 **cumulative environment is considered, the contribution from the Project could be**
 8 **significant (Significant and Unavoidable).**

9 **Impact Discussion**

10 The risk of an oil release associated with Project operation would contribute to impacts
 11 to the cumulative environment given increased demand for the transportation of oil.
 12 Over the lifetime of the Project, this would represent an incremental increase in spill risk
 13 and oil spill risks to land uses and recreational uses would be associated with that
 14 increase. Other projects would contribute to the spill risk, exacerbating an already
 15 significant impact. When the cumulative environment is considered, the contribution
 16 from the Project adds to the cumulative risks of an oil spill. Impacts to sensitive
 17 shoreline lands, and/or water and non-water recreation due to a release of oil would
 18 remain significant and unavoidable.

1 **Mitigation Measures/Rationale for Mitigation**

2 Implementation of those measures identified in Sections 4.2, Safety; 4.5, Hydrology,
3 Water Resources, and Water Quality; 4.6, Marine Biological Resources; and 4.7,
4 Terrestrial Biological Resources, for properly engineered reinforcement of caisson
5 containment walls and contingency planning and spill response would be required (see
6 cited Sections for rationale.)

7 **Residual Impacts**

8 Impacts would remain significant and unavoidable.

Table 4.8-2. California Coastal Act Policy Summary

Policy	Relationship to Project
<p>Section 30230: Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.</p>	<p>Potentially inconsistent. The Project is located in an area of special biological importance with identified marine resources including kelp beds, rocky intertidal habitat, and three coastal estuaries. Primary issues of concern affecting these resources include potential for oil spills from the caisson and pipelines. Direct releases from PRC 421 and the flow line are projected to be limited to 1.75 barrels of oil; releases from Line 96 would be limited to 60 barrels, only portions of which would reach the shoreline. Project construction could also affect marine water quality through mobilization of sediments and potential release of contaminated materials.</p>
<p>Section 30240: (a) Environmentally sensitive habitat areas (ESHAs) be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.</p>	<p>Potentially inconsistent. There are several ESHAs in the Project vicinity, including the Devereux Slough, Bell and Tecolote Creeks, two small wetlands adjacent to the access road, snowy plover habitat near Coal Oil Point, and rocky intertidal areas. Primary issues of concern affecting these resources include the potential for oil spills from the caisson and pipelines in the volumes listed above. Project construction could also affect the two small wetlands.</p>
<p>Section 30232: Oil and hazardous substance spills Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.</p>	<p>Potentially consistent. The Project site is located in an area prized for public recreation and that also supports numerous ESHAs. Implementation of the Project would increase the likelihood of a release of oil from PRC 421 as well as one related to pipeline operations which could adversely impact recreational activities and biological resources. However, production from PRC 421 could reduce the potential for small incremental oil releases from old, improperly abandoned sub-sea oil wells as the pressure in the reservoir appears to be rising since production was shut terminated in 1994</p>
<p>Section 30250: Location; existing developed area. (a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.</p>	<p>Potentially consistent. The Project is located in an area that was historically developed and is located on a site where oil and gas development has taken place since 1928.</p>
<p>Section 30251: Scenic and visual qualities. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually</p>	<p>Potentially consistent. The proposed development would consist of minor alternations to the existing development on Pier 421-2, which would be generally compatible with the character of the area. Additionally, the Project would include the decommissioning and removal of Pier 421-1, which would generate beneficial impacts to the aesthetic</p>

Table 4.8-2. California Coastal Act Policy Summary

Policy	Relationship to Project
compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.	resources of the Project area.
Section 30101: Coastal-dependent development. "Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.	Consistent. The Project requires a site on, or adjacent to, the sea in order for its use to function.
Section 30260: Coastal-dependent industrial facilities. Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.	Consistent. The Project includes no new coastal industrial facilities – only repairs and modifications to existing facilities and decommissioning and removal of Pier 421-1 and the associated well. In the unlikely event that Project design is altered to include new facilities, the Project would qualify for consideration of override approval under the three tests of this policy.
Section 30211: Development not to interfere with access. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	Potentially inconsistent. The Project is located in an area of moderate to heavy public beach use. This public beach access could be intermittently impacted during construction activities if the public was not allowed to pass under or in front of the structure for public safety reasons. The resulting development would not interfere with the public's right of access to the ocean or beach area.
Section 30262: Oil and gas development. a) Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met: (1) The development is performed safely and consistent with the geologic conditions of the well site. (2) New or expanded facilities related to that development are consolidated, to the maximum extent feasible and legally permissible. (5) The development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.	Potentially consistent. The recommissioning of PRC 421 would return oil and gas production to the immediate project area. This development would be subject to regulation to ensure safety and consistent with geologic conditions of the site, and would not contribute to a subsidence hazard.

Table 4.8-3. Goleta GP/CLUP Policy Summary

Policy	Relationship to Project
LAND USE ELEMENT (LU)	
<p>LU 1.7 New Developments and Protection of Environmental Resources.</p> <p>Approvals of all new development shall require adherence to high environmental standards and the preservation and protection of environmental resources, such as environmentally sensitive habitats, consistent with the standards set forth in the Conservation Element and the City's Zoning Code.</p>	<p>Potentially inconsistent. ESHAs near the Project site include Bell Creek, Tecolote Creek, two wetland areas adjacent to Sandpiper Golf Course, snowy plover habitat, and all areas located below the mean high tide line. Although direct releases from PRC 421 are projected to be limited to 1.75 barrels of oil, accidental oil releases could adversely affect these environmental resources. Project implementation would incrementally increase the potential for accidental releases.</p>
<p>LU 1.3 Adequate Infrastructure and Services. For health, safety, and general welfare reasons, approvals of new development shall be subject to a requirement that adequate infrastructure will be available, including the following:</p> <p>a. Project-specific and cumulative traffic volumes shall not cause the level of service standards established in Transportation Element Policy TE 4 to be exceeded.</p> <p>b. Any transportation improvements needed to maintain the level of service standard have been programmed and funding has been committed consistent with Transportation Element Sub-policies TE 13.3 and TE 13.4.</p> <p>c. Environmental review of needed circulation improvement projects has been completed.</p> <p>d. Sewer, water, and other infrastructure capacities are sufficient to serve the new development or will be available by the time the development is constructed.</p>	<p>Consistent. The Project would generate limited additional vehicular movement along roads in the Project vicinity, including Highway 101, Winchester Canyon and Storke Road interchanges, Hollister Avenue, and the Bacara Access Road. A traffic management plan has not yet been prepared by Venoco and precise estimates of construction-related traffic are unavailable. However, it is anticipated that construction-related traffic would be short-term and would not adversely affect long-term area roadway or intersection operations. Operation-generated traffic would be minimal. Sewer, water, and other infrastructure capacities are sufficient for the Project and Venoco will be required to contribute towards fire response improvements through an impact development fee payment.</p>
<p>LU 6.3 Open Space/Passive Recreation. This designation is intended to identify existing or planned areas for public parks and active recreational activities and facilities, such as playgrounds, picnic areas, tennis courts, ballparks, and sports fields. This use category is also intended to apply to significant private outdoor recreational facilities, such as golf courses and privately owned parks. Individual recreational areas may include a mix of passive and active recreational features or improvements. Appropriate caretaker facilities and residences may also be allowed if consistent with the character of the planned uses. The designation may also include storm drainage facilities.</p>	<p>Inconsistent. The industrial uses at PRC 421 are not compatible with the recreation land use designation. The portions of the Project within the City's jurisdiction comprise a legal nonconforming use. Expansion or extension of such use is prohibited.</p>
<p>LU 9.2 Site #2 – Coastal Recreation. This parcel, occupied as of 2005 by the Venoco EOF, is designated in the Open Space/Active Recreation use category. The requirements applicable to this site are as follows:</p> <p>a. Despite the Recreation designation, the nonconforming status of the existing use may continue as long as the project does not enlarge, expand or extend the nonconforming use. The use was nonconforming at the time of incorporation of the City of</p>	<p>Potentially inconsistent. The legal nonconforming status of the EOF allows it to continue to operate at this site, despite the inconsistent land use category, as long as the project does not enlarge, expand or extend the nonconforming use.</p> <p>a. The EOF would continue to operate as a nonconforming use for the site.</p> <p>b. Oil and gas processing would not expand beyond currently permitted quantities, however,</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
<p>Goleta. Its nonconforming status dates to the early 1990s when the property's zoning was changed by the County of Santa Barbara to the Recreation District as part of a plan to consolidate onshore oil and gas processing at the Las Flores Canyon site in the unincorporated area west of Goleta.</p> <p>b. The intent is that in the long-term use of the property for oil and gas processing shall be terminated. The processing of hazardous materials and the risks associated with air emissions make this location, which is adjacent to Bacara Resort and Sandpiper Golf Course and near Ellwood School and the residential neighborhoods of Santa Barbara Shores and Winchester Commons, unsuitable for oil and gas processing in the long term.</p> <p>c. Until such time as the oil and gas processing use is terminated, any modifications or alternations of the existing facilities must be in accordance with the provisions of LU 10.1 and the City of Goleta zoning ordinances and shall be limited to and designed to improve air quality, reduce environmental impacts and hazards, and improve safety for nearby lodging, recreational, and residential uses.</p> <p>d. Upon termination of the oil and gas processing use, the priority use for the site shall be coastal-dependent and coastal-related recreational uses that are conducted primarily outdoors or limited to small-scale structures. Adequate onsite parking shall be provided to serve all recreational uses (see related Policy OS 2).</p>	<p>improvements proposed to be added to the EOF to accommodate production of the PRC 421 product may be considered an enlargement, expansion or extension of the EOF's nonconforming use that is prohibited by the Goleta Municipal Code.</p> <p>c. The EOF would be decommissioned at the same time as Platform Holly, regardless of its use for processing PRC 421 oil. Project approval would not extend the life of the EOF.</p> <p>d. The Project requires some modifications to the EOF.</p> <p>e. Upon termination of the nonconforming use, the site would be redeveloped for recreational use following decommissioning of the EOF.</p>
<p>LU 10: Energy-Related On- and Off-Shore Uses Objective: To promote the discontinuation of onshore processing and transport facilities for oil and gas, the removal of unused or abandoned facilities, and the restoration of areas affected by existing or former oil and gas facilities within the city.</p>	<p>Inconsistent. The Project would restart production of PRC 421 facilities.</p>
<p>LU 10.1 Oil and Gas Processing Facilities. The following standards shall apply to oil and gas processing facilities:</p> <p>a. The City supports county policies regarding consolidation of oil and gas processing in the South Coast Consolidation Planning Area at Las Flores Canyon.... No new oil and gas processing facilities shall be permitted within Goleta.</p> <p>b. The Venoco EOF site is an inappropriate location for processing of oil and gas because of the public safety and environmental hazards associated with this type of use... .</p> <p>c. The EOF shall continue to be subject to the rights and limitations applicable to nonconforming uses under California law. No modifications or alterations of the facility or other actions shall be authorized that would result in the expansion of the permitted throughput capacity of the EOF or that would enlarge, expand or extend the nonconforming use of the EOF.</p> <p>d. Until the EOF use is terminated, the priority shall be to insure that the facility strictly meets or exceeds all applicable environmental and safety standards.</p>	<p>Potentially inconsistent. The Project would restore production at an existing well with oil/gas/water produced at this well processed at existing facilities at the EOF.</p> <p>a) The Project would not involve construction of new oil and gas processing facilities and would use existing facilities at the EOF and pipelines to LFC.</p> <p>b) The Project would not extend the life of the EOF.</p> <p>c) The Project would not result in modifications or alterations that would result in the expansion of the permitted throughput capacity of the EOF. However, the new or upgraded support facilities proposed to be added to the EOF to accommodate production of the PRC 421 product may be considered an enlargement, expansion or extension of the EOF's nonconforming use that is prohibited by the Goleta Municipal Code and could result in the use being terminated before the</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
	<p>completion of the Project. d) Measures are included to meet applicable environmental and safety standards.</p>
<p>LU 10.3 Oil and Gas Transport and Storage Facilities. The following shall apply to oil and gas transport and storage facilities within the city:</p> <p>a. New oil and gas pipelines and storage facilities, except for transmission and distribution facilities of a Public Utility Commission (PUC) regulated utility, shall not be approved within the city unless there is no feasible or less environmentally damaging alternative location for a proposed pipeline.</p> <p>b. In the event that extended field development from Platform Holly is approved, the City supports the processing of oil and gas production at the South Coast Consolidation Planning Area at Las Flores Canyon.</p> <p>c. Unused, inactive, or abandoned pipelines as of 2005, including the remnants of the Arco pipeline, shall be required to be decommissioned.</p> <p>d. Existing pipelines that were actively used as of 2005 shall be decommissioned as part of and concurrent with the decommissioning of the related oil and gas facilities.</p> <p>e. When onshore and offshore oil and gas pipelines are decommissioned...the pipeline and all related debris shall be removed.</p> <p>f. The existing owner/operator of a pipeline to be decommissioned shall be responsible for all costs related to the decommissioning.</p>	<p>Potentially inconsistent. Under the Project, the Line 96 pipeline connecting the EOF to the PAAPLP Coastal Pipeline west of LFC (Line 96 Pipeline EOF-PAAPLP Connection) would be used. It is an existing pipeline and has available capacity to support the Project. A new oil flowline would be constructed between Pier 421-2 and the EOF, but would be installed within an existing 6-inch line.</p>
<p>LU 10.4 State Lands Commission Lease 421.</p> <p>a. The City's intent is that oil production not be recommenced at PRC because of the environmental hazards posed by the resumption of oil production and processing over coastal waters and the impacts to visual resources and recreation at the beach. Unless it is determined that there is a vested right to resume production at PRC 421, the City supports termination of the lease by the CSLC and/or a quitclaim of the lease by the owner/operator.</p> <p>b. If resumption of production is considered for approval, on pier processing of the oil at a site within the tidal zone shall not be approved unless it is demonstrated that there is no feasible and less environmentally damaging alternative to processing on the pier. The development of new processing facilities over the sea would result in an increased and unacceptable level of risk of environmental damage.</p> <p>c. Decommissioning and proper abandonment of S.L. 421 facilities, including the piers and riprap seawall, shall be required concurrent with decommissioning of the EOF or immediately upon termination of S.L. 421.</p> <p>d. Decommissioning work shall include restoration of the site to its natural pre-Project conditions.</p>	<p>Potentially inconsistent. Under the Project, processing would occur at the EOF; however, a potential release could occur during production activities at Pier 421-2 or from the pipeline that carries oil/gas/water to the EOF.</p> <p>a) While the proposed recommissioning of PRC 421 may raise consistency issues with this policy, the use of the EOF for processing/separation may be the option most in line with the intent of this policy. Processing of oil would not occur over coastal waters. Further, Venoco has a vested right to produce oil at this site as it has a valid State oil and gas lease.</p> <p>b) The Project would not include processing of oil at a site within the tidal zone; oil separation would occur at the EOF, a location determined to be the environmentally superior option.</p> <p>c) PRC 421 facilities are not required to be decommissioned at this time as the use of the EOF has not yet been terminated. If recommissioning PRC 421 is approved, Pier 421-1 would be decommissioned within 1 year; infrastructure and pipelines associated with Pier 421-2 would then be decommissioned at the end of the Project in 20 or more years.</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
	d) Decommissioning of Pier 421-1 would occur within 1 year of project operation; decommissioning and restoration of the pier and caisson at 421-2 and the access road and seawall would occur at the end of the Project life.
<p>LU 10.6 Oil and Gas Production Areas.</p> <p>a. The City shall oppose any new leases in the western Santa Barbara Channel for offshore oil and gas production within State waters and within the waters of the OCS.</p> <p>b. The City shall oppose the construction of any new oil and gas production or processing facilities in the waters offshore of Goleta.</p> <p>c. Upon cessation of production at Platform Holly, the City supports the timely quitclaim of all associated leases, permanent discontinuation of all oil and gas production, and inclusion of all former lease areas into the California Coastal Sanctuary offshore of Goleta and the Santa Barbara County.</p> <p>d. If oil and gas production from new offshore leases or facilities occurs, the new production shall not be processed at the EOF. Any such production shall be transported by pipeline to the nearest consolidated processing facility as defined by the Santa Barbara County's South Coast Consolidation Planning Area policies.</p>	<p>Potentially inconsistent. Existing oil production facilities at Pier 421-2 would be recommissioned. No new production facilities would be constructed with processing occurring at existing facilities located at the EOF.</p> <p>a) PRC 421 is an existing lease.</p> <p>b) No new oil and gas production or processing facilities would be constructed.</p> <p>c) Production at PRC 421 would be discontinued when production at Platform Holly is discontinued (if not already terminated).</p> <p>d) PRC 421 is an existing lease. The new or upgraded support facilities proposed to be added to the EOF to accommodate production of the PRC 421 product may be considered an enlargement, expansion or extension of the EOF's nonconforming use that is prohibited by the Goleta Municipal Code and could result in earlier termination of the use at the EOF.</p>
OPEN SPACE ELEMENT (OS)	
<p>OS 1.3 Preservation of existing coastal access and recreation. Goleta's limited Pacific shoreline of approximately 2 miles provides a treasured and scarce recreational resource for residents of the city, region, and State.</p> <p>Existing public beaches, shoreline, parklands, trails, and coastal access facilities shall be protected and preserved and shall be expanded or enhanced where feasible.</p>	<p>Potentially inconsistent. The Project may result in short-term disruption of lateral access during initial construction and future repair activities. Pier 421-2 and its caisson would continue to inhibit or block the public's view laterally along the coast. During high tide events, continuation of the Project pier and seawall would inhibit lateral access along this section of coast as higher tides, particularly during low sand conditions in fall, winter and spring can reach to the base of the seawall rendering lateral access along the beach infeasible.</p>
<p>OS 1.10 Management of Public Lateral Access Areas. The following criteria and standards shall apply to use and management of lateral shoreline access areas:</p> <p>a. Private commercial uses of public beach areas shall be limited to coastal dependent recreational uses, including but not limited to surfing schools, ocean kayaking, and similar uses. All commercial uses of beach areas and other lateral accessways shall be subject to approval of a permit by the City. The number, size, duration, and other characteristics of commercial uses of beach areas may be limited in order to preserve opportunities for use and enjoyment of the beach area by the general public. For-profit commercial uses at the City-owned Santa Barbara Shores Park and Sperling Preserve (the Ellwood-Devereux</p>	<p>Potentially inconsistent. The PRC 421 piers are surrounded by recreational uses including the Sandpiper Golf Course, the Bacara Resort, and by Ellwood and Haskell's beaches which serve as major public coastal access points and are frequented by beach goers, joggers, surfers, and walkers. This is a heavily used, passive recreation area that provides high quality recreational opportunities to the inhabitants of the surrounding areas and of greater Santa Barbara. Project construction activities could disrupt recreational activities along the Ellwood beach area in the vicinity of the PRC 421 piers, but impacts would be</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
<p>Open Space and Habitat Management Plan [OSHMP] area) are prohibited (see related Policy OS 5).</p> <p>b. Temporary special events shall minimize impacts to public access and recreation along the shoreline. Coastal Development Permits shall be required for any temporary event that proposes to use a sandy beach area and involves a charge for admission or participation.</p> <p>c. Where sensitive habitat resources are present, limited or controlled methods of access and/or mitigation designed to eliminate or reduce impacts to ESHAs shall be implemented.</p> <p>d. The hours during which coastal access areas are available for public use shall be the maximum feasible while maintaining compatibility with nearby neighborhoods and land uses. The hours for public use shall be set forth in each individual coastal development permit. Unless specific hours are described within a permit, the access shall be deemed to be 24 hours per day and 7 days per week.</p> <p>e. In order to maximize public use and enjoyment, user fees for access to lateral beach and shoreline areas shall be prohibited. Activities and/or uses that would deter or obstruct public lateral access shall be prohibited.</p> <p>f. Overnight camping and use of motorized vehicles, except for public safety vehicles and vehicles associated with construction of access improvements and maintenance and restoration or enhancement activities, shall be prohibited in lateral shoreline access areas.</p>	<p>short-term. However, oil releases could affect recreational activities and sensitive area resources. Despite MMs designed to prevent oil releases and impacts to the public and sensitive terrestrial and marine biological resources, should oil be released, potential conflicts with adopted policies could occur.</p>
<p>OS 1.4 Minimization of impacts to lateral coastal access. New development, including expansions and/or alterations of existing development, shall be sited and designed to avoid impacts to public access and recreation along the beach and shoreline. If there is no feasible alternative that can eliminate all access impacts, then the alternative that would result in the least significant adverse impact shall be required. Impacts shall be mitigated through the dedication of an access and/or trail easement where the Project site encompasses an existing or planned coastal access way.</p>	<p>Potentially inconsistent. The Project may result in short-term disruption of lateral access during initial construction and future repair activities. Pier 421-2 and its caisson would continue to inhibit or block the public's view laterally along the coast. During high tide events, continuation of the Project pier and seawall would inhibit lateral access along this section of coast as higher tides, particularly during low sand conditions in fall, winter and spring can reach to the base of the seawall rendering lateral access along the beach infeasible.</p>
CONSERVATION ELEMENT (CE)	
<p>CE 1.2 Designation of Environmentally Sensitive Habitat Areas. ESHAs include the following resources:</p> <p>a. Creek and riparian areas;</p> <p>b. Wetlands, such as vernal pools;</p> <p>c. Coastal dunes, lagoons or estuaries, and coastal bluffs;</p> <p>d. Beach and shoreline habitats;</p> <p>e. Marine habitats;</p> <p>f. Coastal sage scrub and chaparral;</p> <p>g. Native woodlands and savannahs;</p> <p>h. Native grassland;</p> <p>i. Monarch butterfly aggregation sites, including autumnal and winter roost sites, and related habitat areas;</p> <p>j. Beach and dune areas that are nesting and foraging</p>	<p>Consistent. This policy designates areas surrounding the Project as ESHAs, including Bell Canyon Creek and Lagoon, Tecolote Creek, and all areas seaward and landward of the mean high tide line up to the northern edge of the Venoco access road, the boundary of the project area.</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
<p>locations for the Western Snowy Plover; k. Nesting and roosting sites and related habitat areas for various species of raptors; l. Other habitat areas for species of wildlife or plants designated as rare, threatened, or endangered under State or Federal law; and m. Any other habitat areas that are rare or especially valuable from a local, regional, or statewide perspective.</p>	
<p>CE 1.6 Protection of ESHAs. ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply: a. No development, except as otherwise allowed by this element, shall be allowed within ESHAs. b. A setback or buffer separating all permitted development from an adjacent ESHA shall be required and shall have a minimum width as set forth in subsequent policies of this element. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area.</p>	<p>Potentially inconsistent. Recommissioning PRC 421 would incrementally increase to the potential for oil spills from the Project site and Line 96 Pipeline EOF-PAAPLP Connection. Direct releases from PRC 421 and the flow line are projected to be limited to 1.75 barrels of oil; releases from Line 96 would be limited to 60 barrels, only portions of which would reach the shoreline. However, such spills have the potential to create unavoidable and significant impacts to ESHAs near the Project site.</p>
<p>CE 6.1 Designation of Marine ESHAs. All marine areas offshore from Goleta extending from the mean high tide line seaward to the outer limit of state waters are hereby designated ESHAs. These areas include Areas of Special Biological Significance and Marine Protected Areas (as designated by the California Department of Fish and Game), and shall be granted the protections provided for ESHAs in this plan.</p>	<p>Potentially inconsistent. The Project has the potential to affect marine ESHAs as it would incrementally increase the potential for oil spills from the Project site and Line 96 Pipeline EOF-PAAPLP Connection. Such spills have the potential to create unavoidable and significant impacts to ESHAs near the Project site, with resultant potential policy conflicts.</p>
<p>CE 6.2. Protection of Marine ESHAs. The following protections shall apply to marine ESHAs: a. Marine ESHAs shall be protected against significant disruption of habitat values, and only uses dependent on such resources, such as fishing, whale watching, ocean kayaking, and similar recreational activities, shall be allowed within the offshore area. b. All existing oil and gas production facilities, including platform Holly and the piers at PRC 421, shall be decommissioned immediately upon termination of production activities. All facilities and debris shall be completely removed and the sites restored to their prior natural condition as part of the decommissioning activities. No new oil and gas leases or facilities shall be allowed within State waters offshore from Goleta. c. Permitted uses or developments shall be compatible with marine and beach ESHAs. d. Any development on beach or ocean bluff areas adjacent to marine and beach habitats shall be sited and designed to prevent impacts that could significantly degrade the marine ESHAs. All uses shall be compatible with the maintenance of the biological productivity of such areas. Grading and landform alteration shall be limited to minimize impacts from erosion and sedimentation on</p>	<p>Potentially inconsistent. Recommissioning PRC 421 reduces impacts to marine ESHAs through MMs designed to reduce impacts to water quality and biological resources. However, recommissioning PRC 421 would incrementally increase the potential for oil spills from the project site and Line 96 Pipeline EOF-PAAPLP Connection. Direct releases from PRC 421 and the flow line are projected to be limited to 1.75 barrels of oil; releases from Line 96 would be limited to 60 barrels, only portions of which would reach the shoreline. Although limited, such spills have the potential to create unavoidable and significant impacts to ESHAs near the Project site.</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
<p>marine resources.</p> <p>e. Marine mammal habitats, including haul-out areas, shall not be altered or disturbed by development of recreational facilities or activities, or any other new land uses and development.</p> <p>f. Near-shore shallow fish habitats and shore fishing areas shall be preserved and, where appropriate and feasible, enhanced.</p> <p>g. Activities by the CDFG; Central Coast RWQCB; CSLC; and Division of Oil, Gas and Geothermal Resources to increase monitoring to assess the conditions of near-shore species, water quality, and kelp beds, and/or to rehabilitate areas that have been degraded by human activities, such as oil and gas production facilities, shall be encouraged and allowed.</p>	
<p>CE 7.1 Designation of Beach and Shoreline ESHAs. All marine areas offshore from Goleta extending from the mean high tide line seaward to the outer limit of state waters are hereby designated ESHAs. These areas include Areas of Special Biological Significance and Marine Protected Areas (as designated by the California Department of Fish and Game), and shall be granted the protections provided for ESHAs in this plan.</p>	<p>Potentially inconsistent. The Project has the potential to affect beach and shoreline ESHAs. Several MMs are designed to reduce impacts to these ESHAs. However, recommissioning PRC 421 would incrementally increase the potential for oil spills from the Project site and Line 96 Pipeline EOF-PAAPLP Connection. Although limited, such spills have the potential to create unavoidable and significant impacts to ESHAs near the Project site and associated potential conflicts with adopted policy.</p>
<p>CE 7.3 Protection of Beach Areas. Access to beach areas by motorized vehicles, including off-road vehicles, shall be prohibited, except for beach maintenance and emergency response vehicles of public agencies. Emergency services shall not include routine vehicular patrolling by private security forces. Any beach grooming activities shall employ hand-grooming methods, and mechanical beach grooming equipment and methods shall be prohibited. All vehicular uses on beach areas shall avoid ESHAs to the maximum extent feasible.</p>	<p>Potentially consistent. The Project would entail utilizing construction equipment in beach areas to perform construction activities associated with recommissioning Pier 421-2 and decommissioning and removing Pier 421-1. Such construction would be performed in a manner to minimize impacts to beach resources.</p>
<p>CE 12.2 Control of Air Emissions from New Development. The following shall apply to reduction of air emissions from new development:</p> <p>a. Any development proposal that has the potential to increase emissions of air pollutants shall be referred to the Santa Barbara County Air Pollution Control District for comments and recommended conditions prior to final action by the City.</p> <p>b. All new commercial and industrial sources shall be required to use the best available air pollution control technology. Emissions control equipment shall be properly maintained to ensure efficient and effective operation.</p> <p>c. Wood-burning fireplace installations in new residential development shall be limited to low-emitting state- and U.S. Environmental Protection Agency (EPA)-certified fireplace inserts and woodstoves, pellet stoves, or natural gas fireplaces. In locations near monarch butterfly ESHAs,</p>	<p>Potentially consistent. The Project would increase emissions through construction and operation. Both the APCD and the City of Goleta have been consulted and worst case scenarios for emissions were calculated and analyzed for impacts. MMs contained within the EIR are designed to reduce emissions from the Project through proper maintenance, the use of diesel emission reduction measures, etc.</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
<p>fireplaces shall be limited to natural gas. d. Adequate buffers between new sources and sensitive receptors shall be required. e. Any permit required by the Santa Barbara County Air Pollution Control District shall be obtained prior to issuance of final development clearance by the City.</p>	
<p>CE 12.3 Control of Emissions During Grading and Construction. Construction site emissions shall be controlled by using the following measures: a. Watering active construction areas to reduce windborne emissions. b. Covering trucks hauling soil, sand, and other loose materials. c. Paving or applying nontoxic solid stabilizers on unpaved access roads and temporary parking areas. d. Hydroseeding inactive construction areas. e. Enclosing or covering open material stockpiles. f. Revegetating graded areas immediately upon completion of work.</p>	<p>Potentially consistent. The EIR recommends several MMs to reduce the impact of increased emissions. Emissions from construction activities would be reduced by idling time restrictions, utilizing emission reduction technologies, properly maintaining equipment to ensure proper working order, using cleaner burning fuels, watering to control dust, and hydro-seeding of disturbed areas.</p>
SAFETY ELEMENT (SE)	
<p>SE 2.6 Prohibition of Structures on Bluff Faces. No permanent structures shall be permitted on a bluff face, except for engineered public beach access ways. Such structures shall be designed and constructed to prevent any further erosion of the bluff face and to be visually compatible with the surrounding area.</p>	<p>Potentially consistent. No new structures are proposed for the bluff face.</p>
<p>SE 3.10 Complete and Prompt Abandonment of Shoreline Structures. Upon decommissioning of the two shoreline oil wells (State Lease 421 wells), the complete demolition and removal of all associated structures shall be required. The timeframe for complete demolition shall be within 3 years of the ceasing of production operations in accordance with LU 10.4. Associated structures include but are not limited to the caisson walls, the piers, the revetment, and any inactive pipelines within 100 feet of the top of the revetment. Abandonment in place for inactive pipelines associated with State Lease 421 production shall not be permitted, as subsequent coastal erosion could expose these structures. Pier supports and pilings shall be cut below the surface as far as possible, and ideally down to bedrock to prevent subsequent exposure by winter beach scour.</p>	<p>Potentially consistent. Pier 421-1 would be abandoned within 1-2 after resumption of production at Pier 421-2. Pier 421-2 and remaining facilities such as the access road and seawall would be abandoned after cessation of production. CSLC standards require submittal of an abandonment application within 6 months of decommissioning. Activities under such an application would be required to adhere to this policy.</p>
<p>SE 8.6 Quantitative Risk Assessment. The City shall require a Quantitative Risk Assessment to be a component of any application for a new oil and gas production and processing facility or for any proposed substantial alterations of existing oil and gas production and processing facilities. The scope of the assessment should include any pipelines associated with or serving the facility. The Quantitative Risk Assessment should identify and quantify any new or substantially changed risks and show any substantial changes to hazard footprints, such that any potential impacts to surrounding development and uses can be assessed and mitigated. The Quantitative Risk</p>	<p>Consistent. MM S-4e requires a Quantitative Risk Assessment prior to issuance of a Land Use Permit for this Project.</p>

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
Assessment should also recommend any appropriate mitigation measures to limit exposure of new or expanded hazards to surrounding development and uses.	
SE 8.10 Safety, Inspection, and Maintenance of Oil and Gas Pipelines. The City shall condition discretionary land use approvals of new or substantially upgraded gas and oil pipelines to require a Safety Inspection, Maintenance, and Quality Assurance Program or similar mechanism to ensure adequate ongoing inspection, maintenance, and other operating procedures. Any such mechanism shall be subject to City approval prior to commencement of pipeline operations and provide for systematic updates as appropriate. Requirements shall be commensurate with the level and anticipated duration of the risk.	Consistent. This would apply to those areas of the Project within City jurisdiction. It is unclear whether the Project's pipeline upgrades would be considered "substantial" under this policy. Implementation of MM S-5c. Safety, Inspection, and Maintenance of Oil and Gas Pipelines would ensure that the Project would comply with this policy as required.
SE 8.14 Pipeline Burial Depths. New oil and gas pipelines, or relocation of existing oil and gas pipelines, excluding gas distribution pipelines, shall be buried at an appropriate depth, one that safely accommodates potential of scouring, slope failure, and other forms of natural or human-caused erosion and earth movement. The calculation of initial burial depth should take into account depth reduction via erosion and other forms of earth movement (including grading and construction) unless other means of maintaining a safe minimum burial depth can be incorporated throughout the operating life of a pipeline. Pipeline operators should assess burial depths every five years, or at a more frequent interval when geologic characteristics, flooding, and other circumstances indicate a prudent need for special monitoring. These requirements shall apply to new and existing pipelines where burial depths are specified. It shall also apply to existing, buried pipelines where depths are not prescribed but maintenance of a minimum depth is warranted. A minimum burial depth shall be maintained for the entire operating life of the pipelines.	Consistent. Would require that any new or relocated pipelines associated with the Project be buried to a sufficient depth that they would not exceed the minimum burial depth during the Project lifetime. The Project would comply with this policy as required.
SE 8.15 Pipeline Marking and Warning. New oil and gas pipelines, or relocation of existing pipelines, shall include measures to clearly warn outside parties about the presence of the pipeline, including proper marking of the right-of-way (ROW) with signage and use of brightly colored warning tape approximately 1 foot above buried pipelines where feasible.	Consistent. Would require that any new or relocated pipelines be marked appropriately and be accompanied with adequate warning information. The Project would comply with this policy as required.
VISUAL AND HISTORIC RESOURCES ELEMENT (VH)	
VH 1.1 Scenic Resources. An essential aspect of Goleta's character is derived from the various scenic resources within and around the city. Views of these resources from public and private areas contribute to the overall attractiveness of the city and the quality of life enjoyed by its residents, visitors, and workforce. The City shall support the protection and preservation of the following scenic resources: a. The open waters of the Pacific Ocean/Santa Barbara Channel, with the Channel Islands visible in the distance; b. Goleta's Pacific shoreline, including beaches, dunes,	Potentially consistent. The facilities have been on site for over 70 years and are part of the existing visual environment. Removal of Pier 421-1 and its associated caisson would be visually beneficial. Although visual changes to the long-existing facilities of Pier 421-2 would be minimal, the pier and associated caisson would remain in place, continuing to disrupt foreground lateral visual access along this section of coast by inhibiting or blocking portions of the public's view laterally along the

Table 4.8-3. Goleta GP/CLUP Policy Summary (continued)

Policy	Relationship to Project
lagoons, coastal bluffs, and open costal mesas; c. Goleta and Devereux Sloughs; and d. Creeks and the vegetation associated with their riparian corridors.	coast for several hundred feet.
VH 1.2 Scenic Resources Map. The <i>Scenic Resources Map</i> in Figure 6-1 [of the Goleta GP/CLUP] identifies locations on public roads, trails, parks, open spaces, and beaches that serve as public vantage points for viewing scenic resources. Views from these locations shall be protected by minimizing any impairment that could result from new development.	Potentially consistent. Accidental spills or road closures could temporarily prevent public access to portions of the beaches near PRC 421; however, the relatively short duration of project construction and applicable MMs would limit displacement of recreational uses.
VH 1.3 Protection of Ocean and Island Views. Ocean and island views from public viewing areas shall be preserved. View preservation associated with development shall be accomplished first through site selection and then by use of design alternatives that enhance rather than obstruct or degrade such views. To minimize impacts to these scenic resources and ensure visual compatibility, the following development practices shall be used, where appropriate: a. Limitations on the height and size of structures; b. Limitations on the height and use of reflective materials for exterior walls (including retaining walls) and fences; c. Clustering of building sites and structures; d. Shared vehicular access to minimize curb cuts; e. Downcast, fully shielded, full cut off lighting of the minimum intensity needed for the purpose; f. Use of landscaping for screening purposes and/or minimizing view blockage as applicable; and g. Selection of colors and materials that harmonize with the surrounding landscape.	Potentially consistent. Development of the Project would not degrade views of the ocean or islands. The existing facilities have been in place since 1928 and are part of the current visual setting. The Project would include removal of Pier 421-1 and the associated caisson, so these facilities would no longer be part of the visual environment. Pier 421-2 and the associated caisson would be repaired and remain in place, so there would be no significant change to these facilities.
PUBLIC FACILITIES (PF)	
PF 9.1 Integration of Land Use and Public Facilities Planning. The Land Use Plan and actions on individual development applications shall be consistent with the existing or planned capacities of necessary supporting public facilities and the fiscal capacity of the City to finance new facilities. a. The City shall integrate its land use and public works planning activities with an ongoing program of long-range financial planning to ensure that the City's Land Use Plan is supported by quality public facilities. b. Individual land use decisions, including but not limited to General Plan amendments, shall be based on a finding that any proposed development can be supported by adequate public facilities.	Potentially inconsistent. The project would create new demand for City public facilities at the PRC 421 facilities; demand for fire protection services would be offset by payment of a fee.

Source: City of Goleta 2006c.

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1 4.9 PUBLIC SERVICES

2 This section characterizes the fire protection and emergency response impacts generated
3 by the Project, including the ability of locally provided and funded fire protection and
4 emergency response services to respond to emergency situations at PRC 421 and the
5 impacts of the Project on these services and capabilities. The Environmental Setting
6 discusses the capacity of the Santa Barbara County Fire Department (SBCFD) and Santa
7 Barbara County Office of Emergency Management (OEM) to respond to incidents at PRC
8 421. This section also describes Venoco's existing fire protection and emergency
9 response systems and equipment at PRC 421.

10 The Project would not increase population in the area, and no employment increases
11 would occur except for the temporary construction crews and thus there would be no
12 impacts to police services or schools. Project construction would require some water
13 use for dust control, equipment washing, and hydrotesting of pipelines. In addition,
14 decommissioning of Pier 421-1 would generate waste requiring disposal. However,
15 operation of the Project would not increase water consumption, solid waste generation,
16 or discharges to sewers. Therefore, impacts to these public services are not examined
17 further in this document.

18 A detailed analysis of risks from fires, explosions, and oil spills associated with the
19 Project is presented in Section 4.2, Safety. Details regarding the emergency response
20 capability for potential incidents (e.g., oil spills) are also discussed in Section 4.2,
21 Safety. Crude oil generally has a relatively low potential for ignition or explosion,
22 particularly the heavier oils such as that produced from Platform Holly. However, due to
23 a higher percentage of light volatile compounds, the light "sweet" crude oil produced at
24 PRC 421 may present a somewhat increased risk of fire or explosion than that
25 associated with existing production from Platform Holly.

26 Information contained in this section was derived from the Goleta General Plan/Coastal
27 Land Use Plan (GP/CLUP), and several Venoco emergency preparedness plans,
28 including the South Ellwood Field Emergency Action Plan (EAP) and South Ellwood
29 Facilities Fire Prevention and Preparedness Plan. This section also incorporates by
30 reference and summarizes the conclusions of the Ellwood Marine Terminal (EMT)
31 Lease Renewal Environmental Impact Report (EIR) (California State Lands Commission
32 [CSLC] 2009) and Line 96 Modification Project EIR (Santa Barbara County 2011), as
33 appropriate. Where this document relies upon mitigation measures (MMs) contained in
34 these EIRs to address Project impacts, these measures are summarized to permit
35 comprehension of their relationship to the Project.

1 4.9.1 Environmental Setting

2 Study Area Location and Description

3 The primary Project study area comprises the immediate areas of the Ellwood coast
4 that surround PRC 421 and would be subject to direct impacts as a result of Project
5 implementation. This area includes existing PRC 421 facilities, access road, and the
6 flowline route along the access road, coastal bluff, golf course easement, and tie-in at
7 the existing Ellwood Onshore Facility (EOF). The secondary Project study area includes
8 the Gaviota Coast and is only discussed in environmental issue areas where potential
9 exists for impacts that are different from those identified in the certified Line 96
10 Modification Project EIR.

11 Regional Fire Protection and Emergency Response

12 The SBCFD, which serves an area of approximately 1,441 square miles of
13 unincorporated and incorporated areas of the county, provides fire protection services to
14 the Project area. The SBCFD has 16 fire stations. Five fire stations are located in the
15 Goleta valley and three (Fire Stations 11, 12, and 14) are located within Goleta's city
16 limits. A sixth station, located on the Gaviota Coast (Station 18) assists in responding to
17 calls in the rural Gaviota area. In general, all firefighters are trained as emergency
18 medical technicians (City of Goleta 2006). The SBCFD employs the following three
19 standards with respect to provision of fire protection services:

- 20 1. **Firefighter-to-population ratio of one firefighter on duty 24 hours a day for**
21 **every 2,000 in population as the ideal goal, and one firefighter per 4,000 in**
22 **population as the absolute maximum population that can be adequately**
23 **served.** Fire stations 11, which services the Project area, and 12 fell short of this
24 service standard as of 2005, as indicated in Table 4.9-1. The current ratio of
25 firefighters-to-population is 1 per 4,909 citywide.

Table 4.9-1. Goleta Fire Station Service Characteristics, 2010

Station Number	Location/Address	Population Served ¹	Personnel ²	Equipment ³	Population per Firefighter
11 ⁴	6901 Frey Way (Storke Rd. south of Hollister Ave.)	21,594	6	P, T, RP, WR, US&R	3,599
12	5330 Calle Real	16,623	3	P, RP	5,541
14	320 Los Carneros	5,960	3	P, BT	1,987
	Total	44,177	12		3,681

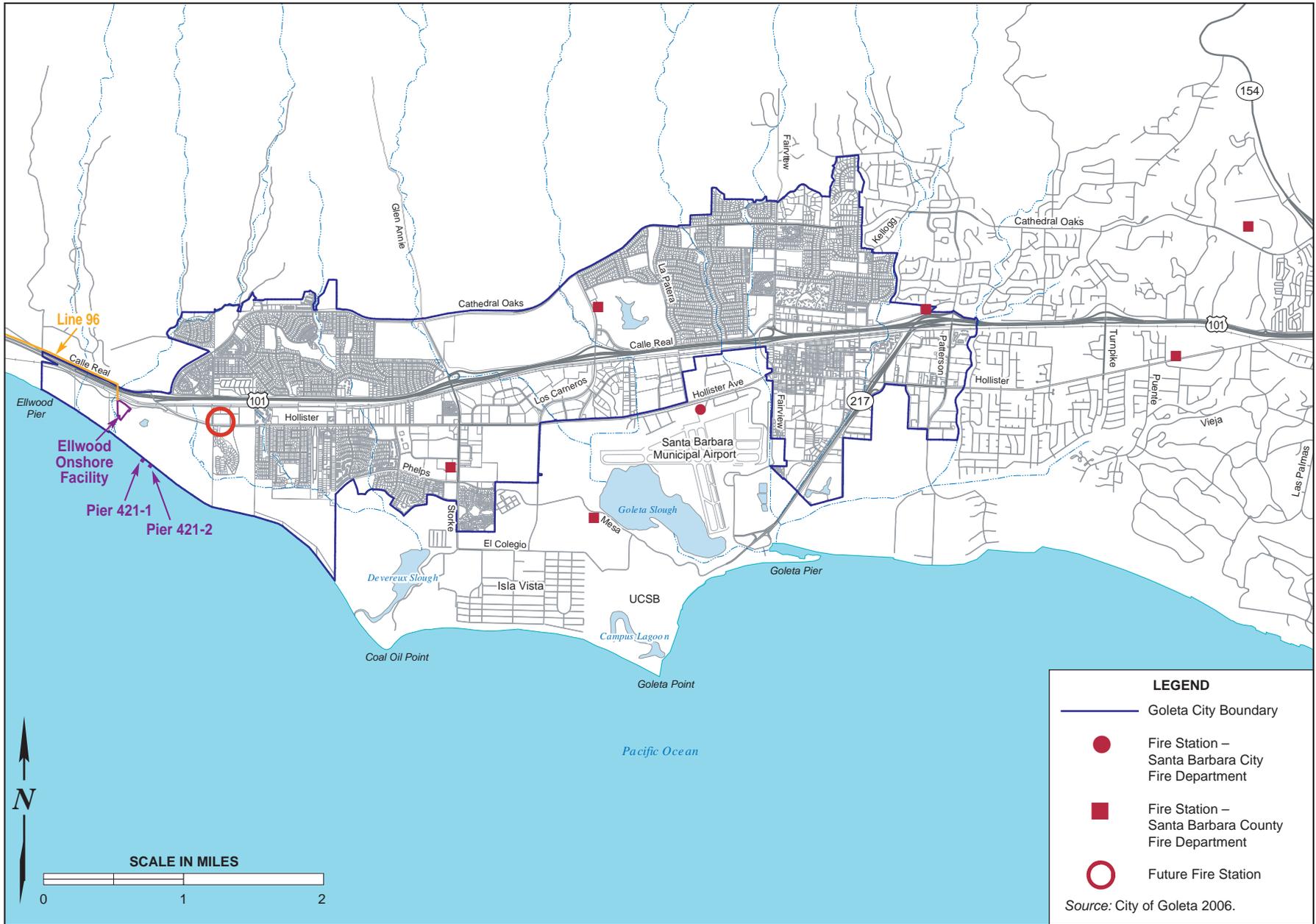
¹ Population estimated as of 2010 U.S. Census.

² Personnel on duty for each shift, plus one chief officer not assigned to a particular station.

³ P = pumper; T = ladder truck; RP = reserve pumper; WR = water rescue; US&R = urban search and rescue; BT = brush truck

⁴ Truck 11 and 3 additional firefighters serve as countywide emergency response and are not dedicated to serve solely station 11's district.

Source: US Census 2010, City of Goleta 2006.



- 1 2. **A ratio of one engine company with a four-person crew per 16,000 in**
 2 **population.** The National Fire Protection Association (NFPA) guidelines state
 3 that engine companies shall be staffed with a minimum of four on-duty personnel.
 4 Currently all three fire stations within the Goleta city limits are staffed with only
 5 three-person crews (refer to Table 4.9-1).
- 6 3. **A 5-minute response time in urban areas.** Most of Goleta falls within the
 7 5-minute response time from existing fire stations; however, the western city
 8 edge and some northern neighborhoods may experience longer response times
 9 (City of Goleta 2006). Fire station response times to PRC 421 are shown in
 10 Table 4.9-2.

Table 4.9-2. Goleta Fire Station Response Times to PRC 421

Station Number	Location/Address	Distance to PRC 421 (miles)	Response Time to PRC 421
11	6901 Frey Way (Storke Rd. south of Hollister Ave.)	3.5	8-10 minutes
12	5330 Calle Real	4.0	12-14 minutes
14	320 Los Carneros	5.5	10-12 minutes

Source: SBCFD 2006.

11 The OEM was once a division of the SBCFD but currently acts under direction from the
 12 County Executive Offices.

13 In addition, a fire station at Santa Barbara Municipal Airport is staffed by Santa Barbara
 14 city firefighter personnel and responds only to fires in the Airport Operating Area (AOA),
 15 the area located within the security fence that surrounds the airport consisting primarily
 16 of runways and taxiways. These firefighters and their specialized equipment are
 17 prohibited by Federal Aviation Administration (FAA) regulations from leaving the AOA.
 18 County firefighters are called upon to supplement Santa Barbara city fire staff in the
 19 event of an airport emergency. Fire Station 17, located on the UCSB campus, provides
 20 service to University of California, Santa Barbara (UCSB) and most of Isla Vista. Engine
 21 17 is a county fire engine and, if available, may be called upon for assistance when
 22 needed. The ambulance and station are owned and operated by UCSB. Fire Station 18,
 23 located on the Gaviota Coast west of Las Flores Canyon (LFC), provides service to this
 24 rural area and would respond to emergencies occurring along Line 96.

25 The SBCFD has determined that the most under-served area in the City of Goleta is the
 26 extreme western portion, which encompasses the Project location.

27 **Fire Protection and Emergency Response at PRC 421**

28 According to Venoco's South Ellwood Field EAP, Venoco will call 911 to notify the
 29 SBCFD, the Santa Barbara County Sheriff, Santa Barbara County OEM, Santa Barbara

1 County Energy Division, and the City of Goleta for all emergencies. In addition to Santa
 2 Barbara County's publicly provided fire protection and emergency response equipment,
 3 oil facilities are required by Federal and State regulations to have onsite firefighting
 4 equipment as well as materials to control oil spills or other hazardous materials
 5 releases. Venoco has fire fighting and emergency response capabilities for its South
 6 Ellwood Field facilities in accordance with these regulations. Table 4.9-3 lists fire
 7 protection and control equipment available at the EOF and Ellwood Pier.

Table 4.9-3. Venoco Fire Protection and Control Equipment

Facility	Equipment
EOF	Extinguishers, hoses, fire foam and fire monitors, hydrants, fire blankets, fire alarm, smoke detectors, and combustible gas detector
Ellwood Pier	Extinguishers, fire water tank, and fire hose reels

Source: Venoco 2011.

8 Venoco Emergency Management System

9 All emergency incidents that occur on Venoco property or facilities are managed using
 10 an Incident Command System (ICS) consistent with standard Federal and State
 11 emergency command structure guidelines. This system provides the capability and
 12 flexibility to respond to a wide range of emergency incidents, allows for complete
 13 integration with all government agency emergency response organizations, and ensures
 14 the proper and efficient response to all emergency incidents.

15 The Venoco Emergency Management System is a two-tier organization consisting of a
 16 corporate sustained incident response team (SIRT) and a facility-based initial incident
 17 response team (IIRT). Personnel assigned specific positions on the SIRT and IIRT are
 18 required to be thoroughly familiar with their roles and responsibilities and to participate
 19 in specified training programs and exercises simulating emergency events. Emergency
 20 response contractors and Oil Spill Response Organizations are also integrated into this
 21 emergency management system. The Venoco Emergency Management System is
 22 described in detail in the South Ellwood Field EAP (Venoco 2011).

23 *Initial Incident Response Team*

24 In the event of an emergency incident, the IIRT would be activated immediately and
 25 would provide Venoco's initial response. The IIRT consists of all facility personnel on
 26 site at the time of an incident and all other facility personnel who may be available for
 27 immediate return (Venoco 2003).

28 PRC 421 would not be staffed with on-site personnel, however all operational systems
 29 and safety systems from Well 421-2 would be monitored on a real-time basis at the
 30 EOF. Venoco's onsite response techniques, including those for PRC 421, are built upon
 31 the equipment and manpower resources available at the EOF, Platform Holly, and from

1 Clean Seas, an oil-spill-response cooperative to which Venoco is a member. Facility
2 staff at the EOF, consisting of two to three people at night and as many as 10-12 people
3 during the day, would be the first to be alerted of an incident at PRC 421, and would be
4 the first in-time to respond to such an incident.

5 The IIRT Incident Commander, which would be the facility supervisor or the operator-in-
6 charge, would work with local agency emergency response organization incident
7 commanders within a unified command structure. The unified command formulates
8 tactical and strategic decisions to ensure efficient and effective response to the
9 emergency. Depending on the size and complexity of the incident, the IIRT Incident
10 Commander may expand the response organization to include members of the SIRT as
11 necessary. At any time during the incident, the IIRT Incident Commander may request
12 transfer of command to the SIRT, or the SIRT Incident Commander may formally take
13 command of the incident.

14 *Sustained Incident Response Team*

15 Venoco's SIRT is designed and organized to respond to a major onsite incident or major
16 incident with onsite and offsite consequences. The SIRT is designed to augment and/or
17 expand the capabilities of the IIRT as needed. The degree to which the SIRT is
18 activated is dependent on the nature and size of the incident. The SIRT Command Post
19 is designated as the Clean Seas Support Yard in Carpinteria, California (Venoco
20 2011a).

21 The SIRT is organized into five functional sections: Command, Operations, Planning,
22 Logistics, and Finance. The Command Section is responsible for overall management
23 of the response and includes certain staff functions required to support command
24 function. The Operations Section is responsible for directing and coordinating all
25 offshore, shoreline, and land operations responses to an incident. The Planning Section
26 is responsible for the collection, evaluation, and dissemination of tactical information
27 about the incident. The Logistics Section is responsible for providing all support needs
28 to the response efforts. The Finance Section is responsible for providing financial
29 services (Venoco 2003).

30 When activated by the SIRT Incident Commander, representatives from the five
31 functional sections of the SIRT will respond to the Command Post within 12 hours of the
32 onset of the event. Emergency response contractors and Oil Spill Response
33 Organizations will respond in accordance with Federal and State requirements and
34 Venoco emergency response plans (Venoco 2011a; 2011b).

35 **Fire Prevention and Preparedness Plan**

36 Venoco does not have a fire protection plan specific to PRC 421 facilities. Venoco has a
37 South Ellwood Facilities Fire Prevention and Preparedness Plan (Venoco 2003) that

1 defines the measures to be implemented and maintained by Venoco personnel in the
2 event of a fire. The plan contains safety and fire prevention, detection, and protection
3 systems for the EMT and the EOF. This plan is designed to be implemented in
4 conjunction with the South Ellwood Field EAP, Emergency Evacuation Plans, and
5 hydrogen sulfide (H₂S) Contingency Plans; however, the plan does not contain
6 measures specific to PRC 421.

7 **4.9.2 Regulatory Setting**

8 Fire protection systems detailed in fire protection plans must include systems and
9 designs that ensure compliance with a range of codes and standards. A number of
10 Federal, State, and local laws that regulate oil production and processing facilities, and
11 oil and gas transport pipelines also have implications for fire protection and emergency
12 response. Please refer to Section 4.2, Safety and Table 4.0-1, for a complete
13 description of these requirements, while the local regulatory setting is discussed below.

14 **Local**

15 Santa Barbara County and the City of Goleta have a number of requirements governing
16 fire protection and emergency response applicable to PRC 421.

- 17 · Santa Barbara County Code Chapter 15, Amendments to the 2001 California
18 Fire Code (CFC);
- 19 · SBCFD Standard 1, Private Road and Driveway Standards;
- 20 · SBCFD Standard 2, Fire Hydrant Spacing and Flow Rates;
- 21 · SBCFD Standard 3, Stored Water Fire Protection Systems Serving One and Two
22 Family Dwellings;
- 23 · SBCFD Standard 4, Automated Fire Sprinkling Systems;
- 24 · SBCFD Standard 5, Automatic Alarm System Standards.
- 25 · Santa Barbara County Permit Conditions, Various;
- 26 · Santa Barbara County Public Works Engineering Design Standards, Roadways;
- 27 · Santa Barbara County Ordinance 2919 [95-DP-024] (Venoco, Inc.'s Operating
28 Permit for the EOF and the EMT);
- 29 · City of Goleta GP/CLUP, Policy SE 8.3 requires annual safety audits of all new
30 and existing oil and gas production, processing, and storage facilities. The City,
31 or its agent, shall participate in these safety audits. All deficiencies noted in each
32 audit shall be addressed promptly, in timeframes as recommended by the audit's
33 conclusions;

- 1 · City of Goleta GP/CLUP, Policy SE 8.6 requires a Quantitative Risk Assessment
2 to be included as a component of any application for a new oil and gas
3 production and processing facility or for any proposed substantial alterations of
4 existing oil and gas production and processing facilities (required under MM S-
5 4e);
- 6 · City of Goleta GP/CLUP Policy SE 8.10 requires a Safety Inspection,
7 Maintenance, and Quality Assurance Program or similar mechanism to ensure
8 adequate ongoing inspection, maintenance, and other operating procedures.
9 This would apply to those areas of the Project within City jurisdiction;
- 10 · City of Goleta GP/CLUP Policy SE 8.14 requires that new or relocated oil and/or
11 gas pipelines be buried at an appropriate depth. The calculation of burial depth
12 should take into account depth reduction via erosion and other forms of earth
13 movement; and
- 14 · City of Goleta GP/CLUP Policy SE 8.15 requires that new or relocated oil and/or
15 gas pipelines be marked appropriately and be accompanied with adequate
16 warning information.

17 **Other Recognized Codes and Standards**

18 Other codes and standards are specified by the American National Standards Institute
19 (ANSI), American Petroleum Institute (API), Industrial Risk Insurers (IRI), NFPA, and
20 CFC (see Table 4.9-4).

21 **4.9.3 Significance Criteria**

22 Impacts to fire protection and emergency response services would be considered
23 significant if:

- 24 · Operation of the Project creates the need for one or more additional employees
25 in order to maintain the current level of fire protection and emergency response
26 services;
- 27 · The Project results in the need for new or physically altered governmental
28 facilities, the construction of which could cause significant environmental
29 impacts, to maintain the current level of fire protection and emergency response
30 services;
- 31 · The Project is located more than 10 miles or 15 minutes from an emergency
32 response location with fire fighting and spill response capabilities;
- 33 · Accessibility to the Project site is difficult or limited; or
- 34 · The Project does not have an approved fire protection or emergency response
35 plan.

Table 4.9-4. Applicable Standards and Codes

Code/Standard	Description
ANSI B31.4	Liquid Petroleum Transportation Piping Systems
API RP 500	Classification of Hazardous Areas in Petroleum Pipeline Facilities
API Pub 2004	Inspection for Fire Protection
API 14C	Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems for Offshore Production Platforms
API 1104	Standard for Welding of Pipelines and Related Facilities
IRI IM.2.5.2	Plant Layout and Spacing for Oil and Chemical Plants
IRI IM 17.3.3	Guiding Principles For Loss Prevention and Protection of Crude Oil and Petroleum Products Pumping Stations
IRI IM 17.3.4	Guiding Principles For Loss Prevention and Protection of Crude Oil and Petroleum Products Storage Terminals
NFPA 11	Low Expansion Foam and Combined Agent Systems
NFPA 12	A&B Halogenated Extinguishing Agent Systems
NFPA 15	Water Spray Fixed Systems
NFPA 20	Centrifugal Fire Pumps;
NFPA 22	Water Tanks for Private Fire Protection
NFPA 24	Installation of Private Fire Service Mains and Their Appurtenances
NFPA 25	Inspection, Testing and Maintenance of Water-Based Fire Protection Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 70	National Electric Code
CFC Article 02, Division II	Special Procedures
CFC Article 04	Permitting
CFC Article 09	Definitions and Abbreviations
CFC Article 10	Fire Protection
CFC Article 11	General Precautions Against Fire
CFC Article 12	Maintenance of Exits and Occupant Load Control
CFC Article 13	Smoking
CFC Article 14	Fire Alarm Systems
CFC Article 49	Welding and Cutting
CFC Article 79	Flammable and Combustible Liquids
CFC Article 80	Hazardous Materials
CFC Article 85	Electrical Systems

ANSI - American National Standards Institute

API - American Petroleum Institute

CFC - California Fire Code

IM - Instructional Memorandum

IRI - Industrial Risk Insurers

NFPA - National Fire Protection Association

1 **4.9.4 Impact Analysis and Mitigation**

2 Construction of the Project would not substantially increase ongoing demand for Public
3 Services. However, PRC 421 is located in an area that is identified as being under-
4 served by fire protection services available by the SBCFD. The EOF and PRC 421 piers
5 and wells are outside of the standard safe response time of 5 minutes, but within the
6 significance threshold of 15 minutes, and the firefighter ratio does not meet standard
7 requirements. Recommissioning PRC 421 would not create the need for additional
8 SBCFD firefighters or for a new fire station in Goleta, but would (1) incrementally
9 contribute to demand for fire inspection and protection services in an area that is
10 currently under-serviced; and (2) require additional fire inspection and protection
11 services in an area on the beach that has difficult and limited accessibility.

12 Table 4.9-5, located at the end of this section, provides a summary of these impacts
13 and recommended MMs to address these impacts

14 **Impact PS-1: Adequacy of Fire Response**

15 **The incremental increase for fire protection services caused by reactivating oil**
16 **production in an area which is currently under-serviced with difficult and limited**
17 **accessibility contributes to the need for new and/or expanded fire inspection and**
18 **protection services in western Goleta (Significant and Unavoidable).**

19 **Impact Discussion**

20 The SBCFD has determined that the most under-served area in Goleta is the western
21 part of the City, including the Project area, due to both response times and the
22 population to firefighter ratio. Annual inspections, emergency response, and planning
23 activities at the EOF and PRC 421 associated with the Project would incrementally add
24 to the demand for fire protection services. The PRC 421 piers and associated pipelines
25 are located along the beach in an area that is difficult to access with limited accessibility
26 on a Sandpiper Golf Course gravel and dirt access road, making fire inspection and fire
27 protection challenging. Because the Project area is currently underserved in terms of
28 both an acceptable ratio of firefighter-to-population ratio and in terms of the fire service
29 response time, potential impacts to fire protection and emergency response services
30 would be considered significant for the Project, but can be partially mitigated with the
31 implementation of MM PS-1a. The mitigation measure was developed in consultation
32 with SBCFD (SBCFD letter to CSLC, dated March 18, 2014). However, because the
33 mitigation measure does not directly increase the firefighter-to-population ratio nor does
34 not improve the fire service response time, this impact would remain significant and
35 unavoidable.

1 Mitigation Measure

2 **MM PS-1. Impact Development Fee.** Venoco shall provide an impact development
 3 fee payment to the City of Goleta that would be directed toward fire response
 4 improvements. The fee would be determined based on the County of Santa
 5 Barbara's Development Fee Ordinance (County Ordinance 4745), which
 6 assesses a fee of \$1,007.00 per 1,000 sf for non-retail commercial
 7 development in Fiscal Year 2013-2014. For the purposes of determining the
 8 fee, the Project area would consist of the PRC 421 piers, pipeline corridor, and
 9 roadbed, which has a total cost of \$26,168. Fire response upgrades, which
 10 may include maintenance of a 12-foot-wide all-weather access road and
 11 installation of portable fire extinguishers, shall be implemented per Santa
 12 Barbara County Fire Department (SBCFD) requirements. Venoco shall also
 13 obtain a hot-work permit from SBCFD before any hot-work.

14 Rationale for Mitigation

15 The City of Goleta currently charges fees to address fire service impacts in Goleta. MM
 16 PS-1 would provide a one-time fee of \$26,168 to contribute towards a new fire facility.
 17 The mitigation measure will also provide fire response upgrades to the piers.

18 Residual Impact

19 Although providing the fire response upgrades and accepting a one-time payment fee
 20 would offset the costs of responding to potential emergencies at Project facilities, this
 21 impact remains significant due to the uncertainty of fire response adequacy in western
 22 Goleta.

23 **Impact PS-2: Operation without an Approved Fire Prevention Plan**

24 **Operating PRC 421 without an approved fire protection plan could result in an**
 25 **unsafe situation if an emergency requiring response by Venoco or by the Santa**
 26 **Barbara County Fire Department (SBCFD) were to occur (Less than Significant**
 27 **with Mitigation).**

28 Impact Discussion

29 As detailed above, PRC 421 must meet a number of Federal, State, and local
 30 requirements relating to fire protection and emergency response. The SBCFD and
 31 OEM, in addition to other agencies, conduct an annual operational and safety inspection
 32 of the PRC 421 facilities. Venoco has an emergency management system in place to
 33 facilitate management and response activities for emergency incidents occurring in the
 34 South Ellwood Field. However, Venoco does not have an approved fire protection plan
 35 for PRC 421. Operating PRC 421 without an approved fire protection plan could result
 36 in an unsafe situation if an emergency requiring response by Venoco or by the SBCFD

1 were to occur. With regard to fire protection and emergency response services, this
 2 impact would be less than significant with the implementation of MM PS-2.

3 **Mitigation Measure**

4 **MM PS-2. Prepare Fire Prevention Plan for PRC 421.** Prior to re-starting oil and
 5 gas production at PRC 421, Venoco shall prepare a fire prevention plan that
 6 includes fire prevention strategies for the Project area. The plan may either be
 7 in the form of a stand-alone plan for the PRC 421 facilities or included as an
 8 update to the South Ellwood Facilities Fire Prevention and Preparedness Plan.
 9 The Plan shall be submitted to the City of Goleta and the Santa Barbara
 10 County Fire Department (SBCFD) for review and approval prior to the issuance
 11 of the City's Land Use Permit.

12 **Rationale for Mitigation**

13 A fire prevention plan is required for the operation of PRC 421. Preparation of this plan
 14 will meet requirements and will reduce the significance of Impact PS-2. Full
 15 implementation of this measure would reduce Impact PS-2 to less than significant.

Table 4.9-5 Summary of Public Services Impacts and Mitigation Measures

Impact	Mitigation Measures
PS-1: Adequacy of Fire Response	PS-1. Impact Development Fee.
PS-2: Operation without an Approved Fire Prevention Plan	PS-2. Prepare Fire Prevention Plan for PRC 421.

16 **4.9.5 Cumulative Impacts Analysis**

17 Increased oil and gas, residential, and commercial development in the Project area has
 18 cumulatively affected the SBCFD. Currently the maximum acceptable ratio of firefighter-
 19 to-population is exceeded in the Goleta area. Additionally, the western Goleta area is
 20 underserved in terms of response time. As other regional projects are developed, the
 21 firefighters-to-population ratio will worsen as will fire response time. The Project would
 22 add incrementally to the demand for publicly provided fire protection and emergency
 23 response services in this under-serviced area. Therefore, the Project would cause a
 24 significant cumulative impact to publicly provided fire protection and emergency
 25 services.

1 **4.10 TRANSPORTATION AND CIRCULATION**

2 This section describes both onshore and offshore transportation systems in the Project
3 vicinity and the impacts of the Project on both roadway and marine transportation and
4 circulation. The analysis focuses on area roadways most likely to be affected by
5 construction and operation of Project components, and transportation of oil via onshore
6 pipeline. The analysis in this section is based on and incorporates by reference
7 conclusions from the Ellwood Marine Terminal (EMT) Lease Renewal Environmental
8 Impact Report (EIR) (California State Lands Commission [CSLC] 2009) and Line 96
9 Modification Project EIR (Santa Barbara County 2011). This analysis also includes a
10 review of data from the City of Goleta's 2006 General Plan/Coastal Land Use Plan
11 (GP/CLUP), associated EIR, and local and regional maps; incorporates data from Santa
12 Barbara County (01-ND-34) on pier fortification and road stabilization activities that
13 occurred in 2001; and includes information from contacts with appropriate agencies.

14 **4.10.1 Environmental Setting**

15 **Study Area Location and Description**

16 The primary Project study area comprises Ellwood and areas of west Goleta that could
17 be impacted by Project-generated traffic, extending roughly from Storke Road to the
18 western City limit. Because pipeline operations do not generate substantial traffic
19 volume, there is no secondary Project study area for transportation-related issues.

20 **Transportation**

21 *Roadway Classification*

22 Roadway conditions are typically described in terms of Level of Service (LOS), with
23 LOS A indicating free traffic flow conditions and LOS F indicating stop-and-go traffic.
24 LOS A, B, and C are typically considered satisfactory with generally free flowing
25 conditions, while LOS D, E, and F are often considered unacceptable because they
26 represent increased congestion and delays. LOS D is typified by increasing congestion,
27 stable flows, where speed and freedom to maneuver severely restricted, and the driver
28 experiences a poor level of comfort. At LOS E, roadways are near capacity and operate
29 with significant delays and low average speeds. LOS F is defined by forced or
30 breakdown flow and roadways operate at extremely low speeds.

31 *Existing Transportation System*

32 Major transportation corridors in the Project vicinity include Highway 101, Hollister
33 Avenue, and Storke Road. The Project is located at 7979 Hollister Avenue at the far
34 west end of the urbanized area of the City of Goleta, California. Access to the Project
35 site is provided off of Hollister Avenue via Bacara Access Road to the Ellwood Onshore

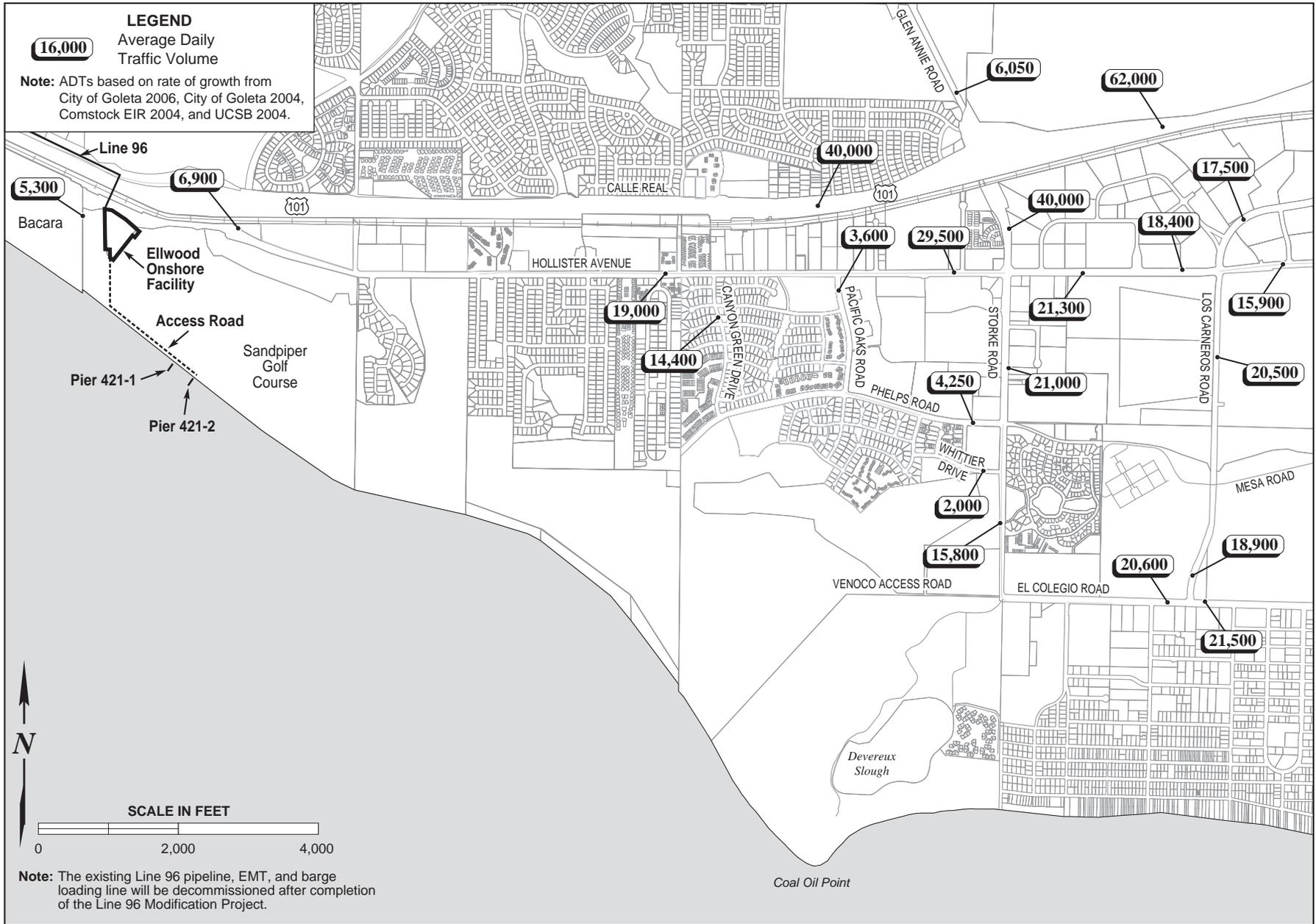
1 Facility (EOF) driveway. A dirt road runs south from the EOF across Sandpiper Golf
2 Course and links to the beachfront dirt road which runs along the toe of the bluff to PRC
3 421. In the Project vicinity, access to Hollister Avenue is provided by two freeway exits,
4 Winchester Canyon Road or Storke Road, approximately 0.5 mile west and 2.3 miles
5 east of the EOF driveway, respectively. Descriptions of the major roadways in the
6 Project vicinity are detailed below (CSLC 2009):

7 Highway 101: Highway 101 extends along the Pacific Coast between Los Angeles and
8 San Francisco. Within Santa Barbara County, the 101 operates as a four- to six-lane
9 highway and provides the principal route between Goleta and the cities of Santa Barbara,
10 Carpinteria, and Ventura to the south, and Buellton and Santa Maria to the north.
11 Highway 101 generally operates at an acceptable LOS in the Project vicinity, but
12 experiences increasing congestion east of its interchange with Highway 217.

13 Hollister Avenue: Hollister Avenue is primarily a four-lane arterial roadway that is the
14 main east/west surface street in Goleta. Hollister Avenue extends easterly from its
15 terminus at the new Hollister Avenue Interchange (formerly Winchester
16 Canyon/Highway 101 interchange) through the City of Goleta and the unincorporated
17 Goleta Valley where it connects to State Street in the City of Santa Barbara. Hollister
18 Avenue generally operates at an acceptable LOS in the Project vicinity, except west of
19 its intersection with Storke Road where congestion increases (Figure 4.10-1). Hollister
20 Avenue is a main transit corridor in Goleta and supports the trans-Goleta Valley bus line
21 11 and bus line 25 between Sandpiper Golf Course and University of California Santa
22 Barbara (UCSB). Hollister is striped with a Class II bike path its entire length.

23 Storke Road: Storke Road extends from Highway 101 in the north, approximately 1.2
24 miles south to El Colegio Road. Between Highway 101 and Phelps road, Storke is a
25 four-lane arterial roadway, but narrows to three lanes south of Phelps Road. Storke
26 Road provides the primary freeway in western Goleta via the Storke Road/Highway 101
27 interchange. Storke Road is signalized at the Highway 101 interchange northbound and
28 southbound ramps, and at Hollister Avenue, Marketplace Drive, Phelps Road, and El
29 Colegio Road. Storke Road generally operates at an acceptable LOS in the Project
30 vicinity, except south of its intersection with Highway 101 where congestion increases
31 (Figure 4.10-1). Storke Road also serves as a main transit route, and provides transit to
32 access UCSB and the Camino Real shopping center via lines 6, 10, 12, 23, 24, 25, and
33 27. Storke Road is also striped with a Class II bike path along its entire reach.

34 Bacara Access Road: This two-lane road provides access to Sandpiper Golf Course,
35 Bacara Resort, the EOF, and the Project site from Hollister Avenue. Its intersection with
36 Hollister Avenue is controlled by a stop sign. Access to the EOF is controlled by a locked
37 gate. Line of sight from this entrance driveway is more than 300 feet to the east and west.



Transportation Network and Average Daily Traffic Volumes in the Project Vicinity

FIGURE 4.10-1

1 **Existing and Future Roadway Conditions**

2 Existing and future roadway conditions were derived based upon data from the EMT
 3 Lease Renewal EIR as well as that from the EIR on the City of Goleta's adopted
 4 GP/CLUP. Because the EMT Lease Renewal EIR appears to rely upon older data
 5 (2004), more recent data from the city's GP/CLUP EIR were also reviewed and used
 6 where applicable. That EIR, however, only assessed the impacts of full development of
 7 Goleta's GP/CLUP over the next 15 to 20 years and therefore these more recent data
 8 would exceed the scope of required cumulative analysis for an individual project. As a
 9 result, this EIR relies primarily upon the older data and analysis contained in the EMT
 10 Lease Renewal EIR. Estimated current and future roadway and intersection conditions
 11 in the Project vicinity are summarized in Tables 4.10-1 and 4.10-2.

Table 4.10-1. Roadway Traffic in the Project Vicinity

Roadway	Classification	Existing		Future*	
		ADT	LOS	ADT	LOS
Hollister Ave. at intersection with Storke Rd.	4-lane Arterial	29,500	C	31,900	D
Hollister Ave. at northern ramp of Highway 101**	2-lane Arterial	6,900	A	7,700	A
Hollister Ave. (without Pacific Oaks)	2-lane Arterial	11,400	A	13,000	B
Hollister Ave. without Canyon Green Dr.	4-lane Arterial	19,000	A	21,000	A
Storke Rd. (Highway 101 ramp—Hollister Ave.)	4-lane Arterial	40,000	F	41,900	F
Storke Rd. (Hollister Ave —Phelps Rd.)	4-lane Arterial	21,000	A	24,100	B
Storke Rd. (Phelps Rd.—El Colegio)	3-lane Arterial	15,800	A	16,200	A

12 * Includes the proposed projects in the vicinity. LOS = level of service; ADT = average daily traffic.

13 ** Note: New traffic counts for the realigned Hollister Avenue Interchanges with Highway 101 are not available.

14 Source: CSLC 2009; City of Goleta 2006a.

Table 4.10-2. Intersection Traffic in the Project Vicinity

Roadway	Control	Existing		Future*	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
Hollister Ave./Highway 101 southbound Ramps**	Stop-Sign	10.3 sec.	B	11.4	B
Hollister Ave./Ellwood School	Signal	0.36	A	0.40	A
Hollister Ave./Santa Barbara Shores Drive	Stop-Sign	8.5 sec.	A	8.7 sec.	A
Storke Rd./Hollister Ave. ¹	Signal	0.76	C	0.97	E
Storke Rd./Highway 101 northbound Ramps	Signal	0.59	A	0.61	B
Storke Rd./Highway 101 southbound Ramps	Signal	0.49	A	0.52	A

* Includes the proposed projects in Goleta. LOS = level of service; ADT = average daily traffic.

¹ The EMT Lease Renewal EIR identifies this intersection as operating at LOS D; more recent data from the Goleta Community Plan EIR identify this intersection as operating at LOS C as shown in this table.

** Note: New traffic counts for the realigned Hollister Avenue Interchanges with Highway 101 are not available.

Source: CSLC 2009; City of Goleta 2006a.

1 As can be seen from the information in these tables, most roads and intersections in the
2 Project vicinity operate at an acceptable LOS (LOS A-C) and would continue to do so
3 even with the addition of substantial traffic associated with development of pending
4 projects. However, the section of Storke Road south of Highway 101 currently operates
5 at LOS F and the segment of Hollister west of Storke Road is projected to operate at
6 LOS D with cumulative traffic. Currently, the intersection of Hollister Avenue and Storke
7 Road operates at LOS C and is projected to decline to LOS F with the addition of
8 cumulative traffic.

9 **Offshore Traffic**

10 The Project would not directly affect offshore vessel traffic, which in the immediate
11 project vicinity consists primarily of recreational boating. Marine traffic is typically
12 described in numbers of port calls per vessel category, e.g., tankers, container vessels,
13 and the number of vessels that traverse a given waterway. Offshore waters in high
14 traffic areas can be designated as safety fairways to prohibit the placement of surface
15 structures such as oil platforms in the area. The U.S. Army Corps of Engineers
16 (USACE) is prohibited from issuing permits for surface structures within safety fairways,
17 which are frequently located between a port and the entry into a Traffic Separation
18 Scheme (TSS) (CSLC 2009).

19 **4.10.2 Regulatory Setting**

20 The Federal government passes the responsibilities of maintaining and regulating
21 highways and roadways to the State and local levels; therefore, there are no Federal
22 agencies or regulations related to this resource area. A summary of the regulatory
23 setting at the State level is provided in Table 4.0-1 and the local level is provided below.

24 **Local**

25 The Santa Barbara County Association of Governments (SBCAG) has responsibility for
26 all regional transportation planning and programming activities.

27 The Project would be subject to the provisions of the City of Goleta GP/CLUP
28 Transportation Element and the Santa Barbara County Congestion Management
29 Program (CMP). The CMP is a comprehensive program designed to reduce auto-
30 related congestion and designates major highway and road segments within the Project
31 vicinity. The CMP requires an assessment of the Project's potential impacts on the
32 designated roadways, which include Hollister Avenue and Highway 101.

33 The Goleta GP/CLUP Transportation Element contains general goals and policies to
34 improve overall circulation in Goleta and ensure that future development is supported by
35 appropriate transportation facilities.

1 **4.10.3 Significance Criteria**

2 Thresholds of significance were derived from the State CEQA Guidelines, County of
 3 Santa Barbara Environmental Thresholds and Guidelines Manual, and City of Goleta.
 4 Traffic impacts would be considered significant if any of the following apply:

- 5 · The addition of project traffic to an intersection increases the volume to capacity
 6 ratio (V/C) by the value provided in Table 4.10-3, or adds at least 5, 10, or 15
 7 trips to intersections operating at LOS F, E, and D, respectively.

Table 4.10-3. City of Goleta LOS Significance Thresholds

LOS (including Project) ¹	Increase in V/C Greater Than
A	0.20
B	0.15
C	0.10
	Or the addition of:
D	15 trips ²
E	10 trips ²
F	5 trips ²

¹ The adopted standard for city roadways and intersections is LOS C; with the exception of the intersection of Hollister Avenue/Storke Road, which has been built to its planned capacity, and thus under GP/CLUP policy subsection TE 4.2 has a standard of LOS D.

² For purposes of analysis of the 2030 buildout, it was conservatively assumed that any increase in V/C projected over existing conditions reflects an increase of at least the threshold number of trips defined in this table, indicating a significant impact.

Source: City of Goleta 2006b.

- 8 · Project access to a major road or arterial road would require a driveway that
 9 would create an unsafe situation or a new traffic signal or major revisions to an
 10 existing traffic signal.

- 11 · Project adds traffic to a roadway that has design features (e.g., narrow width,
 12 roadside ditches, sharp curves, poor sight distance, inadequate pavement
 13 structure) or receives use which would be incompatible with substantial increases
 14 in traffic (e.g., rural roads with use by farm equipment, livestock, horseback
 15 riding, or residential roads with heavy pedestrian or recreational use) that will
 16 become potential safety problems with the addition of Project or cumulative
 17 traffic. Exceedance of the roadway's designated Transportation Element
 18 Capacity may indicate the potential for the occurrence of the above impacts.

- 19 · Project traffic would use a substantial portion of an intersection's capacity where
 20 the intersection is currently operating at acceptable LOS (A through C) but with
 21 cumulative traffic would degrade to or approach LOS D (V/C 0.80) or lower.
 22 Substantial is defined as a minimum change of 0.03 V/C for intersections that
 23 would operate from 0.80 to 0.85 V/C and a change of 0.02 V/C for intersections

- 1 that would operate from 0.86 to 0.90 V/C, and 0.01 V/C for intersections
 2 operating at anything higher than 0.90 V/C.
- 3 · Project traffic or construction must use an access road that is already at or
 4 exceeds LOS E or brings a roadway down to LOS E.
 - 5 · Project results in a roadway being degraded to a lower LOS.
 - 6 · Project results in a substantial safety hazard to motorists, bicyclists, or
 7 pedestrians.
 - 8 · Project results in insufficient parking.
 - 9 · Project restricts one or more lanes of a primary or secondary arterial roadway
 10 during peak hour traffic, thereby reducing its capacity and creating congestion.
 - 11 · Project results in a noticeable deterioration of pavement or roadway surfaces.
 - 12 · Project activities would reduce the existing level of safety for navigating vessels.

13 4.10.4 Impact Analysis and Mitigation

14 There is currently very limited regular daily traffic associated with PRC 421, as it is
 15 currently not under production. Existing traffic is limited to daily security patrols, which
 16 also provide security to the EOF. Future traffic generation associated with Project
 17 implementation would consist of construction- and limited operation-related traffic. Table
 18 4.10-4, located at the end of this section, provides a summary of Project impacts and
 19 recommended MMs to address these impacts.

20 **Impact TR-1: Construction-Generated Traffic**

21 **Traffic generated from construction activities would have a short-term, less than**
 22 **significant impact on local transportation and circulation (Less than Significant**
 23 **with Mitigation).**

24 **Impact Discussion**

25 Traffic generated from construction activities would consist of daily trips from employees
 26 and periodic trips associated with delivery of equipment and construction materials and
 27 hauling of debris. Additionally, during the decommissioning and removal of Pier 421-1,
 28 expected to occur approximately 1 year following recommissioning of Pier 421-2,
 29 construction traffic would include traffic from similar activities, as well as regular hauling
 30 trips to remove debris. Venoco estimates that Project construction would require 90
 31 working days; depending upon weather and other factors this may not be continuous
 32 and may extend over 3 or more months. Therefore, any potential impacts associated
 33 with traffic generated from construction activities would be of a short duration. The
 34 decommissioning and removal of Pier 421-1 is expected to have a 30-day construction
 35 schedule, so it would also be short in duration.

1 Project construction would generate additional vehicular movement along roads in the
2 Project vicinity, including Highway 101, Winchester Canyon and Storke Road
3 interchanges, Hollister Avenue, and the Bacara Access Road. Venoco has not prepared
4 a traffic management plan and precise estimates of construction-related traffic are
5 unavailable. However, this EIR uses data for similar recent repair projects at PRC 421
6 to provide a reasonable worst case estimate of Project-related short-term traffic likely to
7 be generated from construction activities. In 2004, caisson repair and stabilization
8 efforts at Pier 421-1 required approximately 60 tractor trailer one-way trips
9 entering/leaving the EOF and 88 round trips across the easement road between the
10 EOF and PRC 421 access road. Repair of the caisson walls at Pier 421-2 would be the
11 primary Project component generating construction traffic; installation of new cables and
12 piping would have a limited traffic impact because there would be no import or export of
13 excavated material. Therefore, the following estimates are consistent with construction
14 traffic that would be generated by the Project.

15 Up to an estimated 90 tractor trailer one-way trips entering/leaving the EOF and 90
16 round trips across the easement road between the EOF and PRC 421 (an estimate of
17 an average of two per day over the estimated 90-day construction period) associated
18 with construction equipment and material deliveries would be required for other Project
19 elements such as power cable installation and Pier 421-2 repairs and improvements. In
20 addition, during periods of peak construction such as pipeline and power cable
21 installation or use of the workover rig at Pier 421-2, up to 12 construction workers would
22 be onsite, generating approximately 12 morning and afternoon peak hour trips to the
23 site (24 total). When added to material and construction equipment deliveries,
24 construction traffic could average approximately 15 peak hour trips per day, peaking at
25 up to 40 to 60 average daily trips per day during the most intensive construction
26 activities. Construction traffic is anticipated to add 15 trips per day during a “normal”
27 construction period and 40 to 60 trips during an “intensive” construction period. Over an
28 8-hour work day, approximately two trips an hour would take place during “normal”
29 construction and at most eight trips an hour during “intensive” construction. Trips
30 associated with “normal” construction would not exceed significance criteria according
31 to City of Goleta and Santa Barbara County for one roadway categorized with an LOS
32 of F (Storke Road between Hollister Road and the Highway 101 on-ramp) but under
33 “intensive” construction (eight trips per hour) these criteria may be exceeded. However,
34 this impact would be temporary, lasting an estimated 90 days; therefore, this impact
35 would be less than significant.

36 Construction trips associated with decommissioning and removal of Pier 421-1 would be
37 similar to Project construction in terms of daily traffic loads; however, the duration of this
38 activity would be shorter (30 days). Roughly 40 haul trips would be required to remove
39 debris (an average of under three per day over the estimated 30-day construction
40 period). Trips associated with “normal” construction would not exceed significance
41 criteria according to City of Goleta and Santa Barbara County for one roadway

1 categorized with an LOS of F but under “intensive” construction these criteria may be
2 exceeded. However, decommissioning and removal activity would be temporary, and
3 impacts would therefore be less than significant.

4 The short-term, construction-related traffic would not be expected to adversely affect
5 long-term area roadway or intersection operations. In addition, Venoco has proposed
6 scheduling construction activities and associated traffic to begin at 7:00 a.m. and end at
7 7:00 p.m. to avoid the morning and afternoon peak hour. Trucks would use the
8 northbound and southbound Winchester Canyon exits to access the EOF, which operate
9 at LOS A, meaning free flowing traffic conditions. Although Project construction would
10 span a short duration of time, increased truck volume resulting from the Project could
11 incrementally contribute to delays at already congested facilities such as Storke Road
12 south of Highway 101; however, this is not anticipated to be frequent or significant.
13 Hollister Avenue has adequate capacity to handle increased traffic resulting from this
14 Project. Should any traffic be diverted to the Storke Road/Highway 101 exits, impacts
15 would also be less than significant due to majority of construction-generated truck trips
16 taking place during off-peak hours.

17 Parking would be provided at an existing easement area immediately adjacent to the
18 EOF west fence line. There are two staging areas at the EOF and a 30- by 30-foot
19 helipad at the south end of the EOF could also be used as an additional staging area for
20 vehicles and material should the need arise. Therefore, no parking would obstruct
21 Hollister Avenue.

22 Further, implementation of the Project would not restrict access to or from private
23 property or adjacent land uses like the beach, restrict movements of emergency
24 vehicles with no reasonable alternative access routes, impede pedestrian movements
25 or bike trails, with no suitable alternative routes, but could result in noticeable
26 deterioration of pavement or roadway surfaces. Therefore, construction-generated
27 traffic impacts associated with the Project would be less than significant with mitigation.

28 **Mitigation Measures**

29 The following recommended measures would ensure that construction-related traffic
30 impacts are less than significant.

31 **MM TR-1a. Route Construction Traffic to Avoid Congested Intersections.** To
32 minimize the potential for adverse impacts, Venoco shall direct Project
33 construction traffic, particularly heavy trucks, during non-emergency trips, to
34 avoid congested areas at Storke Road and use the Winchester Canyon
35 Overpass to access the Project site. Venoco shall prepare and implement a
36 Construction Traffic Control Plan that would apply to all construction activities,
37 including but not limited to recommissioning and decommissioning activities,
38 for review and approval by the City of Goleta.

1 **MM TR-1b. Repair/Upgrade Any Damage to Access Road.** To minimize the
2 potential for adverse impacts, Venoco shall repair/upgrade the access road if it
3 receives damage or degradation as a result of construction-related traffic. The
4 access road shall be inspected and photographed before and after the Project,
5 and a determination will be made regarding any needed repairs.

6 **Rationale for Mitigation**

7 When combined with the Applicant-proposed measure to schedule trips outside the
8 peak hour, MM TR-1a would ensure that the short-term Impact TR-1 would remain less
9 than significant with respect to transportation and circulation. Similarly, MM TR-1b
10 would ensure that short-term impacts would remain less than significant on the access
11 road.

12 **Impact TR-2: Operation-Generated Traffic**

13 **Traffic from operation of the Project would have a less than significant impact on**
14 **transportation and circulation (Less than Significant).**

15 **Impact Discussion**

16 On-road traffic generated by Project operations would be minimal. Venoco proposes
17 that all operational maintenance issues would be handled by existing staff at the EOF;
18 therefore, the facility would require only limited and periodic maintenance beyond that
19 provided by existing EOF staff. Daily security patrols are already ongoing. Traffic
20 associated with pipeline transportation to the Plains All American Pipeline L.P.
21 (PAAPLP) Coastal Pipeline would not increase as a result of the Project because the
22 additional throughput would not require additional personnel or facilities. As a result, the
23 Project would not generate any increase in ongoing operational average daily or peak
24 hour trips for the Project's duration.

25 **Mitigation Measures**

26 None required.

27 **Impact TR-3: Increased Potential for Traffic Accidents**

28 **Large trucks and construction equipment coming to and leaving from the Project**
29 **site could increase the potential for traffic accidents due to delays and backups**
30 **on Hollister Avenue and at the Winchester Canyon Road bridge over Highway 101**
31 **(Less than Significant).**

32 **Impact Discussion**

33 The intersection of the Bacara access road with Hollister Avenue has been recently
34 realigned as part of the relocation of the Winchester Canyon/ Hollister Avenue

1 interchange with U.S. Highway 101. This new intersection consists of a standard "T"
 2 alignment, with Hollister Avenue forming the east leg, the Bacara Access Road the west
 3 approach and the Winchester Canyon Road bridge over Highway 101 the north leg. All
 4 approaches are controlled by stop signs and line of sight and visibility are excellent.
 5 While the addition of large heavy trucks from the Project to this interchange could
 6 incrementally increase delays at this intersection, these impacts would be short-term
 7 and intermittent and are considered insignificant.

8 **Mitigation Measures**

9 None required.

Table 4.10-4. Summary of Transportation and Circulation Impacts and Mitigation Measures

Impact	Mitigation Measures
TR-1: Construction-Generated Traffic	TR-1a. Route Construction Traffic to Avoid Congested Intersections. TR-1b. Repair/Upgrade Any Damage to Access Road.
TR-2: Operation-Generated Traffic	None required.
TR-3: Increased Potential for Traffic Accidents	None required.

10 **4.10.5 Cumulative Impacts Analysis**

11 Other projects proposed in the Project area would contribute to transportation
 12 congestion; however, because the Project would have no long-term transportation
 13 impacts, it would not have a cumulative impact on transportation and circulation in the
 14 Project vicinity.

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1 4.11 NOISE

2 This section describes the noise environment in the Project vicinity and potential
3 impacts to the noise environment associated with Project implementation. This
4 document incorporates by reference the conclusions of the Ellwood Marine Terminal
5 (EMT) Lease Renewal Environmental Impact Report (EIR) (California State Lands
6 Commission [CSLC] 2009) and Line 96 Modification Project EIR (Santa Barbara County
7 2011) regarding baseline noise environment conditions. Where this document relies
8 upon mitigation measures (MMs) contained in those EIRs to address Project impacts,
9 these are summarized to permit report reviewers to understand their relationship to the
10 Project.

11 4.11.1 Environmental Setting

12 Study Area Location and Description

13 The primary Project study area comprises the Ellwood area immediately surrounding
14 and adjacent to PRC 421 that could be impacted by Project-generated noise, extending
15 roughly from the Ellwood Mesa on the east to Bacara Resort to the west. Because
16 pipeline operations do not generate substantial noise, there is no secondary Project
17 study area for noise-related issues.

18 Definitions

19 Noise is defined as unwanted sound that is heard by people or wildlife and that
20 interferes with normal activities or otherwise diminishes the quality of the environment.
21 Noise is usually measured as sound level on a logarithmic decibel (dB) scale, with the
22 frequency spectrum adjusted by the A-weighting network. The dB is a unit division on a
23 logarithmic scale that represents the intensity of sound relative to a reference intensity
24 near the threshold of normal human hearing. The A-weighting network is a filter that
25 approximates the response of the human ear at moderate sound levels. The resulting
26 unit of measure is the A-weighted decibel, or dBA.

27 To analyze the overall noisiness of an area, noise events are combined for an
28 instantaneous value or averaged over a specific time period, e.g., one hour, multiple
29 hours, 24 hours. The time-weighted measure is referred to as Equivalent Sound Level
30 and represented by L_{eq} . The equivalent sound level is defined as the same amount of
31 sound energy averaged over a given time period. The percentage of time that a given
32 sound level is exceeded can also be represented. For example, L_{10} is a sound level that
33 is exceeded 10 percent of the time over a specified period.

1 **Effects on Wildlife**

2 Wildlife response to noise is dependent not only on the magnitude, but also the
3 characteristic of the sound, or the sound frequency distribution. Wildlife is affected by a
4 broader range of sound frequencies than humans. Determining the effects of noise on
5 wildlife is complicated because responses vary between species and individuals of a
6 population. However, noise is known to affect an animal's physiology and behavior, and
7 chronic noise-induced stress is deleterious to an animal's energy budget, reproductive
8 success, and long-term survival (Radle 2001). Noise impacts to marine wildlife are
9 detailed in Section 4.6, Marine Biological Resources.

10 **Effects on Humans**

11 Human response to noise is dependent not only on the magnitude but also on the
12 characteristic of the sound, or the sound frequency distribution. Generally, the human
13 ear is more susceptible to higher frequency sounds than lower frequency sounds.
14 Human response to noise is also dependent on the time of day and expectations based
15 on location and other factors. For example, a person sleeping at home might react
16 differently to the sound of a car horn than to the same sound while driving during the
17 day. The regulatory process has attempted to account for these factors by developing
18 overall noise ratings such as Community Noise Equivalent Level (CNEL) and the Day-
19 Night Average Noise Level (L_{dn}) which incorporate penalties for noise occurring at night.
20 The L_{dn} rating is an average of noise over a 24-hour period in which noises occurring
21 between 10:00 p.m. and 7:00 a.m. are increased by 10 dBA. The CNEL is similar but
22 also adds a weighting of 3 dBA to noises that occur between 7:00 p.m. and 10:00 p.m.
23 Average noise levels over daytime hours only (7:00 a.m. to 7:00 p.m.) are represented
24 as L_d and nighttime noises as L_n . Figure 4.11-1 is a scale showing typical noise levels
25 encountered in common daily activities.

26 The effects of noise are considered in two ways: how a proposed project may increase
27 existing noise levels and affect surrounding land uses and how a proposed land use
28 may be affected by existing surrounding land uses. The Goleta General Plan/Coastal
29 Land Use Plan (GP/CLUP) Noise Element focuses on particular types of land uses
30 (sensitive receptors) when measuring the effects of noise. These "sensitive receptors"
31 include residences, transient lodging, such as hotels and motels, hospitals, nursing
32 homes, convalescent hospitals, schools, libraries, houses of worship, and public
33 assembly places.

34 When a new noise source is introduced, most people begin to notice a change in noise
35 levels at approximately 5 dBA. Typically, average changes in noise levels of less than 5
36 dBA cannot be definitely considered as producing an adverse impact. For changes in
37 levels above 5 dBA, it is difficult to quantify the impact beyond recognizing that greater
38 noise level changes would result in greater impacts (CSLC 2009).

Common Outdoor Noise Levels	Noise Level (dBA)	Common Indoor Noise Levels
Chain Saw	110	Rock Band
Jet takeoff at 2 miles	—	
Ambulance siren at 100 feet	100	
Gas Lawnmower at 3 feet	—	Food Blender at 3 feet
Diesel Truck at 50 feet	90	Garbage Disposal at 3 feet
	—	Shouting at 3 feet
Gas Lawnmower at 100 feet	80	
	—	Vacuum Cleaner at 10 feet
Commercial Area	70	Normal Conversation at 5 feet
Small plane landing at ¼ miles	60	Air Conditioner Large Business Office Dishwasher Next Room
Quiet Urban Daytime Light Traffic at 100 feet	50	Distant Birds
Quiet Urban Nighttime	40	Library
Quiet Suburban Nighttime	30	Soft Whisper, Bedroom at Night
Quiet Rural Nighttime	20	Broadcast and Recording Studio
	10	
	0	Threshold of Hearing

FIGURE 4.11-1. COMMON ENVIRONMENTAL NOISE LEVELS

Source: Adapted from FAA 2005.

1 In community noise impact analysis, long-term noise increases of 5 to 10 dBA are
 2 considered to have “some impact.” Noise level increases of more than 10 dBA are
 3 generally considered severe. In the case of short-term noise increases, such as those
 4 from construction activities, the 10 dBA threshold between “some” and “severe” is
 5 replaced with a criterion of 15 dBA. These noise-averaged thresholds shall be lowered
 6 when the noise level fluctuates, when the noise has an irritating character such as
 7 considerable high frequency energy, or if it is accompanied by subsonic vibration. In
 8 these cases the impact must be individually estimated.

9 **Project Area Overview**

10 Major noise sources in the Project vicinity include breaking waves along the beach,
 11 occasional aircraft overflights (the Santa Barbara Airport is approximately 6 miles from
 12 PRC 421), the Ellwood Onshore Facility (EOF), and on-road traffic. The piers are
 13 located on State tide and submerged lands below the bluffs marking the southern limit
 14 of the Sandpiper Golf Course. On the north and east sides, the PRC 421 piers are
 15 surrounded by public beach area and the Sandpiper Golf Course. To the northwest of
 16 the piers is the Bacara Resort (approximately 0.75 mile from PRC 421). South of the
 17 piers is the Pacific Ocean. The Sandpiper Golf Course is the nearest noise receptor to
 18 the Project area.

19 Two noise studies were conducted for a previous EIR to collect baseline noise levels in
 20 the Project vicinity (CSLC 2009). Noise measurements were collected on May 24, 2005,
 21 during the day and in the evening at the sensitive receptors in the Project vicinity, and
 22 during the day on July 21, 2005. The data collected included L_{eq} , maximum levels, and
 23 minimum levels. Noise levels associated with the maximum reading were generally
 24 produced by the ocean surf for locations near the beach, or by traffic on nearby local
 25 roads for other areas. Noise from aircraft overflights associated with the Santa Barbara
 26 Airport could be heard from all locations (CSLC 2009). Background noise levels
 27 measured in the study area and their distance to PRC 421 are shown in Table 4.11-1.

Table 4.11-1. Baseline Noise Levels in the Project Vicinity

Location/Sensitive Receptor	Distance from PRC 421	Major Noise Sources	L_{eq} , dBA			
			Day	Eve.	Night	CNEL
1. Ellwood Mesa pedestrian and biking trail	8,509 feet	Trucks, noise from EMT, aircraft	49.6	56.3	51.3	58.6
2. Public walking trails on ocean bluff	8,714 feet	Ocean	63.8	63.0	58.0	66.4
3. Public beach area east of the piers	9,008 feet	Ocean	63.2	59.7	54.7	64.0
4. Vicinity of Bacara Resort and Sandpiper Golf Course		Cars, Ocean	60-63	NM	NM	NM

NM = not measured; Source: CSLC 2009.

1 A third noise monitoring study was conducted August 9, 2005, near the Line 96 tie-in at
2 the EOF, in the vicinity of the Bacara Resort, Sandpiper Golf Course, and residences on
3 the north side of Highway 101. This study examined only daytime ambient noise levels
4 and determined that day background L_{eq} noise levels in this location were between 60
5 and 63 dBA. Figure 4.11-2 shows a map of the background-noise-monitoring locations.

6 **4.11.2 Regulatory Setting**

7 Noise is regulated at the Federal, State, and local levels through regulations, policies,
8 and/or local ordinances. Local policies are commonly adaptations of Federal and State
9 guidelines, based on prevailing local conditions or special requirements. These
10 guidelines have been developed at the Federal level by the U.S. Environmental
11 Protection Agency (EPA) and at the State level by the now-defunct California Office of
12 Noise Control. A summary of the regulatory setting for noise at the Federal and State
13 level is provided in Table 4.0-1 and the local level is provided below.

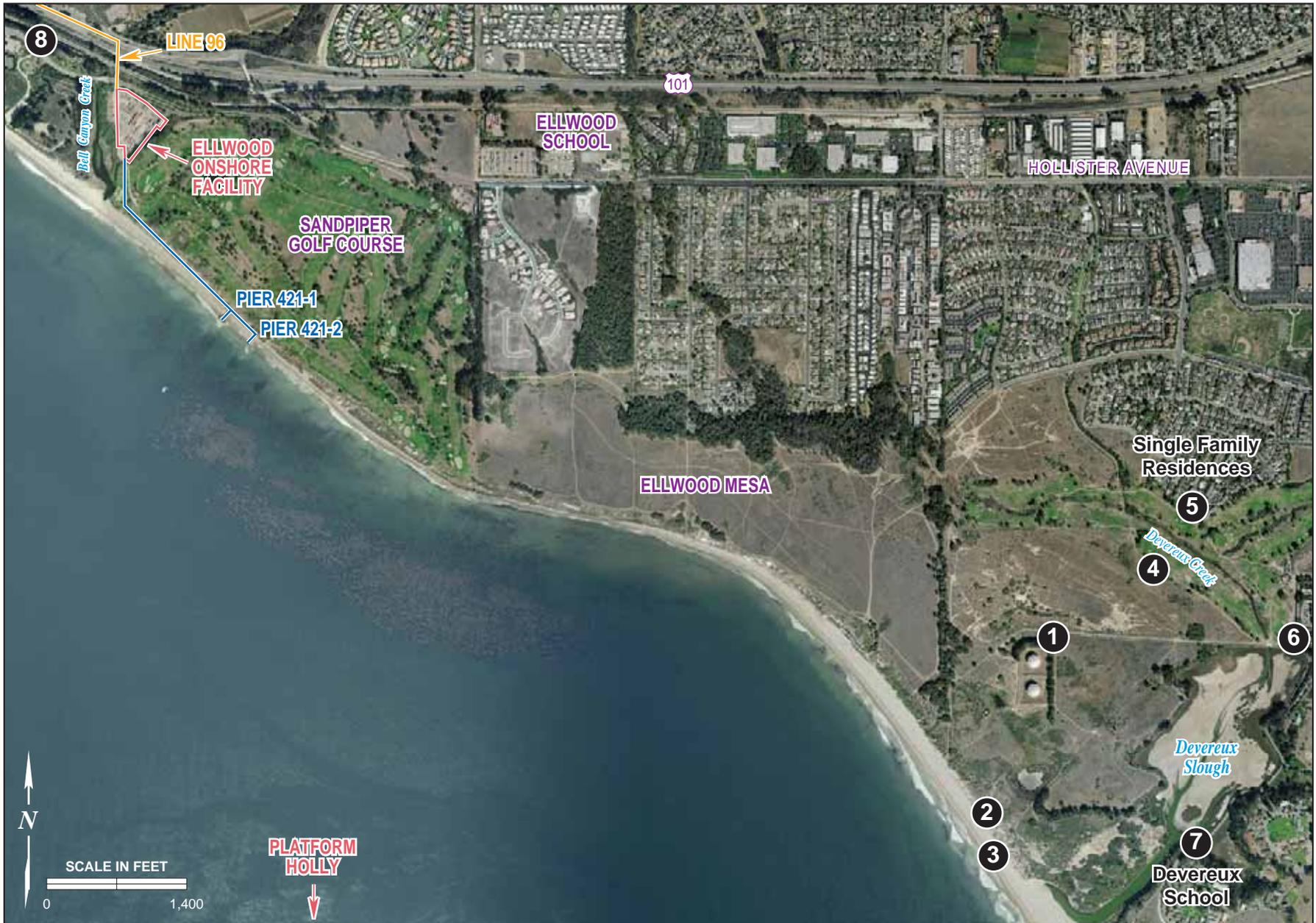
14 **Local**

15 *City of Goleta GP/CLUP*

16 The intent of the Noise Element (NE) contained within the City of Goleta GP/CLUP is to
17 limit exposure of residents, workers, and visitors to excessive noise levels, while
18 allowing future development consistent with the Land Use Element and other plan
19 elements. The Noise Element also contains policies that serve to achieve certain
20 resource protection objectives of the Open Space and Conservation Elements.

21 The Goleta GP/CLUP NE 1.1 protects noise sensitive interior uses by minimizing noise
22 impacts:

23 *The City shall use the standards and criteria of Table 9-2 [within the Noise*
24 *Element] to establish compatibility of land use and noise exposure. The City shall*
25 *require appropriate mitigation, if feasible, or prohibit development that would*
26 *subject proposed or existing land uses to noise levels that exceed acceptable*
27 *levels as indicated in this table. Proposals for new development that would cause*
28 *standards to be exceeded shall only be approved if the project would provide a*
29 *substantial benefit to the City (including but not limited to provision of affordable*
30 *housing units or as part of a redevelopment project), and if adequate mitigation*
31 *measures are employed to reduce interior noise levels to acceptable levels.*



1 NE 1.4 outlines the makeup of acoustical studies:

2 *An acoustical study that includes field measurement of noise levels may be*
3 *required for any proposed project that would: a) locate a potentially intrusive*
4 *noise source near an existing sensitive receptor, or b) locate a noise-sensitive*
5 *land use near an existing known or potentially intrusive noise source such as a*
6 *freeway, arterial roadway, railroad, industrial facility, or airport traffic pattern.*
7 *Acoustical studies should identify noise sources, magnitudes, and potential noise*
8 *mitigation measures and describe existing and future noise exposure. The*
9 *acoustical study shall be funded by the applicant and conducted by a qualified*
10 *person or firm that is experienced in the fields of environmental noise*
11 *assessment and architectural acoustics. The determination of applicability of this*
12 *requirement shall be made by the Planning and Environmental Services*
13 *Department by applying the standards and criteria outlined within the standards*
14 *and criteria of Table 9-2 [of the Noise Element].*

15 NE 5.1 addresses new, expanded, or upgraded stationary noise sources:

16 *The City shall require proposals for new stationary sources or expansions or*
17 *alterations of use for an existing stationary source to include appropriate noise*
18 *mitigation measures. Retrofits and facility upgrades under the permitting*
19 *jurisdiction of the City should ensure that noise levels are reduced, particularly for*
20 *sources that impact adjacent sensitive receivers.*

21 NE 5.2 discusses equipment maintenance:

22 *The City shall require that new and existing heating, ventilation, and air*
23 *conditioning equipment and other commercial/industrial equipment be adequately*
24 *maintained in proper working order so that noise levels emitted by such*
25 *equipment remain minimal. The City shall also require noise shielding or*
26 *insulation for such equipment if operation of the equipment results in*
27 *objectionable noise levels at adjacent properties.*

28 NE 5.4 promotes the use of noise barriers for industrial or heavy commercial uses:

29 *Absorptive types of noise barriers or walls should be used to reduce noise levels*
30 *generated by industrial and certain heavy commercial uses. To be considered*
31 *effective, the noise barrier should provide at least a 5-dBA-CNEL noise*
32 *reduction.*

33 The Goleta GP/CLUP NE 6.4 places restrictions on construction hours. The policy
34 states:

35 *Noise-generating construction activities for projects near or adjacent to*
36 *residential buildings and neighborhoods or other sensitive receptors shall be*
37 *limited to Monday through Friday, 8:00 a.m. to 5:00 p.m. Construction in*
38 *nonresidential areas away from sensitive receivers shall be limited to Monday*
39 *through Friday, 7:00 a.m. to 4:00 p.m. Construction shall generally not be*
40 *allowed on weekends and State holidays.... All construction sites subject to such*

1 *restrictions shall post the allowed hours of operation near the entrance to the*
2 *site, so that workers are aware of this limitation.*

3 The NE provides Noise and Land Use Compatibility Criteria for various land uses. One
4 criterion identifies noise levels of 50-70 dBA as “Normally Acceptable” levels at golf
5 courses, riding stables, water recreation, and cemeteries. Levels between 70 and 80
6 dBA are classified as “Normally Unacceptable” and levels above 80 dBA are classified
7 as “Clearly Unacceptable.”

8 NE 6.5 states:

9 *The following measures shall be incorporated into grading and building plan*
10 *specifications to reduce the impact of construction noise:*

11 *a. All construction equipment shall have properly maintained sound-control*
12 *devices, and no equipment shall have an unmuffled exhaust system.*

13 *b. Contractors shall implement appropriate additional noise mitigation measures*
14 *including, but not limited to, changing the location of stationary construction*
15 *equipment, shutting off idling equipment, and installing acoustic barriers around*
16 *significant sources of stationary construction noise.*

17 *c. To the extent practicable, adequate buffers shall be maintained between*
18 *noise-generating machinery or equipment and any sensitive receptors. The*
19 *buffer shall ensure that noise at the receiver site does not exceed 65 dBA CNEL.*
20 *For equipment that produces a noise level of 95 dBA at 50 feet, a buffer of 1,600*
21 *feet is required for attenuation of sound levels to 65 dBA (City of Goleta 2006).*

22 NE 7.1 necessitates the control of noise at the source:

23 *The City shall require that primary emphasis on the control of noise be*
24 *accomplished at the source by reducing the intensity of the noise generated or*
25 *through appropriate placement of noisy components of a project or use.*
26 *Secondary emphasis should be through site design of receiver sites and noise*
27 *attenuation and insulation measures.*

28 **4.11.3 Significance Criteria**

29 A noise impact is considered significant if noise levels from Project operations exceed
30 the local policies and noise standards. Thus, the noise policies of the Santa Barbara
31 County and the City of Goleta shall be adhered to. Impacts of the Project would
32 therefore be considered significant if:

- 33 · A noise level of greater than 65 dBA resulted from grading and construction
34 activity proposed within 1,600 feet of sensitive receptors, including schools,
35 residential development, commercial lodging facilities, hospitals or care facilities
36 (City of Goleta 2006);

- 1 · Noise levels at neighborhood parks increased above 70 dBA, or levels at golf
2 courses and riding stables increased above 70 dBA (City of Goleta 2006);
- 3 · Outdoor living areas of noise sensitive uses that are subject to noise levels in
4 excess of 65 dBA CNEL would generally be presumed to be significantly
5 impacted by ambient noise. A significant impact would also generally occur
6 where interior noise levels cannot be reduced to 45 dBA CNEL or less (Santa
7 Barbara County 2002); or
- 8 · A project will generally have a significant effect on the environment if it will
9 increase substantially the ambient noise levels for noise-sensitive receptors
10 adjoining areas. This may generally be presumed when ambient noise levels
11 affecting sensitive receptors are increased to 65 dBA CNEL or more. However, a
12 significant effect may also occur when ambient noise levels affecting sensitive
13 receptors increase substantially but remain less than 65 dBA CNEL, as
14 determined on a case-by-case level (Santa Barbara County 2002).

15 **4.11.4 Impact Analysis and Mitigation**

16 The nearest sensitive human receptor, as defined by the Goleta GP/CLUP, is the
17 Bacara Resort, which is approximately 3,800 feet west of the Project area. The nearest
18 residences to the Project site are approximately 2,500 feet east of the Project area.
19 However, noise-sensitive recreational uses occur on the beach surrounding the project
20 site and on the adjacent Sandpiper Golf Course. Current daytime background L_{eq} noise
21 levels in the Project vicinity, the Sandpiper Golf Course, and the adjacent beach area
22 are in the range of 60 to 63 dBA, as determined by the noise study performed on
23 August 9, 2005, for the EMT Lease Renewal EIR. The primary noise source in the
24 beach area is breaking waves. Noise impacts to biological resources are discussed in
25 Sections 4.6 and 4.7, Marine Biological Resources and Terrestrial Biological Resources,
26 respectively.

27 The Project has the potential to create both short-term construction-related and long-
28 term operational noise impacts. Elevated noise levels from construction and grading
29 activities would not occur within 1,600 feet of any residential or commercial human
30 sensitive receptors and would not conflict with the significance threshold (under 65 dBA)
31 for these distant locations. However, as discussed below, operation of construction
32 equipment would generate short-term periodic high noise levels (e.g., 90 dBA at 50 feet)
33 on the beach surrounding PRC 421 and to a lesser extent on limited portions of the
34 adjacent Sandpiper Golf Course.

35 Noise associated with the Project would generally not exceed existing noise levels. The
36 use of a downhole electric submersible pump (ESP) would eliminate the need for
37 surface pumping equipment and noise associated with such equipment. The ESP would
38 be installed at such a depth within the well that noise levels at the surface would be

1 negligible. Therefore, Project implementation would temporarily and minimally increase
2 noise levels of outdoor or interior living areas during periods of construction, and create
3 very limited long-term changes in ambient noise levels from operation of the ESP and
4 other infrastructure at Pier 421-2. No noise impacts to residences or human sensitive
5 receptors would occur.

6 Table 4.11-2, located at the end of this section, provides a summary of Project-related
7 noise impacts and recommended MMs to address these impacts.

8 **Impact NZ-1: Construction Impacts to Beach Users and Golfers**

9 **Short-term noise levels would increase during Project construction potentially**
10 **affecting a public beach and the Sandpiper Golf Course (Less than Significant).**

11 **Impact Discussion**

12 Noise levels from construction machinery were modeled using documented noise levels
13 (EPA 1971). The loudest piece of construction equipment that would be used during the
14 Project would be diesel trucks and heavy equipment. Noise at 50 feet from diesel-
15 powered equipment would not exceed 90 dBA L_{eq} ; however, at 1,000 feet, L_{eq} would be
16 64 dBA. Such increases in noise are anticipated to be periodic during the Project's
17 proposed 90 days of construction. The public beach area adjacent to the Project site is
18 a relatively low-use beach area due to its distance from nearby access points
19 (approximately 0.5 mile west of access from Ellwood Mesa and 0.5 mile east of access
20 from the Bacara Resort). However, ambient noise levels at the beach area adjacent to
21 the piers would increase noticeably during re-commissioning of Well 421-2 and
22 decommissioning and removal of Well 421-1 and the associated infrastructure. Beach
23 areas which are more heavily used by the public are approximately 0.5 mile in each
24 direction from the Project site and ambient noise levels at these more distant beaches
25 would not be significantly increased during construction activities at PRC 421. Because
26 of the short-term periodic nature of construction-related increases in noise and the
27 limited number of affected beach goers, noise impacts to beach users, while periodically
28 exceeding the threshold for the beach area directly adjacent to the Project site, would
29 be considered an adverse but less than significant impact.

30 Wells 421-1 and 421-2 are approximately 200 feet from the southern edge of Sandpiper
31 Golf Course, where construction-related L_{eq} could reach 78 dBA for brief periods, which
32 is above the 70 dBA threshold identified by the Goleta GP/CLUP Noise Element. The
33 access road and proposed pipeline replacements are adjacent to the 12th green at
34 Sandpiper Golf Course, where L_{eq} would be even greater during construction. The
35 Applicant anticipates that construction activities along the access road and pipeline area
36 will take 1 day; however, these activities could take up to 1 week. All other construction
37 activities are anticipated to last for approximately 90 days. However, the City GP/CLUP
38 policy states that noise in the vicinity of golf course and other recreational facilities be

1 reduced *to the extent practicable* and does not specify construction noise. Therefore,
2 this policy would be more applicable to long-term operational noise which would be
3 below the 70 dBA threshold. Further, standard noise reduction best management
4 practices (BMPs) should be employed during construction including installing noise
5 mufflers on all construction equipment and erecting temporary barriers between
6 construction activities and Sandpiper Golf Course. In addition, in compliance with the
7 City GP/CLUP Noise Element policy NE 6.4, construction activities would occur
8 between 8:00 a.m. and 5:00 p.m. Monday through Friday. Construction would generally
9 not be allowed on weekends and state holidays. Exceptions to these restrictions may be
10 made in extenuating circumstances (e.g., in the event of an emergency) on a case-by-
11 case basis at the discretion of the City of Goleta's Director of Planning and
12 Environmental Services. Because high construction noise levels would be episodic
13 during a limited 90-day construction period and would affect golfers only on a limited
14 segment (e.g., two holes) of the Sandpiper Golf Course, noise impacts to recreational
15 golfers would be short-term and less than significant.

16 **Mitigation Measures**

17 Although this impact would be less than significant, the following measures would be
18 incorporated into grading and building plan specifications as required by City of Goleta
19 ordinances to reduce the impact of construction noise:

20 **MM NZ-1a. Sound-Control Devices.** All construction equipment shall have properly
21 maintained sound-control devices, and no equipment should have an
22 unmuffled exhaust system.

23 **MM NZ-1b. Additional Best Management Practices (BMPs).** Contractors shall
24 implement appropriate BMPs to avoid impacting the public including but not
25 limited to changing the location of stationary construction equipment, shutting
26 off idling equipment, and installing acoustic barriers around significant sources
27 of stationary construction noise, so that the noise at sensitive receptors such
28 as golf courses, water recreation areas, and riding stables does not exceed 70
29 A-weighted decibels (dBA) California Noise Equivalent Level (CNEL).

30 **MM NZ-1c. Buffers.** To the maximum extent feasible, adequate distance buffers
31 shall be maintained between noise-generating machinery or equipment and
32 any sensitive receptors. The buffer shall be of a width that will ensure that
33 noise at the receiver site such as a residence does not exceed 65 A-weighted
34 decibels (dBA) California Noise Equivalent Level (CNEL), and at receptors
35 such as golf courses, water recreation areas, and riding stables, the noise does
36 not exceed 70 dBA CNEL. For equipment that produces a noise level of 95
37 dBA at 50 feet, a buffer of 1,600 feet is required for attenuation of sound levels
38 to 65 dBA.

1 Rationale for Mitigation

2 While there would be no significant impacts, the above MMs (NZ-1a through NZ-1c) are
3 required by the City of Goleta and would further reduce noise generated from the
4 Project.

5 **Impact NZ-2: Operational Impacts to Beach Users and Golfers**

6 **Noise levels associated with the long-term operation of the Project potentially**
7 **affecting a public beach and the Sandpiper Golf Course (Less than Significant).**

8 Impact Discussion

9 The use of a downhole ESP would eliminate the need for surface pumping equipment
10 and the noise associated with the above-ground oil pumping equipment. Therefore,
11 upon Project implementation, less than significant long-term noise impacts to recreational
12 users would occur.

13 Mitigation Measures

14 None required.

Table 4.11-2. Summary of Noise Impacts and Mitigation Measures

Impact	Mitigation Measures
NZ-1: Construction Impacts to Beach Users and Golfers	NZ-1a. Sound-Control Devices. NZ-1b. Additional Best Management Practices. NZ-1c. Buffers.
NZ-2: Operational Impacts to Beach Users and Golfers	None required.

15 4.11.5 Cumulative Impacts Analysis

16 A number of projects are located near the Project site. As stated above, no noise
17 impacts would occur during operation of PRC 421; therefore, cumulative noise impacts
18 would be limited to temporary construction noise. For the purposes of this analysis,
19 cumulative impacts are only considered significant for projects with the potential to be
20 under construction during the same time period as PRC 421. These could include minor
21 ongoing habitat restoration and well decommissioning on the Ellwood Mesa. In the
22 event that these projects are implemented concurrently with the Project, the Project
23 would contribute to cumulative noise impacts. However, impacts would be temporary
24 (last only the duration of construction) and all projects would be required to comply with
25 City of Goleta noise standards.

1 4.12 AESTHETIC/VISUAL RESOURCES

2 This section describes the onshore and offshore visual environments in the Ellwood
3 area and addresses the potential for the Project to impact the visual resources in the
4 Project vicinity and its regional context. Potential impacts to visual resources created by
5 the Project are based on a change from existing conditions.

6 The analysis in this section is based on field surveys of the Project study area and
7 surrounding area and also incorporates by reference the conclusions of the Ellwood
8 Marine Terminal (EMT) Lease Renewal Environmental Impact Report (EIR) (California
9 State Lands Commission [CSLC] 2009) and Line 96 Modification Project EIR (Santa
10 Barbara County 2011) regarding area visual resources and the potential impact on such
11 resources associated with oil development projects, and summarizes these where
12 appropriate. Where this document relies upon mitigation measures (MMs) contained in
13 those EIRs to address Project impacts, these are summarized to allow report reviewers
14 to understand the relationship of the MMs to the Project. This document also
15 incorporates data from Santa Barbara County 01-ND-34 and City of Goleta 06-ND-001.

16 4.12.1 Analysis of Visual Impacts

17 Impacts to aesthetics and visual resources are determined by identifying the visual
18 sensitivity and visual character of an environment. Visual impacts are then evaluated in
19 the context of the character of these views.

20 Visual Sensitivity

21 Visual sensitivity is defined as the public attitudes about specific views, or interrelated
22 views, and is a key factor in assessing how important a visual impact may be and
23 whether or not it represents a significant impact. Visual sensitivity has three defined
24 levels (see also Table 4.12-1):

25 High Sensitivity. High sensitivity suggests that at least some part of the public is likely to
26 react strongly to a threat to visual quality. Concern is expected to be great because the
27 affected views are rare, unique, or in other ways are special to the region or locale. A
28 highly concerned public is assumed to be more aware of any given level of adverse
29 change and less tolerant than a public that has little concern. A small modification of the
30 existing landscape may be visually distracting to a highly sensitive public and represent
31 a substantial reduction in visual quality.

Table 4.12-1. Indicators of Visual Sensitivity

High Sensitivity	
§	Views of and from areas the aesthetic values of which are protected in laws, public regulations and policies, and public planning documents;
§	Views of and from designated areas of aesthetic, recreational, cultural, or scientific interest, including national, State, county, and community parks, reserves, memorials, scenic roads, trails, interpretive sites of scientific value, scenic overlooks, recreation areas, and historic structures, sites, and districts;
§	Views of and from areas or sites of cultural/religious importance to Native Americans;
§	Views from national- or State-designated scenic highways or roads, or designated scenic highways or roads of regional importance;
§	Views from resort areas;
§	Views from urban residential subdivisions; and
§	Views from segments of travel routes, such as roads, rail lines, pedestrian and equestrian trails, and bicycle paths near designated areas of aesthetic, recreational, cultural, or scientific interest leading directly to them. Views seen while approaching an area of interest may be closely related to the appreciation of the aesthetic, cultural, scientific, or recreational significance of that destination.
Moderate Sensitivity	
§	Views from segments of travel routes near highly sensitive use areas of interest, serving as a secondary access route to those areas;
§	Views from rural residential areas and segments of roads near them which serve as their primary access route;
§	Views of and from undesignated but protected or popularly used or appreciated areas of aesthetic, recreational, cultural, or scientific significance at the local, county, or State level;
§	Views from highways or roads locally designated as scenic routes and of importance only to the local population, or informally designated as such in literature, road maps, and road atlases;
§	Views from travel routes, such as roads, trails, bicycle paths, and equestrian trails leading directly to protected or popularly used undesignated areas important for their aesthetic, recreational, cultural, or scientific interest; and
§	Views of and from religious facilities and cemeteries.
Low Sensitivity	
§	Views from travel routes serving as secondary access to moderately sensitive areas;
§	Views from farmsteads, or groupings of fewer than four residences; and
§	Views from industrial research/development, commercial, and agricultural use areas.

1 **Moderate Sensitivity.** Moderate sensitivity suggests that the public would probably voice
 2 some concern over substantial visual impacts. Often the affected views are secondary
 3 in importance or are similar to others commonly available to the public. Noticeably
 4 adverse changes would probably be tolerated if the essential character of the views
 5 remains dominant.

6 **Low Sensitivity.** Low sensitivity is considered to prevail where the public is expected to
 7 have little or no concern about changes in the landscape. This may be because the
 8 affected views are not “public” (not accessible to the public) or because there are no
 9 indications that the affected views are valued by the public. For instance, little public

1 concern for aesthetics is assumed to pertain to views from industrial, commercial, and
 2 purely agricultural areas. There are exceptions: some agricultural areas are prized for
 3 their open space value, and views of such are highly sensitive. Visual sensitivity is low
 4 for views from all sites, areas, travel routes, and sections of travel routes not identified
 5 as moderate or high in sensitivity.

6 **Visual Character**

7 The visual character of a landscape is typically described in terms of its land forms,
 8 vegetation, water features, and the “built” features of the environment. There are three
 9 objectives in assessing visual character. One is to identify the types of features
 10 considered to be inherent to the area, those features that are expressive of the
 11 prevailing land uses or of the ecological processes in the natural landscape. The
 12 second objective is to identify patterns or distribution of features characteristic of the
 13 affected setting. The third objective is to describe the existing quality of the visual
 14 resources, which varies inversely with how noticeable incongruous features may be
 15 within public views. The current visual quality of the physical environment is described
 16 as its existing visual condition, which is defined in terms of four Visual Modification
 17 Classes (VMC), noted in Table 4.12-2.

Table 4.12-2. Visual Modification Class (VMC) Definitions

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

18 **4.12.2 Environmental Setting**

19 **Study Area Location and Description**

20 The primary Project study area comprises the beach in the immediate Project vicinity
 21 that could be impacted by Project-related visual changes as well as beaches and bluff

1 tops the Ellwood area extending roughly from Coal Oil Point west to Bacara Resort. A
2 secondary study area includes creeks and beaches along the Gaviota Coast that have a
3 low potential to be impacted by an oil spill from the Line 96 pipeline as described in the
4 EIR for that project (Santa Barbara County 2011).

5 **Onshore Visual Environment**

6 The primary Project area is located on the beach within the Ellwood Coast, an area
7 widely recognized for its scenic beauty. The natural environment of the Project area
8 consists of open sandy beach and dune vegetation interspersed with urban
9 development. Significant visual resources include views of open water, bluffs, and an
10 area of wetland at Bell Creek. The Project area is used for both passive (beach walks,
11 bird watching) and active recreation (Sandpiper Golf Course). Public beach access is
12 provided near the Project site at Bacara Resort/Haskell's Beach approximately 0.5 mile
13 west of Pier 421-1. Beach access in this area is constrained during periods of high tide
14 and by the flow of water from Bell Canyon Creek. Figure 4.12-1 shows existing beach
15 access under the existing piers during low tide.



FIGURE 4.12-1. CURRENT VIEW OF PIER 421-2 FROM THE BEACH SHOWING PEDESTRIAN BEACH ACCESS

1 Bell Creek is an Environmentally Sensitive Habitat vegetated with native and non-native
2 plant species. It serves as a nesting habitat for avian species, as well as a number of
3 State and federally listed species (e.g., tidewater goby). For beachgoers and
4 birdwatchers, Bell Canyon Creek is a significant visual feature. Development in the area
5 includes the Sandpiper Golf Course, the Ellwood Onshore Facility (EOF), Piers 421-1
6 and 421-2, the EMT, "Bird Island" (the converted platforms of the old State Lease 421
7 pier extension, which lies offshore the Project area), and facilities associated with the
8 Bacara Resort such as tennis courts, public restrooms, and pedestrian access from a
9 public parking lot at Haskell's Beach. The Sandpiper Golf Course, a public golf course,
10 is located on a bluff just north of and adjacent to the Project area, but at a higher
11 elevation that makes Piers 421-1 and 421-2 only partially visible to golfers. Although dirt
12 access roads serving the EOF and piers exist, there are no public trails from the golf
13 course to the beach. The beach provides the only public access to the Project site. The
14 EOF is the last oil and gas processing plant located in the City of Goleta. Once
15 considered to be located in a remote area, the EOF now lies between Sandpiper Golf
16 Course and the Bacara Resort (see Figure 2-2). Piers 421-1 and 421-2 have been part
17 of the visual setting for over 75 years, or since the mid-1920s. A man-made access road
18 and rock revetment leading to Pier 421-1 and Pier 421-2 runs alongside the toe of a
19 bluff that extends to the end of the State Lease boundary.

20 Existing prominent oil and gas facilities may detract from the open views of the water,
21 bluffs and wetland vegetation. Other manmade facilities exist within the viewshed,
22 including the rock revetment, access roads, the EOF, and Sandpiper Golf Course;
23 however, the pier structures are more prominent than these other facilities.

24 **Offshore Visual Environment**

25 The offshore visual environment associated with the Project is frequently enjoyed by
26 commercial and recreational fishermen, surfers, swimmers, and boaters. Views of Piers
27 421-1 and 421-2 from the ocean are unobscured and the piers stand out on the sand. In
28 a regional context, however, the piers blend in with the development in the region,
29 including the Ellwood Pier, the EOF, Sandpiper Golf Course, Platform Holly, and the
30 EMT (Figure 4.12-2).

31 **Visual Sensitivity and Classification of the Ellwood Coast**

32 The visual sensitivity of the Ellwood Coast is determined to be high due to the presence
33 of scenic bluffs, wide sandy beaches, dunes and wetlands. The visual sensitivity of the
34 Project area is determined to be moderate, as defined in Table 4.12-1, due to existing
35 development such as the PRC 421 piers, caissons and seawall, which suggests that the
36 public would voice some concern over substantial visual impacts. However, noticeable
37 changes would probably be tolerated if the essential open space character of the views

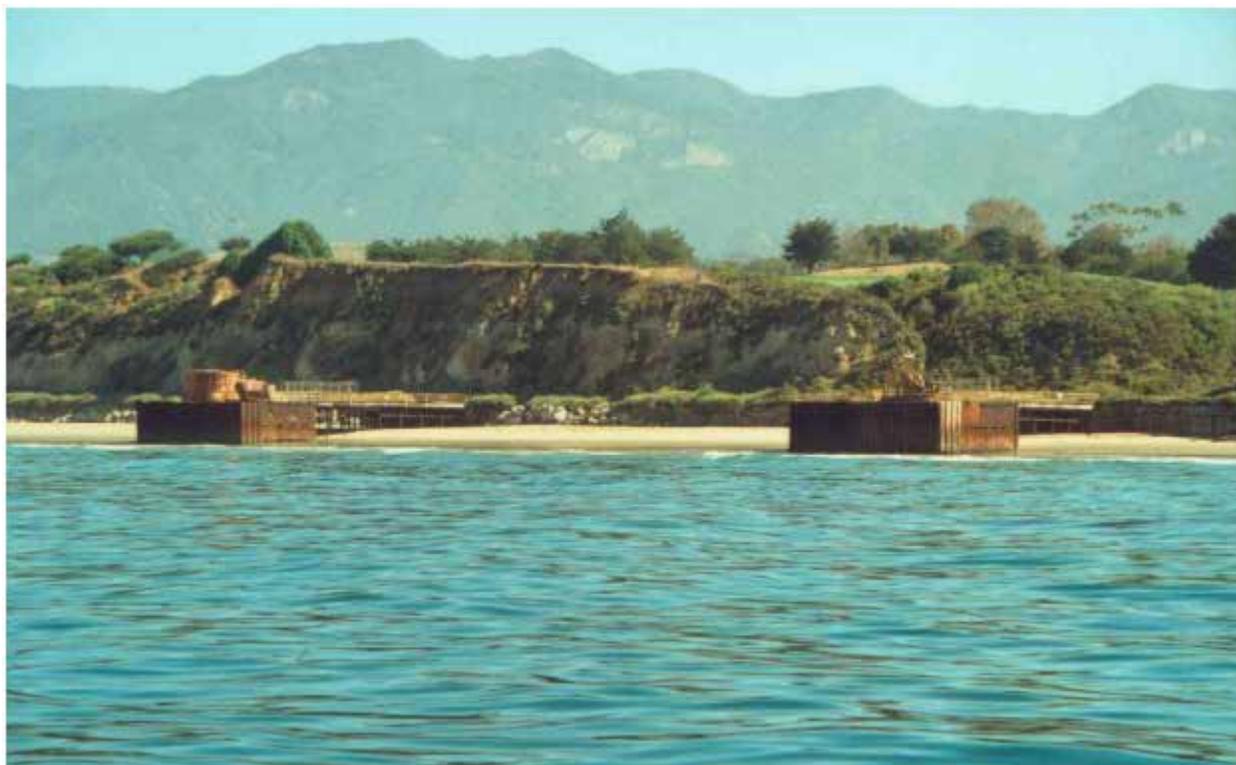


FIGURE 4.12-2. HISTORIC VIEW OF PROJECT SITE FROM OFFSHORE SHOWING EXISTING ACCESS ROAD, ROCK REVETMENT, AND SANDPIPER GOLF COURSE

1 remains dominant. Changes to the current visual quality of the physical environment
2 would be classified as VMC 2: Noticeable, visually subordinate.

3 Changes in the landscape would not be overlooked (noticeable to most without being
4 pointed out); they may attract some attention but do not compete for it with other
5 features in the field of view, including the adverse impacts of past activities. Such
6 changes often are perceived as being in the background.

7 **4.12.3 Regulatory Setting**

8 There are no Federal regulations, authorities, or administering agencies that regulate
9 aesthetic or visual resources that are specifically applicable to the Project. State laws,
10 regulations, and policies regarding visual resources are discussed in Table 4.0-1, while
11 local laws, regulations, and policies are discussed below.

12 **Local**

13 *City of Goleta General Plan/Coastal Land Use Plan (GP/CLUP) Visual and Historic*
14 *Resources Element*

1 The Goleta GP/CLUP Visual and Historic Resources Element policies VH1.1, VH1.2,
 2 and VH1.5 apply to the Project. Policy VH1.1 states that Goleta shall support the
 3 protection and preservation of the Pacific shoreline, including beaches, dunes, lagoons,
 4 coastal bluffs, and open coastal mesas. Policy VH1.2 refers to a Scenic Resources Map
 5 which identifies the coastline and Hollister Avenue as public vantage points for viewing
 6 scenic resources. Policy VH1.5 states that views of open space from public areas shall
 7 be preserved. To minimize impacts to scenic resources, the following standard
 8 regulatory conditions would be applied to the Project, where appropriate, as part of the
 9 City of Goleta Development Plan permit.

- 10 · Limitations on the height and size of structures;
- 11 · Downcast, fully shielded, full cut off lighting of the minimum intensity needed for
 12 the purpose;
- 13 · Use of landscaping for screening purposes and /or minimizing view blockage as
 14 appropriate; and
- 15 · Selection of color and materials that harmonize with the surrounding landscape.

16 *Santa Barbara County Local Coastal Program (LCP)*

17 The Santa Barbara County LCP recognizes that industrial and energy facilities,
 18 particularly when sited within view corridors, may represent major impacts on scenic
 19 and visual resources. The Santa Barbara County Comprehensive Plan Land Use
 20 Element Visual Resources Policy 1 states that “All commercial, industrial, planned
 21 development shall be required to submit a landscaping plan to the county for approval.”

22 Similarly, Local Coastal Policy 6-2 states that a plan for eliminating or substantially
 23 mitigating adverse impacts on scenic resources due to siting, construction, or operation
 24 of facilities shall accompany a Development Plan filed with the Petroleum Administrator.

25 **4.12.4 Significance Criteria**

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

- 27 · The project is inconsistent with or in violation of public policies, goals, plans,
 28 laws, regulations or other directives concerning visual resources;
- 29 · Routine operations and maintenance visually contrast with or degrade the
 30 character of the viewshed;
- 31 · The project results in a perceptible reduction of visual quality, lasting for more
 32 than one year that is seen from moderately to highly sensitive viewing positions.
 33 A perceptible reduction of visual quality occurs when, for a highly sensitive view,
 34 the visual condition is lowered by at least one Visual Modification Class (VMC);
 35 or for a moderately sensitive view, the condition is lowered by at least two VMCs;

- 1 · Night lighting would result in glare conditions affecting nearby residences; or
- 2 · Because of the time factor involved in oil dispersion, visual impacts from spills
- 3 are considered to be significant (i.e., a significant impact that remains significant
- 4 after mitigation) if first response efforts would not contain or clean up the spill,
- 5 resulting in residual impacts that would be visible to the general public on
- 6 shoreline or water areas.

7 **4.12.5 Impact Analysis and Mitigation**

8 The visual resources assessment focuses on identifying potentially significant impacts,

9 with the analysis directed toward public views in which the Project would be most

10 visible. Critical views are partly defined as those that are moderately to highly sensitive.

11 The public is considered to have a substantial concern over adverse changes in the

12 quality of such views. Critical views also are defined as being those public views that

13 would be most affected by the subject action, e.g., the greatest intensity of impact due

14 to viewer proximity to the Project and duration of the affected view. Critical views in the

15 Project area were identified as those from the beach and bluffs toward the onshore and

16 offshore portions of the Project located at the Ellwood Coast (Piers 421-1 and 421-2).

17 Table 4.12-3, located at the end of this section, provides a summary of Project-related

18 aesthetic/visual impacts and recommended MMs to address these impacts.

19 Impact VR-1: Visual Effects from Construction Activities at PRC 421

20 Construction activities would create negative visual impacts (Less than
21 Significant with Mitigation).

22 **Impact Discussion**

23 Construction activities associated with Project implementation would have potentially

24 significant short-term impacts to the visual quality of the Project area. The visual

25 environment would be disturbed by construction equipment (particularly the large

26 workover rig), construction fencing, construction materials, and occasional stockpiling of

27 debris on the upper reaches of the beach overnight for pick up and removal the next

28 day for the duration of the 90-day construction schedule. Given that the visual

29 environment at PRC 421 is enjoyed daily by beach goers, golfers, boaters, fishermen,

30 and surfers, views in the Project area would be significantly degraded on a daily basis

31 for the duration of the construction activities; however, these impacts would be

32 temporary and no permanent changes to the visual character of the area would occur

33 as a result of the Project. Night lighting would likely be used infrequently and for short

34 periods of time during Project construction since, by necessity, work on the Project

35 would need to be performed during low tide, which occurs late in the day during the fall

36 and early winter months when natural lighting is low. Per City of Goleta GP/CLUP Policy

37 NE 6.4, work would stop by 5:00 p.m., substantially reducing potential night lighting

1 needs. However, as the Applicant has stated that construction hours would need to
2 extend until 7:00 p.m., this impact would remain potentially significant.

3 **Mitigation Measures**

4 **MM VR-1a. Use Laydown Areas for Overnight Storage of Equipment.** Equipment
5 placed on the beach shall be returned to the laydown areas at the end of each
6 workday, both for public safety and for aesthetic considerations.

7 **MM VR-1b. Caution Tape around Materials Placed on Beach.** Materials
8 temporarily placed on the upper reaches of the beach shall be roped-off with
9 caution tape and removed within 24 hours in most cases.

10 **MM VR-1c. Material Removal at Construction Completion.** All materials,
11 equipment, and debris shall be removed from the site upon completion of the
12 Project construction. Venoco shall revegetate all areas subject to ground
13 disturbance associated with project construction with species that are
14 biologically and visually compatible with the surroundings in accordance with a
15 Restoration Plan approved by the City of Goleta as identified in MM TBIO-1c
16 Restoration Plan/Restoration.

17 **MM VR-1d. Minimal Night Lighting.** Lighting shall use the minimum number of
18 fixtures and intensity needed for construction activities. Fixtures shall be fully
19 shielded and have full cut-off lights to minimize visibility from public viewing
20 areas, wildlife habitats, migration routes, and other sensitive environs. Venoco
21 shall prepare and implement a Night Lighting Plan to ensure that night lighting
22 is minimal and directed away from sensitive habitats to the maximum extent
23 feasible, for review and approval by the City of Goleta.

24 **MM VR-1e. No Night Lighting After 5:00 p.m.** Night lighting and work shall not
25 occur past the 5:00 p.m. work stoppage deadline.

26 **Rationale for Mitigation**

27 The above MMs would reduce the amount of time construction equipment would be
28 visible from the beach and minimize the use of night lighting, thereby reducing visual
29 impacts from construction activities. Full implementation of these measures would
30 reduce Impact VR-1 to less than significant.

31 **Impact VR-2: Visual Effects from Accidental Oil Spills**

32 **Project implementation would incrementally increase the likelihood of oil spill**
33 **from primary or secondary Project components, including Pier 421-2, associated**
34 **pipelines, and the Line 96 pipeline (Significant and Unavoidable).**

35 **Impact Discussion**

36 A large spill from the Project could cause visual impacts ranging from oil sheens to
37 heavy oiling including floating lumps of tar. Heavy crude oil may disappear over the

1 duration of several days, with remaining heavy fractions floating at or near the surface in
2 the form of mousse, tarballs, or mats, and lasting from several weeks to several months.
3 Therefore, the presence of oil on the water would change the color and, in heavier
4 oiling, textural appearance of the water surface. Oil on shoreline surfaces or near shore
5 marsh areas would cover these surfaces with a brownish-blackish, gooey substance.
6 However, direct releases of oil onto Goleta area beaches are projected to be limited to
7 approximately 1.75 barrels of oil, a relatively modest amount; however, the Project
8 would incrementally contribute to larger spills from Line 96 upcoast into Gaviota area
9 streams, with a low potential for spills as large as 60 barrels of oil, a portion of which
10 could find its way to the shoreline and potentially onto downcoast Goleta area beaches.

11 Although the potential for spills is low and volumes would not be large, such oiling would
12 result in a negative impression of the highly sensitive viewshed. The public would likely
13 react negatively to the visual effects. Without rapid containment by immediate booming
14 and cleanup, the visual effects of even a small spill can leave residual impacts, and can
15 be significant.

16 The impact of a spill could last for a long period of time, depending on the level of
17 physical impact and effectiveness of clean up. Even in events where light oiling would
18 disperse rapidly, significant impacts are expected. In events where medium to heavy
19 oiling occurs over a widespread area, and where first response cleanup efforts are not
20 effective, leaving residual effects of oiling, significant impacts would be expected. The
21 physical efforts associated with cleanup efforts would also contribute to a negative
22 impression of the environment and the visual impact, particularly in the primary study
23 area along the Ellwood Coast which receives substantial recreational use of beaches
24 and trails. It is impossible to predict with any certainty the potential visual consequences
25 of spills; therefore visual impacts are considered significant.

26 **Mitigation Measures**

27 Implementation of those measures identified in Sections 4.2, Safety; 4.3, Hazardous
28 Materials; 4.5 Hydrology, Water Resources, and Water Quality, 4.6, Marine Biological
29 Resources; and 4.7 Terrestrial Biological Resources for contingency planning and spill
30 response shall be required.

31 **Rationale for Mitigation**

32 Even with implementation of the measures presented in the above-mentioned sections,
33 which provide improved oil spill capabilities, spill containment measures, and protection
34 of resources, the risk to the visual environment may be significant, even for small spills.

1 **Residual Impacts**

2 Even with successful implementation of MMs for oil spill impacts, visual resources may
3 be affected by spills and impacts would remain potentially significant.

4 **Impact VR-3: Visual Improvements due to Removal of Pier 421-1**
5 **Removal of Pier 421-1 would restore the natural appearance along this section of**
6 **the beach (Beneficial).**

7 **Impact Discussion**

8 Decommissioning and removal of Pier 421-1 and restoration of the beach along this
9 stretch would restore the aesthetic value of this stretch of coastline. Removal of the pier
10 would allow a greater view of the Pacific Ocean and other sensitive view sheds of the
11 Ellwood-Devereux Coast (Figure 4.12-3). Additionally, views from the ocean toward the
12 beach would no longer include this structure. Therefore, the Project would produce
13 beneficial impacts to aesthetic and visual resources of the area.



14 **FIGURE 4.12-3. VIEW OF PIER 421-2 FROM THE BEACH WITH REMOVAL OF**
15 **PIER 421-1**

16 **Mitigation Measures**

17 No mitigation required.

1 **Impact VR-4: Visual Changes to Pier 421-2**
 2 **Modifications to Pier 421-2 would change the appearance of this structure (Less**
 3 **than Significant).**

4 **Impact Discussion**

5 Recommissioning of Pier 421-2 would include installation of new caisson walls on the
 6 non-seaward-facing sides, new handrails, and new decking. Pier 421-2 has been part of
 7 the visual setting since the mid-1920s, but has been substantially changed over time.
 8 Further, these changes would constitute improvements to the aesthetics of the pier,
 9 which has suffered the effects of corrosion and weathering from environmental
 10 exposure. Therefore, impacts would be less than significant.

11 **Mitigation Measures**

12 No mitigation required.

Table 4.12-3. Summary of Aesthetics/Visual Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
VR-1: Visual Effects from Construction Activities at PRC 421	VR-1a. Use Laydown Areas for Overnight Storage of Equipment. VR-1b. Caution Tape around Materials Placed on Beach. VR-1c. Material Removal at Construction Completion. VR-1d. Minimal Night Lighting. VR-1e. No Night Lighting After 5:00 p.m.
VR-2: Visual Effects from Accidental Oil Spills	Implementation of those measures identified in Sections 4.2, Safety; 4.3, <u>Hazardous Materials</u> ; 4.5 Hydrology, Water Resources, and Water Quality, 4.6, Marine Biological Resources; and 4.7 Terrestrial Biological Resources.
VR-3: Visual Improvements due to Removal of Pier 421-1	None required.
VR-4: Visual Changes to Pier 421-2	None required.

13 **4.12.6 Cumulative Impacts Analysis**

14 Cumulative impacts associated with the Project include the continued urbanization of
 15 the Ellwood area, including the proposed expansion of the Bacara Resort,
 16 improvements to Sandpiper Golf Course, and the partially completed construction of 62
 17 homes by Comstock Homes. The Project would remove one existing pier, a beneficial
 18 contribution to the cumulative impacts from historic oil development in the area.
 19 However, development activity at PRC 421 would increase the public's awareness of oil
 20 production occurring in the region. Depending on the viewers' personal and cultural
 21 interpretations of oil production, this awareness would affect their coastal experience.

1 **4.13 CULTURAL, HISTORICAL, AND PALEONTOLOGICAL RESOURCES**

2 This section identifies cultural, historical, and paleontological resources in the Project
3 area, including PRC 421 itself, and evaluates impacts to such resources that would
4 potentially result from Project development. This document incorporates by reference
5 the conclusions of the Ellwood Marine Terminal (EMT) Lease Renewal Environmental
6 Impact Report (EIR) (California State Lands Commission [CSLC] 2009) and Line 96
7 Modification Project EIR (Santa Barbara County 2011) regarding cultural, historical, and
8 paleontological resources and summarizes these conclusions where appropriate.
9 Where this document relies upon mitigation measures (MMs) contained in those EIRs to
10 address Project impacts, these are summarized to permit report reviewers to
11 understand their relationship to the Project. This document also incorporates data from
12 Santa Barbara County 01-ND-34 and City of Goleta 06-MND-01 which included
13 assessment of cultural resources in the Project vicinity.

14 **4.13.1 Environmental Setting**

15 **Study Area Location and Description**

16 The primary Project study area comprises the immediate vicinity of PRC 421 that would
17 be subject to direct impacts as a result of Project implementation. This area includes
18 existing PRC 421 facilities, access road, and the pipeline route along the access road,
19 coastal bluff, golf course easement, and tie-in at the existing Ellwood Onshore Facility
20 (EOF). Impacts related to construction of the Line 96 Pipeline project were addressed in
21 the EIR for that project, but a secondary Project study area is associated with the Line
22 96 pipeline alignment due to the potential for spill effects on Cultural, Historical, and
23 Paleontological Resources.

24 **Cultural Resources**

25 Evidence exists for the presence of humans in the Santa Barbara coastal area for more
26 than ten thousand years. While some researchers (e.g., Orr 1968) have suggested that
27 the Santa Barbara Channel area may have been settled as early as 40,000 years ago,
28 only limited evidence for occupation much earlier than 9,500 years has been
29 discovered. Even so, human prehistory along the Santa Barbara channel area coast
30 may extend back as much as 12,000 years (Erlandson et al. 1987; Erlandson et al.
31 1996). Due to the rich food resources found on land and in the sea, Native American
32 populations grew over time and their organization became more complex. The area's
33 various sources of fresh water, including Tecolote and Winchester Canyon creeks to the
34 west and Glen Annie Creek and the Goleta Slough to the east, were ideal locations for
35 permanent and semi-permanent village settlements that provided abundant fish, birds,
36 and plants for hunting and gathering.

1 Current models of cultural evolution along the Santa Barbara Channel recognize that
2 over time, prehistoric peoples became increasingly dependent upon marine resources
3 though they required greater energy to procure. Populations also became less
4 dependent upon terrestrial resources such as large game animals due to reduced
5 numbers of game. The need for more sophisticated subsistence technologies and group
6 cooperation resulted in increasingly complex cultural interactions, culminating in the
7 Chumash culture and complex social organization encountered by the Spanish in the
8 1500s (Arnold et al. 1997; Glassow et al. 1990; Wilcoxon et al. 1982). Climatic change
9 during the transition from the Middle to Late Period around A.D. 1150 to 1300 may have
10 played an important role in this process (Raab and Larson 1997), although others
11 consider that pressures from increased population were also involved (Arnold et al.
12 1997).

13 A Sacred Lands File search conducted for the Project area failed to indicate presence of
14 Native American traditional cultural places (Native American Heritage Commission
15 2013). Within the Project vicinity, cultural resources include six documented sites within
16 the Bacara Resort property. Among these is Site SBa-71, which covers two-thirds of the
17 East Terrace at the Bacara Resort and was an area of permanent habitation by the
18 Chumash and “is designated highly sensitive because of its relatively undisturbed
19 nature, dense deposits, and extensive burials” (California Coastal Commission 2013).

20 There is a potential for offshore cultural resources in the Project vicinity, however none
21 are known from within 1 mile of shore. Refer to the Line 96 Modification Project EIR
22 (Santa Barbara County 2011) for detailed description of offshore cultural resources
23 along the coastline.

24 **Historical Resources**

25 Oil exploration began in Santa Barbara County when significant discoveries of oil were
26 successfully tapped in the Santa Maria Valley, 45 miles northwest of the current Project
27 area, during the 1880s. During the 1890s, the first offshore oil drilling piers were built in
28 the waters off Summerland, 17 miles east of the Project area. Other significant
29 discoveries followed in the early 1900s at the Orcutt and Cat Canyon fields. One well in
30 the Orcutt field struck an oil reservoir in 1904 that produced one million barrels of oil in
31 its first 100 days of operation, causing a sensation in the rest of the country which
32 proclaimed it to be “the greatest gusher in the world” (Santa Barbara County 2006).

33 World War I marked increased demand for oil that lasted through the 1920s. Even after
34 the disastrous stock market collapse of 1929, foreign demand for U.S. oil in the 1930s
35 spurred further oil development in Santa Barbara County. Oil production in the Orcutt
36 Hills hit an all-time high during World War I and then declined temporarily until rising
37 domestic automobile use in the 1920s necessitated more production.

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

11 The Ellwood Oil Field was discovered in 1928. PRC 421 was also built and
12 commissioned in 1928 and Piers 421-1 and 421-2 are historic structures, though they
13 are without historic or cultural significance to the community, State or nation. Although
14 they are the last remaining surf zone wells in California, they have been modified
15 significantly since the 1930s and do not maintain historic integrity (Figure 4.13-1; the red
16 arrow points to Pier 421-2). Further, based on review of historical photographs the Piers
17 were changed from the historic configuration sometime between 1979 and 1987;
18 therefore, making most of the structures less than 40 years old.

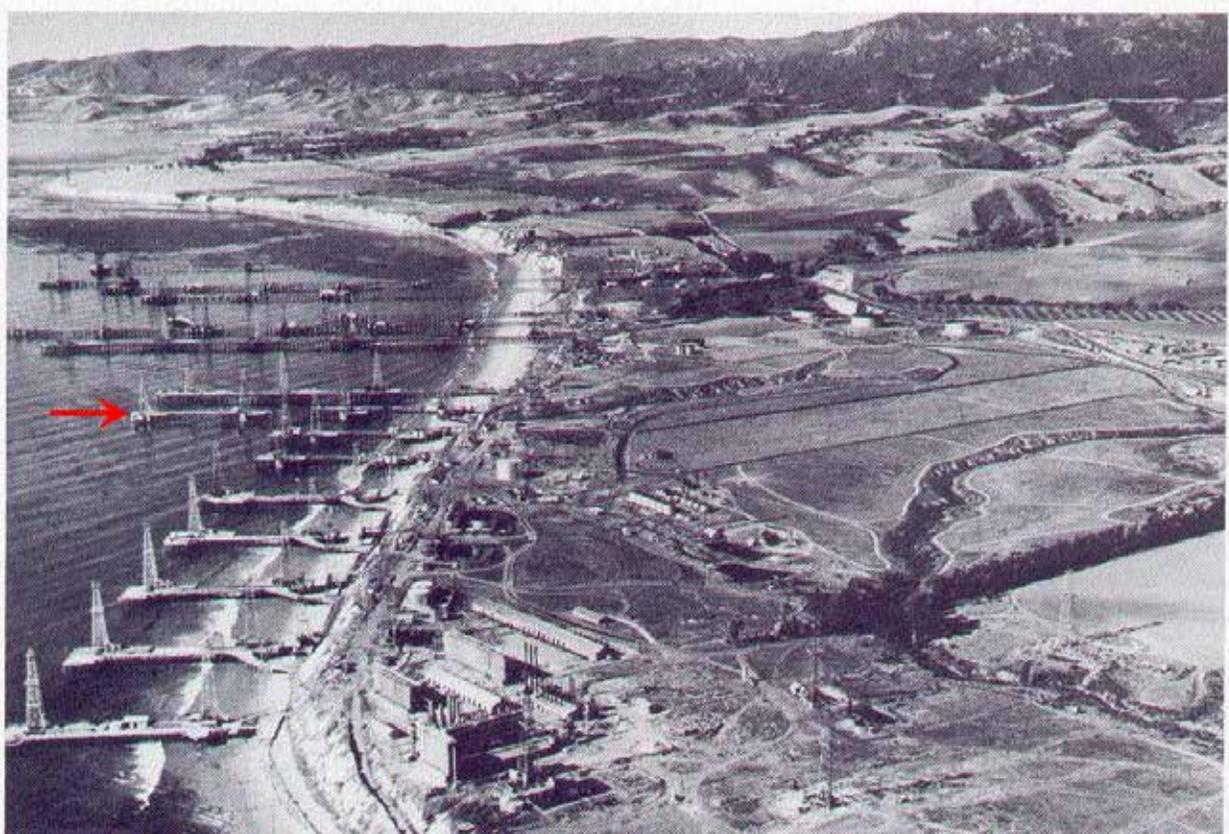


FIGURE 4.13-1. 1938 PHOTO OF ELLWOOD OIL PIERS

1 Known historic resources near the Project site consist of a landmark site at the
2 northeast corner of the Sandpiper Golf course, located approximately 0.52 mile away.

3 **Paleontological Resources**

4 The Project area is situated on Pleistocene older alluvium deposits, consisting primarily
5 of relatively unconsolidated silt, sand, and gravel. These alluvial deposits overlie the
6 Miocene Sisquoc Formation, which is exposed in the coastal bluff northwest of the
7 Project area and consists of silty, diatomaceous, clay shale (Dibblee 1987).

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

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

20 Vertebrate fossil sites are usually found in non-marine or continental deposits.
21 Vertebrate fossils of continental material are usually rare, sporadic, and localized.
22 Scattered vertebrate remains (mammoth, mastodon, horse, ground sloth, camel, and
23 rodents) have been identified from the Pleistocene non-marine continental terrace
24 deposits on Vandenberg Air Force Base, but these resources would not be expected in
25 the Project site and vicinity (Gray 2003).

26 The invertebrate fossils that would be expected to exist within Project site geologic rock
27 units are widespread and abundant in many areas throughout the Pacific Coastline
28 including the Santa Barbara County (Gray 2003). The overwhelming bulk of invertebrate
29 fossil material in these rocks is due to the deposition of sediment in marine basins. Very
30 seldom are vertebrate marine fossils such as whale, porpoise, seal, or sea lion found in
31 marine rock units such as the Miocene Monterey Formation and the Pliocene Sisquoc
32 Formations located within the PRC 421 Project area and vicinity. Therefore, the
33 sensitivity for encountering important paleontological resources within the PRC 421
34 Project area and vicinity is considered low (CSLC 2009).

1 **4.13.2 Regulatory Setting**

2 There are several Federal regulations related to cultural resources and paleontological
3 resources. Both cultural and paleontological resources are regulated at the State level.
4 Federal and State laws, regulations, and policies related to cultural and paleontological
5 resources are discussed in Table 4.0-1, while the local regulatory setting is discussed
6 below.

7 **Local**

8 *Cultural Resources*

9 The Santa Barbara County Coastal Plan has several policies that address the
10 preservation of significant cultural resources. Policy 10-1 states that all available
11 measures must be explored to avoid development on significant historic, prehistoric,
12 archaeological and other classes of cultural sites. Policy 10-2 states that project design
13 shall be required to avoid impacts on archaeological or other cultural sites if possible.
14 Policy 10-3 states that where avoidance of construction impacts is not possible,
15 adequate mitigation shall be required in accordance with State Office of Historic
16 Preservation and Native American Heritage Commission guidance. Policy 10-4 states
17 that indirect activities including off-road vehicle use, unauthorized artifact collection or
18 similar actions capable of destroying or damaging archaeological or cultural sites is
19 prohibited. Policy 10-5 states that Native Americans shall be consulted when
20 development is proposed that would potentially impact significant archaeological or
21 cultural sites. Santa Barbara County Cultural Resource Guidelines provide direction to
22 archaeologists on what types of research topics and research questions are appropriate
23 to determine the significance of an archaeological site.

24 The City of Goleta's General Plan/Coastal Land Use Plan (GP/CLUP) contains several
25 policies in the Open Space and Visual and Historic Resources Elements pertaining to
26 cultural resources. One of the main goals in the Open Space Element is to ensure the
27 protection of areas associated with Native American culture, including burial sites,
28 religious and ceremonial sites, archaeological or historical sites, and other cultural sites.
29 Policy OS 7.1 contains a measure to protect the places, features, and objects
30 associated with Native American cemeteries, religious or ceremonial sites,
31 archaeological or historical sites, or other cultural sites. Policy OS 8 contains several
32 measures by which to identify and protect prehistoric and historic cultural sites and
33 resources from destruction or harmful alteration. Policies VH 2.2 and 2.3 both call for
34 the preservation and protection of historic structures and/or sites. The most relevant
35 policy is Policy VH 5, the Protection of Native American and Paleontological Resources,
36 the objective of which is to identify, protect, and encourage preservation of significant
37 architectural, historic, and prehistoric sites, structures, and properties that comprise
38 Goleta's heritage. Table 6.1 of the Visual and Historic Resources Element lists historic

1 resources in Goleta, none of which are located at or near the Project site. Lastly, Policy
2 VH 6 seeks to identify, preserve, protect, and enhance significant historic landscaping,
3 gardens, and open spaces which contribute to the setting or context of Goleta.

4 *Paleontological Resources*

5 Policy VH 5, discussed above, addresses potential impacts to paleontological
6 resources.

7 **4.13.3 Significance Criteria**

8 **Cultural Resources**

9 The State CEQA Guidelines section 15064.5 defines a significant cultural resource,
10 either prehistoric or historic, as a “historical resource.” Public Resources Code section
11 5020.1 subdivision (j) defines a historical resource as:

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

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

25 (A) *Is associated with events that have made a significant contribution to the*
26 *broad patterns of California’s history and cultural heritage;*

27 (B) *Is associated with the lives of persons important in our past;*

28 (C) *Embodies the distinctive characteristics of a type, period, region, or method of*
29 *construction, or represents the work of an important creative individual, or*
30 *possesses high artistic values; or*

31 (D) *Has yielded, or may be likely to yield, information important in prehistory or*
32 *history.*

33 The fact that a resource is not listed in, or determined to be eligible for listing in the
34 California Register of Historical Resources, not included in a local register of historical
35 resources (pursuant to Pub. Resources Code, § 5020.1, subd. (k)), or identified in an

1 historical resources survey (meeting the criteria in § 5024.1, subd. (g)) does not
2 preclude a lead agency from determining that the resource may be a historical resource
3 as defined in sections 5020.1, subdivision (j), or 5024.1.

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

- 7 1. *Substantial adverse change in the significance of an historical resource means*
8 *physical demolition, destruction, relocation, or alteration of the resource or its*
9 *immediate surroundings such that the significance of an historical resource would*
10 *be materially impaired.*
- 11 2. *The significance of an historical resource is materially impaired when a project:*
 - 12 (A) *Demolishes or materially alters in an adverse manner those physical*
13 *characteristics of an historical resource that convey its historical significance*
14 *and that justify its inclusion in, or eligibility for, inclusion in the California*
15 *Register of Historical Resources; or*
 - 16 (B) *Demolishes or materially alters in an adverse manner those physical*
17 *characteristics that account for its inclusion in a local register of historical*
18 *resources pursuant to section 5020.1(k) of the Public Resources Code or its*
19 *identification in an historical resources survey meeting the requirements of*
20 *section 5024.1(g) of the Public Resources Code, unless the public agency*
21 *reviewing the effects of the project establishes by a preponderance of*
22 *evidence that the resource is not historically or culturally significant; or*
 - 23 (C) *Demolishes or materially alters in an adverse manner those physical*
24 *characteristics of a historical resource that convey its historical significance*
25 *and that justify its eligibility for inclusion in the California Register of*
26 *Historical Resources as determined by a lead agency for purposes of*
27 *CEQA.*

28 **Paleontological Resources**

29 The State CEQA Guidelines Appendix G, which includes an Environmental Checklist
30 Form, provides a suggested significance threshold for impacts to paleontological
31 resources:

- 32 · Would directly or indirectly destroy a unique paleontological resource or site or
33 unique geologic feature.

34 **4.13.4 Impact Analysis and Mitigation**

35 Impacts to cultural resources can occur by direct or indirect impacts. Direct impacts
36 result from ground disturbances directly and indirectly caused by facility construction,

1 decommissioning, operation or maintenance. Indirect impacts result from increased
2 access to archaeological sites, i.e., construction or facility employees participating in
3 unauthorized artifact collecting.

4 Table 4.13-1, located at the end of this section, provides a summary of Project-related
5 cultural resources impacts and recommended MMs to address these impacts.

6 **Impact CR-1: Potential Impacts to Previously Undiscovered Cultural Resources**
7 **During Construction**

8 **Although no cultural resources are known to be present within the Project area**
9 **and Project activities would generally occur in previously disturbed areas,**
10 **excavations around the EOF and along the Project access road could exceed**
11 **previous depths and disturb previously undiscovered cultural resources (Less**
12 **than Significant with Mitigation).**

13 **Impact Discussion**

14 Potential for impacts to subsurface cultural resources is limited due to the fact that
15 construction and decommissioning for the Project would take place on artificial fill along
16 the seawall access road, on previously graded and developed areas and on existing
17 piers. Previous reviews of cultural resources in the area to be affected by the project
18 have not identified significant cultural resources (Santa Barbara County 2001; City of
19 Goleta, 2006; Santa Barbara County 2011). The seaward portion of the EOF, the
20 access road, and PRC 421 pier area consists of relatively loose beach sand that is
21 prone to erosion and scour (i.e., the removal of sand due to wave action along the
22 oceanfront, sometimes to shale bedrock). Due to the open exposure, the oceanfront is
23 generally not considered suitable for occupation by prehistoric peoples. Additionally,
24 due to the movement of sand on a seasonal basis (i.e., sand is generally scoured off the
25 beach during the winter months as a result of high surf activity, but is generally
26 deposited during the summer months of gentle surf), intact prehistoric cultural material
27 is generally not found along the oceanfront. Therefore, there is no archaeological
28 sensitivity within most of the Project site, and little to no potential for impacts. As
29 described above, the sensitivity for encountering important paleontological resources
30 within the Project area and vicinity is considered low. However, there remains a
31 potential that Project-related ground disturbance would exceed previous depths and
32 affect heretofore undiscovered cultural resources, such as along the access road or
33 within the EOF. Therefore, this impact would be less than significant with mitigation.

34 **Mitigation Measures**

35 **MM CR-1. Cultural Resources Monitor.** A qualified cultural resources expert shall
36 act as a construction monitor during all ground-disturbing work. The expert
37 shall be retained by the City of Goleta and paid for by Venoco. The Cultural
38 Resources Monitor shall prepare a Cultural Resources Monitoring Plan,

1 outlining the approach to monitoring, involvement of the affected Native
2 American nation, and detailing pre-construction workshops for construction
3 personnel for review approval by the City of Goleta and paid for by Venoco. In
4 the event archaeological resources are encountered during grading, as
5 observed by the cultural resources monitor or their designee, work shall be
6 stopped immediately or redirected until the City-approved archaeologist and
7 local Chumash observer can evaluate the significance of the find pursuant to
8 Phase 2 investigation standards set forth in the City Archaeological Guidelines.
9 The Phase 2 shall be funded by Venoco. If resources are found to be
10 significant, they shall be subject to a Phase 3 mitigation program consistent
11 with City Archaeological Guidelines. The Phase 3 shall be funded by the
12 permittee. This requirement shall be printed on all plans submitted for any City
13 of Goleta Land Use Permit, building, grading, or demolition permits.

14 **Rationale for Mitigation**

15 Although the potential for encountering cultural resources in previously disturbed areas
16 and on the wave-cut beach is considered extremely low, the above MM would ensure
17 that any cultural resources inadvertently exposed during construction would be
18 protected and properly documented. Full implementation of this measure would reduce
19 Impact CR-1 to less than significant.

20 **Impact CR-2: Potential Impacts to Cultural Resources Due to Oil Spill and** 21 **Cleanup Activities**

22 **A potential oil spill from PRC 421 facilities or from Project-related oil transported**
23 **in the Line 96 pipeline could result in primary impacts to undiscovered cultural**
24 **resources from contamination, or secondary impacts related to spill cleanup**
25 **activities (Less than Significant).**

26 **Impact Discussion**

27 Although no cultural resources have been identified within the primary Project area,
28 there is a potential for undiscovered cultural resources outside previously disturbed
29 portions of the site. In the event of a spill from Pier 421-2 or the flowline, those cultural
30 resources could become contaminated and damaged during clean-up activities. Further,
31 efforts to remediate contaminated soils may require additional ground disturbance. For
32 Line 96, the primary concern would be spills in areas adjacent to coastal drainages that
33 have a high sensitivity for prehistoric archaeological resources. Refer to Impact CR-5 in
34 the Line 96 Modification Project Final EIR (Santa Barbara County 2011). There are also
35 no known shipwrecks near the Project area that would be vulnerable to Project-related
36 oil spills (Santa Barbara County 2011). Given the production levels at PRC 421, the
37 Project presents a low risk of a spill that would require extensive ground disturbance
38 and subsequent damage to undiscovered cultural resources. As described in Section
39 4.2 Safety, spills from PRC 421 facilities are estimated to be limited to 1.7 barrels.

1 Potential spills from Line 96 would involve larger volumes, but procedures are already in
2 place to reduce those potential impacts to undiscovered cultural resources. Therefore, it
3 is a less than significant impact.

4 **Mitigation Measures**

5 None required. However, MM CR-1b from the Line 96 Modification Project EIR (see
6 Appendix H) would apply and would reduce potential oil spills impacts from oil
7 transportation to less than significant. Further, any ground disturbing work related to oil
8 spill cleanup within the Project area would be subject to the requirements of MM CR-1
9 in this EIR, requiring a Cultural Resources Monitor to be present.

Table 4.13-1. Summary of Cultural, Historical, and Paleontological Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
CR-1: Potential Impacts to Previously Undiscovered Cultural Resources During Construction	MM CR-1: Cultural Resources Monitor
CR-2: Potential Impacts to Cultural Resources Due to Oil Spill and Cleanup Activities	None required.

10 **4.13.5 Cumulative Impacts Analysis**

11 Historic archaeological sites are non-renewable resources that have been destroyed at
12 an alarming rate State-wide and locally. Thus, the assessment of potential cumulative
13 impacts on cultural resources within the Project area considers these past activities
14 resulting in loss of historic sites, along with other probable future projects in the vicinity.

15 The Project would have a less than significant contribution to cumulative impacts to
16 undiscovered cultural resources within the Project area.

1 **4.14 ENERGY AND MINERAL RESOURCES**

2 This section describes energy and mineral resources such as natural gas, oil, and sand
3 and gravel in the Project vicinity and evaluates the impacts that the Project may have on
4 these resources. The analysis provides an overview of energy consumption and energy
5 sources and focuses upon area energy and mineral resources that could be affected by
6 the construction and operation, and/or decommissioning, of primary Project
7 components, such as the construction and operation of Well 421-2 and
8 decommissioning and removal of Pier 421-1. This analysis also briefly discusses area
9 resources that could be affected by the operation of secondary Project components
10 (existing facilities not proposed for modification) such as the Ellwood Onshore Facility
11 (EOF) and Line 96 pipeline. For a full discussion of such resources, see the Ellwood
12 Marine Terminal (EMT) Lease Renewal Environmental Impact Report (EIR) (California
13 State Lands Commission [CSLC] 2009) and Line 96 Modification Project EIR (Santa
14 Barbara County 2011).

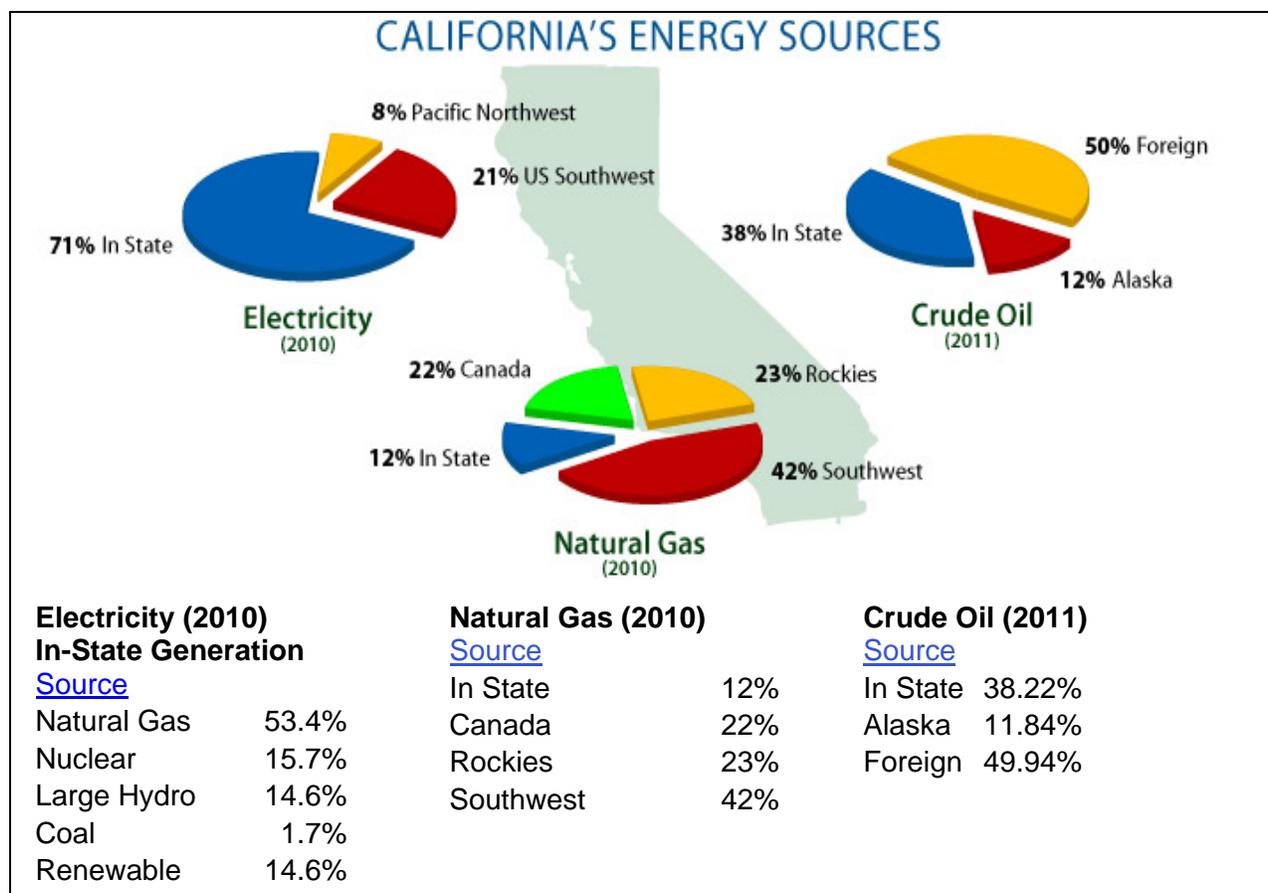
15 Potential impacts to energy and mineral resources created by the Project are based on
16 a change from existing conditions. Significance criteria are used to assess the
17 significance of the impacts, and whether mitigation measures (MMs) can be applied to
18 reduce the level of significance.

19 This document uses information from the U.S. Energy Information Administration
20 (USEIA), California Energy Commission (CEC) 2011 Integrated Energy Policy Report
21 (IEPR) and 2012 IEPR Update, California Department of Conservation Division of Oil,
22 Gas, and Geothermal Resources (DOGGR) 2012 Preliminary Report of California Oil
23 and Gas Production Statistics, City of Goleta 2006 MND (06-MND-001), and Santa
24 Barbara County 2001 MND (01-ND-34) and incorporates by reference the conclusions
25 of the Line 96 Modification Project EIR and EMT Lease Renewal EIR regarding area
26 mineral and energy resources and the potential impacts on such resources associated
27 with operation of area oil facilities, and summarizes these where appropriate.

28 **4.14.1 Environmental Setting**

29 **State Overview**

30 California largely relies on electricity, natural gas, and petroleum-based fuels for its
31 energy (Figure 4.14-1). Due to high energy demand, California imports more energy
32 than any other state (USEIA 2013). The following information provides a summary of
33 the State's energy sources, including energy production and consumption in California.



Source: http://energyalmanac.ca.gov/overview/energy_sources.html

FIGURE 4.14-1. CALIFORNIA'S ENERGY SOURCES (2010-2011)

1 *Electricity*

2 According to the CEC 2012 IEPR Update, Californians consumed 273,103 gigawatt
 3 hours (GWh) of electricity in 2010 with consumption projected to increase to between
 4 308,677 and 333,838 GWh annually by 2022. This reflects an annual average growth
 5 rate of between 1.03 and 1.69 percent. Natural gas-fired power plants account for about
 6 one-half of State electricity generation followed by nuclear power, hydropower, and
 7 renewable energy; California leads the nation in electricity generation from non-
 8 ~~hydroelectire~~ hydroelectric renewable energy sources, including wind, geothermal,
 9 solar, fuel wood, and municipal solid waste/landfill gas resources (USEIA 2013).

10 *Natural Gas and Petroleum*

11 According to the CEC (2013), Californians consumed 12,774 million (MM) therms
 12 (1,277 billion cubic feet) of natural gas in 2010, not including gas used in natural gas-
 13 fired power plants (which provided more than 40 percent of California's electricity in
 14 2010). By 2022, projected annual customer demand is estimated range from 13,688 to

1 14,075 MMtherms, an estimated growth rate of between 0.58 and 0.81 percent. In 2011,
 2 according to the USEIA (2013; www.eia.gov/state/data.cfm?sid=CA), Californians
 3 consumed 2,153 billion cubic feet of natural gas (including natural gas used for
 4 electricity) and 642.9 million barrels of petroleum.

5 California's demand for gas and oil exceeds in-State production. According to the
 6 USEIA (2013), California natural gas production typically accounts for less than 2
 7 percent of total U.S. production and satisfies less than one-fifth of State demand.
 8 Although California is currently the third-ranked oil-producing state in the nation (behind
 9 Texas and Alaska), California receives more crude oil from non-California sources (i.e.,
 10 Alaska, foreign countries) than from sources in California. In 2012, 222.4 billion cubic
 11 feet of natural gas and 197.5 million barrels of oil were produced in-State; crude oil
 12 production averaged 541,100 barrels per day (DOGGR 2013) (see Table 4.14-1).

Table 4.14-1. California Gas and Oil Production (2008-12)

	2012	2011	2010	2009	2008
Net Gas Production (billions of cubic feet)	222.4	244.4	255.4	245.2	265.5
Oil Production (millions of barrels): TOTAL	197.5	196.8	200.9*	207.2	214.6
· State Onshore	184.3	184.5	187.8	194.9	200.5
· State Offshore	13.2	12.3	13.0	13.3	14.1

* Rounded to significant figures; therefore, added totals may not agree with onshore/offshore subtotals.
 Source: DOGGR (2013; [ftp://ftp.consrv.ca.gov/pub/oil/annual_reports/2012/PR03_Preannual_2012.pdf](http://ftp.consrv.ca.gov/pub/oil/annual_reports/2012/PR03_Preannual_2012.pdf)).

13 *Renewable Energy Sources*

14 California, with its abundant natural resources, has a long history of support for
 15 renewable energy. According to the CEC's California Renewable Energy Overview and
 16 Programs website (www.energy.ca.gov/renewables/index.html), in 2009, 11.6 percent of
 17 all electricity came from renewable resources such as wind, solar, geothermal, biomass
 18 and small hydroelectric facilities; large hydroelectric plants generated another 9.2
 19 percent of State electricity generation.

20 In 2002, Senate Bill (SB) 1078 established California's Renewables Portfolio Standard
 21 (RPS) Program, with the goal of increasing the percentage of renewable energy in the
 22 State's electricity mix to 20 percent of retail sales by 2017. In 2003, the CEC, California
 23 Public Utilities Commission (CPUC), and the now defunct Consumer Power and
 24 Conservation Financing Authority (CPA) jointly adopted the State Energy Action Plan
 25 (Energy Action Plan I), which described a "loading order" (a priority sequence for
 26 actions) to address increasing energy needs: (1) cost-effective energy efficiency and
 27 demand response; (2) renewable resources, including moving the 20 percent RPS
 28 target from 2017 to 2010; (3) distributed generation; (4) combined heat and power
 29 applications; and (5) clean and efficient fossil-fired generation.

1 The 2007 IEPR (CEC 2007) added policies and provided a comprehensive set of
2 recommended actions to enable California to meet its energy needs while achieving
3 Assembly Bill (AB) 32 greenhouse gas (GHG) reduction goals. In 2011, Governor
4 Brown signed SBX1 2, which requires one-third of California's electricity to come from
5 renewable sources (the legislation increased California's RPS target from 20 percent to
6 33 percent) by December 31, 2020. The CEC's 2012 IEPR Update (CEC 2012) focuses
7 on, and identifies five strategies and specific actions related to, the renewable resources
8 component of the loading order in the Energy Action Plan. The five strategies are: (1)
9 Identify Preferred Geographic Areas for Renewable Development; (2) Maximize Value
10 Through Appropriate Assessment of Benefits and Costs; (3) Minimize Interconnection
11 and Integration Costs and Requirements; (4) Economic Development With Renewable
12 Energy; and (5) Research and Development and Financing.

13 **Regional Overview**

14 Santa Barbara County has been an oil and gas producing region, including oil and gas
15 produced off its coast, since the late-1880s, following the discovery of the Summerland
16 oil field. Oil production in Santa Barbara County, including offshore production landed in
17 the County, reached an all-time high of 68,798,091 barrels in 1995, while natural gas
18 production reached an all-time high of 99,425,269 thousand cubic feet in 1967; in recent
19 years, the predominant focus in production has shifted from onshore and near-shore
20 fields to fields underlying federal waters more than 3 nautical miles from shore
21 (www.sbcountyplanning.org/energy/information/oilGasProduction.asp).

22 Historically, minerals produced in Santa Barbara County have included "asphalt and
23 bituminous rock, clay, diatomaceous earth, gypsum, limestone, sandstone, oil, shale,
24 miscellaneous stone products, mineral water, copper, chromite, gold, silver, quicksilver,
25 and petroleum and natural gas" (California Division of Mines 1949). Other than
26 oil/petroleum and natural gas, however, there are no known mineral resources in the
27 Project area (City of Goleta 2004; Santa Barbara County 2004).

28 **4.14.2 Regulatory Setting**

29 **Local**

30 The City of Goleta regulates energy sector development through its General Plan and
31 Coastal Land Use Plan. In the coastal zone, priority is given to coastal-dependent
32 projects, including oil and gas projects that involve offshore oil and gas resources and
33 facilities. In addition, priority is also given to efficient harnessing of energy through
34 recommendations provided in the Energy Element of the Santa Barbara Comprehensive
35 Plan. Section 13 of the City of Goleta's Conservation Element contains policies for the
36 conservation of energy. Its main objective is to promote energy efficiency in future land
37 use and development within Goleta, encourage the use of renewable energy sources,
38 and reduce reliance upon fossil fuels. Policy CE 13.2, in particular, addresses industrial

1 development with measures intended to reduce energy consumption in existing and
2 new [commercial and] industrial buildings.

3 **4.14.3 Significance Criteria**

4 Impacts to energy and mineral resources would be considered significant if the Project
5 would:

- 6 · Result in the loss of availability of a known energy or mineral resource (i.e., oil)
7 that would be of value to the region and the residents of the State;
- 8 · Conflict with the adopted California energy conservation plans;
- 9 · Use non-renewable energy resources in a wasteful and inefficient manner;
- 10 · Result in a substantial increase in demand upon existing power or natural gas
11 utilities; or
- 12 · Result in a need for new systems or supplies or substantial alterations to the
13 existing power and natural gas utilities.

14 **4.14.4 Impact Analysis and Mitigation**

15 The Project would produce crude oil for delivery to markets in the San Francisco and
16 Los Angeles areas. As discussed in Section 2.4.1, production from PRC 421 is
17 expected to average no more than 150 barrels of oil per day (BOPD) over the
18 production life of the well; with average production of 150 BOPD for the first month,
19 converging to 50 BOPD after 2 years, and leveling off at 50 BOPD for the following 18
20 years. Based on these estimates and a linear rate of decline from 150 to 50 BOPD over
21 the first 2 years, if implemented, the Project is anticipated to produce a total of
22 approximately 402,000 barrels over the lifetime of the Project.

23 Operations at PRC 421 would use electricity to operate the oil and gas production
24 equipment and operational and safety controls. Electric power for the Project would be
25 obtained from the existing Southern California Edison (SCE) electric grid system, via
26 electricity lines that would be extended from the EOF. It is projected that the Project
27 would have an electric power consumption rate of 80 kilowatts (kW).

28 Implementation of the Project would increase direct fossil fuel consumption from
29 operation of construction equipment, and indirect fossil fuel consumption from
30 consumption of electricity for production and transportation of oil. Table 4.14-2, located
31 at the end of this section, provides a summary of Project-related impacts and
32 recommended MMs to address these impacts.

33 **Impact EMR-1: Increase in Electricity Use**

34 **The Project would increase electricity use (Less than Significant).**

1 Impact Discussion

2 The Project would increase electricity use in the area due to operation of electrical oil
 3 production equipment. The expected total electricity usage by the Project facilities is
 4 approximately 80 kW, or 0.701 GWh/year. These numbers are estimated assuming the
 5 equipment runs 24 hours a day and 365 days per year. This increase in electricity use is
 6 negligible compared to the 3,235 GWh/year consumed in Santa Barbara County or
 7 257,275 GWh/year consumed in California (CEC 2011). Therefore, the Project would
 8 have adverse, but less than significant, impacts on electrical energy resources.

9 Mitigation Measures

10 None required.

11 **Impact EMR-2: Conflict with State-Adopted Energy Conservation Plans**
 12 **The Project would not substantially conflict with energy conservation plans**
 13 **adopted by the State (Less than Significant).**

14 The Project would incrementally increase the availability of oil and natural gas, which
 15 could incrementally reduce the cost of these non-renewable resources. Such an
 16 increase would be very small, given that the annual production from PRC 421 would be
 17 less than 0.001 percent of Statewide consumption. Further any production from PRC
 18 421 would be expected to displace oil imported from distant locations, reducing the
 19 lifecycle energy expenditure by reducing transportation. Therefore, although the Project
 20 would include development and processing of non-renewable fuels, it would not
 21 substantially affect the market for renewable energy nor would it conflict with adopted
 22 State policies for energy conservation and development of renewable energy.

23 Mitigation Measures

24 None required.

Table 4.14-2. Summary of Energy and Mineral Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
EMR-1: Increase in Electricity Use	None required.
EMR-2: Conflict with State-Adopted Energy Conservation Plans	None required.

25 4.14.5 Cumulative Impacts Analysis

26 The Project is part of the energy resource production chain (crude oil transportation to a
 27 location where fuels are produced), as it supplies energy to other projects that might be
 28 consumers of energy. Therefore, the Project’s cumulative energy impact would be
 29 beneficial, because it would help to partially offset increases in energy consumption.

1 **4.15 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE**

2 This section analyzes the distributional patterns of high-minority and low-income
3 populations on a regional basis and characterizes the distribution of such populations
4 adjacent to the Project. This analysis focuses on whether the Project has the potential
5 to adversely and disproportionately affect minority populations, low-income
6 communities, and industries, thus creating a conflict with the intent of the California
7 State Lands Commission’s (CSLC’s) Environmental Justice Policy.

8 This section relies on economic and population data from the U.S. Census Bureau and
9 incorporates by reference the conclusions of the Ellwood Marine Terminal (EMT) Lease
10 Renewal Environmental Impact Report (EIR) (CSLC 2009) and Line 96 Modification
11 Project EIR (Santa Barbara County 2011), and summarizes these conclusions where
12 applicable. However, the community of Isla Vista warrants an examination of the intent
13 of the policy in light of the community’s unique economic structure. This document also
14 incorporates data from Santa Barbara County 01-ND-34 and City of Goleta 06-MND-01.

15 **4.15.1 Background**

16 On February 11, 1994, President Clinton issued an “Executive Order on Federal Actions
17 to Address Environmental Justice in Minority Populations and Low-Income Populations”
18 designed to focus attention on environmental and human health conditions in areas of
19 high minority populations and low-income communities, and promote non-discrimination
20 in programs and projects substantially affecting human health and the environment
21 (White House 1994). The order requires Federal agencies (as well as State agencies
22 receiving Federal funds) to identify and address any disproportionately high and
23 adverse human health or environmental effects of their programs, policies, and activities
24 on minority and/or low-income populations.

25 **CSLC Policy**

26 The CSLC has developed and adopted an Environmental Justice Policy to ensure
27 equity and fairness in its own processes and procedures. The CSLC adopted and
28 amended the Environmental Justice Policy on October 1, 2002, to ensure consideration
29 of environmental justice as part of CSLC processes, decisions, and programs. The
30 policy stresses equitable treatment of all members of the public and commits to
31 consider environmental justice in its processes, decision-making, and regulatory affairs.
32 It is implemented, in part, through identification of, and communication with, relevant
33 populations that could be adversely and disproportionately affected by CSLC projects or
34 programs, and by ensuring that a range of reasonable alternatives is identified that
35 would minimize or eliminate environmental issues affecting such populations. This
36 discussion is provided in this document consistent with and in furtherance of the CSLC’s
37 Environmental Justice Policy.

1 4.15.2 Environmental Setting

2 Project Study Area and Communities of Comparison

3 According to U.S. Environmental Protection Agency (EPA) guidance, a minority or low-
 4 income community is disparately affected when the community would bear a
 5 disproportionate level of health and environmental effects when compared to the
 6 general population. Further, the guidelines recommend that the Communities of
 7 Comparison selected be the smallest governmental unit that encompasses the footprint
 8 for each resource. PRC 421 is located on State tide and submerged lands adjacent to
 9 the City of Goleta, in Santa Barbara County. Therefore, for the purposes of this
 10 environmental justice assessment, the Project study area includes the southwestern
 11 portion of the City of Goleta, south of Highway 101, west of Fairview Avenue, and east
 12 of the Bacara Resort. This area includes census tracts 29.15, 29.22, 29.24, 29.26,
 13 29.28 and 29.30 (Figure 4.15.1). U.S. Census data from 2010 for these census tracts
 14 were used to characterize the Project study area for this analysis.



FIGURE 4.15-1. CENSUS TRACTS IN THE PROJECT VICINITY

15 The Line 96 pipeline crosses under U.S. Highway 101 near the Ellwood Onshore
 16 Facility (EOF) and runs parallel to the north side of the highway for approximately 8.5
 17 miles to Las Flores Canyon (LFC). At LFC, the pipeline runs a short distance up the
 18 canyon to the Plains All American Pipeline L.P. (PAAPLP) Coastal Pipeline pump

1 station that is located at the ExxonMobil Santa Ynez Unit (SYU) oil and gas processing
 2 facility. The Line 96 pipeline ties directly into the PAAPLP Coastal Pipeline and does not
 3 use any ExxonMobil SYU storage tanks. The pipeline was installed along Calle Real,
 4 parallel to and north of U.S. Highway 101. Since Calle Real does not run the entire
 5 length of the pipeline route, the pipeline also crosses a few stretches of private
 6 ranch/agricultural roads that parallel U.S. Highway 101. Because the Line 96 pipeline
 7 alignment is not in proximity to environmental justice populations and potential impacts
 8 related to the pipeline only extend a short distance from the pipeline, no conflict with the
 9 CSLC's environmental justice policy occurs from usage of the Line 96 pipeline to the
 10 PAAPLP Coastal Pipeline, and census tracts along the pipeline route are not included in
 11 the study area.

12 Study Area Demographics

13 In 2010, the population of the City of Goleta was 29,888 and the population of Santa
 14 Barbara County was 423,895. The total population of all census tracts within the study
 15 area was 31,997 (U.S. Census Bureau 2010). Within the study area census tracts,
 16 minorities comprised 33.8 percent of the population in 2000, compared to 30.3 percent
 17 in the City of Goleta and 30.4 percent in Santa Barbara County (see Table 4.15-1). The
 18 minority composition of the study area (35.3 percent) may not be statistically significant
 19 from the minority composition of Santa Barbara County (30.4 percent), and therefore,
 20 likely does not comprise a disproportionately minority population.

Table 4.15-1. 2010 Ethnicity Data for the City of Goleta and Santa Barbara County

	Study Area		Goleta		Santa Barbara County	
	Population	Percentage	Population	Percentage	Population	Percentage
White	20,691	64.7	20,883	69.7	295,124	69.6
Minority	11,306	35.3	9,005	30.3	128,771	30.4
Black	774	2.4	469	1.6	8,513	2.0
Asian	4,501	14.1	2,728	9.1	20,665	4.9
Pacific Islander	53	0.2	26	0.1	806	0.2
Native American	178	0.6	283	0.9	5,485	1.3
Other	3,873	12.1	4,182	14.0	73,860	17.4
Two or More	1,927	6.0	1,367	4.6	19,442	4.6
Hispanic*	8,008	25.0	9,824	32.9	181,687	42.9

*May be counted in one or more of the other categories as well.

Source: U.S. Census Bureau 2010, 2010 Census Summary File 1.

21 Asians comprised the largest minority group within the study area (14.1 percent), while
 22 Pacific Islander and Native American groups comprised the smallest percentage of the
 23 population (0.2 percent combined). Hispanic or Latino write-in respondents could
 24 potentially be categorized under any of the classification groups designated by the U.S.
 25 Census Bureau, including "other," in addition to the Hispanic classification. Hispanic is

1 considered an origin, not a race, by the U.S. Census Bureau. An origin can be viewed
 2 as the heritage, nationality group, lineage, or country of birth of the person or the
 3 person's parents or ancestors before their arrival in the United States. Therefore, people
 4 who identify their origin as Spanish, Hispanic, or Latino may be of any race. Within the
 5 study area, Hispanic/Latino write-in respondents comprised 25.0 percent of the
 6 population, as compared to 42.9 percent of Santa Barbara County.

7 Census data were also analyzed to determine poverty status in the study area. As
 8 displayed in Table 4.15-2, approximately 38 percent of the individuals residing within the
 9 study area had income levels below the poverty level in 2010; however, these residents
 10 are typically students who may not be financially independent and would therefore not
 11 represent a disadvantaged population. In contrast, 9 percent of Goleta residents and 14
 12 percent of Santa Barbara County residents had income levels below the poverty level in
 13 2010.

Table 4.15-2. Poverty Status in 2010

	Project Study Area	Goleta	Santa Barbara County
Income in 2010 Below Poverty Level	9,842	2,629	57,463
Population for Whom Poverty Status was Determined	25,919	28,867	400,584
Percent with Income in 2010 Below Poverty Level	38.0	9.1	14.3

Source: U.S. Census Bureau 2010, 2006-2010 American Community Survey 5-Year Estimates, Poverty Status in the Past 12 Months.

14 Due to the wide discrepancy between the number of residents below the poverty level
 15 within the study area and the number in the surrounding communities, further analysis
 16 regarding the study area was conducted.

17 Census tracts 29.28, 29.26, and 29.24 are directly adjacent to the University of
 18 California Santa Barbara (UCSB), in the community of Isla Vista. UCSB has an average
 19 enrollment of 19,600 students, including approximately 2,600 graduate students, the
 20 vast majority of which live within the Isla Vista area (CSLC 2009) and may comprise 85
 21 to 90 percent of that community's population. University students tend to be younger
 22 than the general population, which is represented by the fact that approximately 93
 23 percent of the population in Census Tract 29.24 is between the ages of 18 and 24. The
 24 median age in this census tract is 21.0 years. Likewise, census tracts 29.28, 29.26, and
 25 29.15 have approximately 80 percent, 85 percent, and 73 percent of their respective
 26 populations between the ages of 18 and 24. The median age in these census tracts is
 27 21.3, 21.1, and 28.4 years, respectively. In contrast, the percentage of Santa Barbara
 28 County residents between the ages of 18 and 24 is 14.9 percent and the median age is
 29 33.6 years while Goleta has approximately 12.7 percent of the population between the
 30 ages of 18 and 24, and the median age is 36.5 years (U.S. Census Bureau 2010).

1 In addition to being younger than the general population, university students tend to
2 have less income due to the time-consuming nature of their studies and are often not
3 economically independent. Therefore, in the census tracts with the highest percentage
4 of population between the ages of 18 and 24, the percentage of those who had income
5 in 2010 below the poverty level was also high. Approximately 38 percent of the
6 predominantly student population of Isla Vista was at or below the poverty level in 2010,
7 which is double the poverty level of many of the most impoverished counties in the
8 nation (U.S. Census Data 2005). However, this population is able to live in a desirable
9 Southern California beach community and afford to attend college. It should be noted
10 that the median annual parental income for the 2007 class of UCSB was reported as
11 \$79,000, which is substantially above the poverty level (UCSB 2008). Therefore, while
12 standard analyses of census data identified Isla Vista with an extremely large portion of
13 the population at or below poverty level, these analyses did not identify a truly
14 economically disadvantaged community as intended in the CSLC's Environmental
15 Justice Policy.

16 **4.15.3 Policy Issues**

17 A conflict with the CSLC's Environmental Justice Policy would occur if the Project
18 would:

- 19 · Have the potential to disproportionately affect minority and/or low-income
20 populations at levels exceeding the corresponding medians for the County in
21 which the Project is located; or
- 22 · Result in a substantial, disproportionate decrease in the employment and
23 economic base of minority and/or low-income populations residing in the County
24 and/or immediately surrounding cities.

25 **4.15.4 Policy Analysis and Conditions**

26 **Policy Discussion**

27 As discussed in Section 4.2, Safety, and Section 4.5, Hydrology, Water Resources, and
28 Water Quality, Project construction and operation would incrementally increase the risk
29 for a small crude oil spill which would expose people located in the Project vicinity to
30 potential health, safety, and economic effects. The Project is located 0.6 mile from the
31 nearest residence and 0.8 mile from the nearest school. People with the greatest
32 potential to be affected by the Project are users of Sandpiper Golf Course and
33 recreational beach users. The golf course is located approximately 200 feet away from
34 Piers 421-1 and 421-2 and at an elevation of about 50 feet higher. The 6-inch line
35 traverses the golf course near the 12th tee and leaks at that point represent the only real
36 hazard to golfers. The beach near PRC 421 is used much less often than other beaches
37 in the area as the adjacent beach is ephemeral with sand present only part of the year.

1 Further, the nearest beach access is approximately 0.5 mile in either direction, at the
2 Bacara Resort and beneath Ellwood Mesa. Potential users of the adjacent beach could
3 come from any ethnicity or income level. In contrast, users of Sandpiper Golf Course
4 are more likely to be comprised of upper-middle and upper-class income levels.

5 As discussed in Section 4.5, Hydrology, Water Resources, and Water Quality, a
6 potential spill from PRC 421 could travel east toward Devereux Slough. Devereux
7 Slough is located adjacent to Isla Vista, a community dominated by UCSB students. A
8 larger spill, such as a spill of up to 60 barrels from Line 96 along the Gaviota Coast
9 would potentially affect recreational opportunities and visual resources for the residents
10 of Isla Vista if the majority of this oil reached the ocean and drifted to Isla Vista.
11 However, this would be a low probability, all of this spilled oil would be unlikely to reach
12 the ocean and such a spill would be located more than 5 miles west of Isla Vista. In
13 addition, potential malodor and air quality effects would disproportionately affect the
14 coastal residents in this town compared to the general population of Goleta and Santa
15 Barbara County. However, the demographics of Isla Vista do not qualify the community
16 as a disadvantaged population within the CSLC's Environmental Justice Policy.
17 Therefore, Project construction and operation would not disproportionately affect
18 minority or low-income populations or result in a substantial disproportionate decrease
19 in the employment and economic base of minority and/or low-income populations in the
20 area.

21 **4.15.5 Cumulative Policy Analysis**

22 The projects identified in Section 3.0, Cumulative Impacts Methodology, primarily affect
23 residents of south Santa Barbara County and the City of Goleta. People from every
24 ethnicity and income level would be included in the potentially affected area. Some of
25 these projects may be found to have a disproportionate effect on a minority or low-
26 income population. Project effects associated with marine spills would affect resources
27 used by many different people, regardless of ethnicity or income, and would therefore
28 not have a disproportionate effect on a minority or low-income population. Therefore,
29 the Project would not conflict with the CSLC's Environmental Justice Policy.