

4.3 Biological Resources

This section describes biological resources of the proposed Project site, environmental and regulatory settings related to biological resources in the proposed Project area, identifies potential impacts of the proposed Project on these biological resources, and recommends mitigation measures to reduce those impacts. Alternatives to the proposed Project are discussed in Section 5.0.

4.3.1 Environmental Setting

This section provides a description of the biological resources in the vicinity of the proposed Project at the time that the NOP was published (October 21, 2016). Padre Associates, Inc. (Padre) prepared several documents and plans for Aera Energy, LLC (Aera) that describe the biological resources within the proposed Project area including:

- Section 4.4 of the Oil and Gas Drilling/Production Plan Permit Application Package (April 2016);
- The Aera East Cat Canyon Oil Field Redevelopment Project Biological Resources Survey Report (August 2015);
- The Aera East Cat Canyon Oil Field Redevelopment Project Fuel Management Plan (November 2014);
- California Red-Legged Frog Habitat Assessment for the Aera Energy LLC Cat Canyon Property (September 2013);
- Vernal Pool Fairy Shrimp¹ Wet-Season Report (August 2014);
- Vernal Pool Fairy Shrimp Dry-Season Report (August 2014; prepared by LSA Associates, Inc.);
- Habitat Assessment for California Tiger Salamander (*Abystoma californiense*) (September 2013; prepared by Storrer Environmental Services);
- Least Bell's Vireo Survey Report for the East Cat Canyon Oil Field (September 2014);
- Draft Permit Application Packages for the East Cat Canyon Oil Field Redevelopment Plan – Revised Nationwide Permit Authorization Request, Revised Water Quality Certification Request, and Lake or Streambed Alteration Agreement Request (November 2017 [Padre, 2017a]);
- Oak Tree Replacement Plan (August 2015, revised July 2017 [Padre, 2017b]);
- Oak Tree Protection Plan (November 2014, revised July 2017 [Padre, 2017c]);
- Biological Resources Survey Report – Natural Gas Import Pipeline (October 2014);
- Biological Resources Survey Report – Electrical Transmission Line (December 2014);
- Jurisdictional Determination Report (July 2016); and
- Draft Biological Assessment (August 2016, revised December 2017 [Padre, 2017d]).

All of these documents include a description of the environmental setting and site-specific information on biological resources, and are included in Appendix F of this Environmental Impact Report (EIR) with the exception of the Draft Biological Assessment and draft permit application packages, which are not yet finalized (Padre, 2017a through 2017d).

¹ Throughout the report, the term “vernal pool fairy shrimp” refers to all special-status fairy shrimp species occurring in vernal pools except in the *Branchinecta lynchi* entry of Table 4.3-5, where the same term is identified as that species’ common name.

Aspen Environmental Group (Aspen) conducted site visits on October 4, 2016 and February 16, 2017 to verify the Applicant's data and document the proposed Project site's conditions. Information contained in the Applicant's documents and observations made during Aspen's site visit provides the basis for the environmental setting of this section. The EIR preparer reviewed each of the background documents for content and accuracy.

The Biological Study Area is defined as the proposed Project site, proposed Project development footprint on adjacent parcels, and a surrounding 500-foot buffer. The Study Area comprises 4,423 acres and encompasses all areas that could be directly or indirectly affected by the proposed Project. Surveys were conducted in a subset of the Biological Study Area and focused on the proposed Project development footprint and adjacent areas. The biological survey areas included the following:

- The proposed Project site development footprint, which includes the Aera-owned portions of the East Cat Canyon Oil Field and two small additional adjacent off-site proposed Project footprint areas;
- The proposed natural gas pipeline alignment within the public road rights-of-way plus a 200-foot buffer on each side; and
- The proposed electrical power line alignment plus a 500-foot buffer area on each side of the centerline.

The Biological Study Area is depicted in Figure 4.3-1.

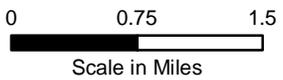
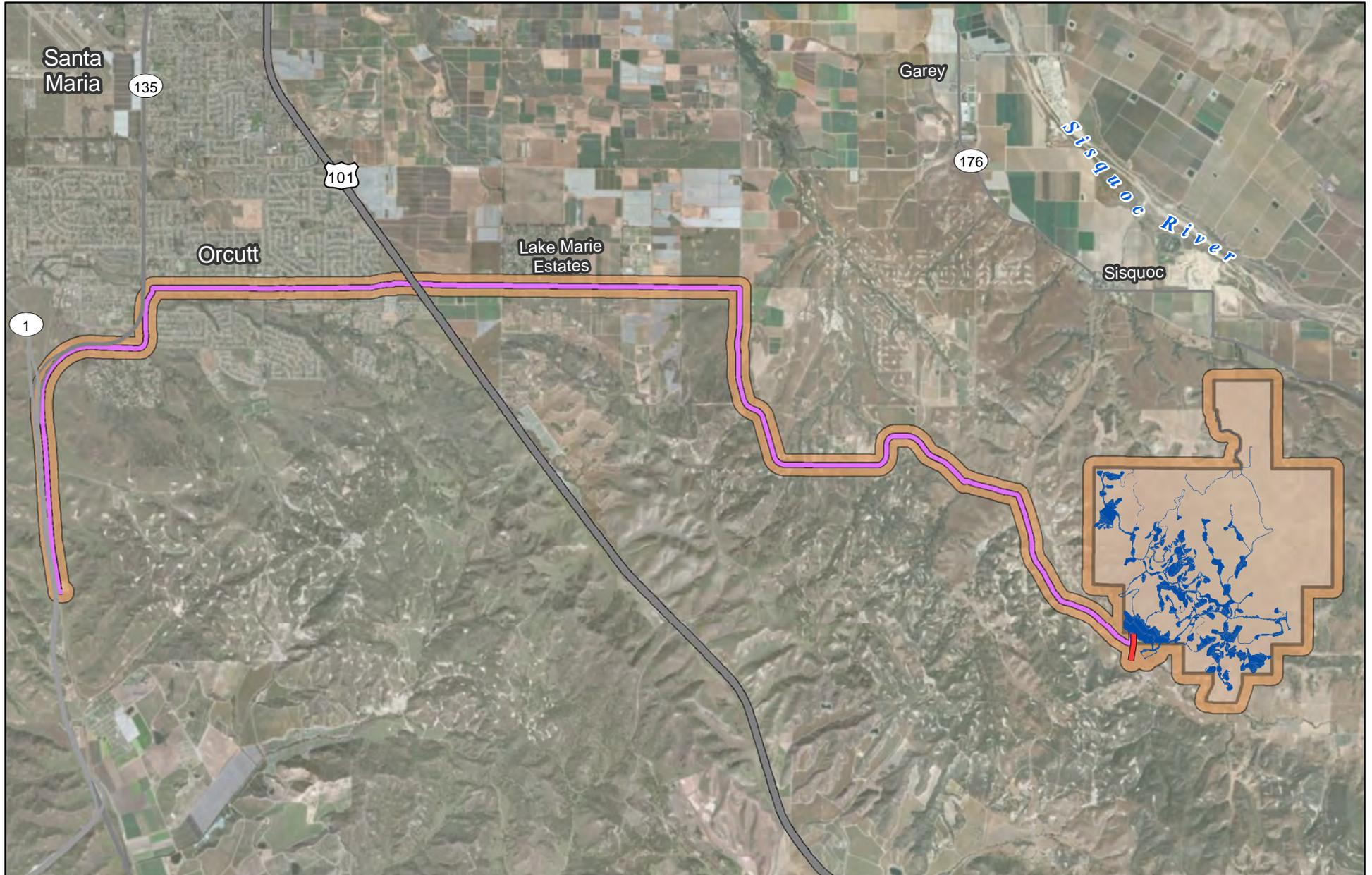
4.3.1.1 Literature Review

Sensitive biological resources known to occur in the region or have the potential to be present were identified through a review of literature sources including biological technical reports for other projects in the vicinity, the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Data Base (CNDDB) (CDFW, 2017a), Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2017), Consortium of California Herbaria (CCH, 2015), and eBird online database of bird observations (eBird, 2015). The Study Area is located within the United States Geologic Survey (USGS) Sisquoc and Orcutt, California 7.5' topographic quadrangles. These quadrangles, along with the 10 adjacent quadrangles, were included in the database searches due to their proximity to the Study Area.

U.S. Fish and Wildlife Service (USFWS) critical habitat data and Global Information System shapefiles for California tiger salamander ponds, provided by the U.S. Fish and Wildlife Service (last updated in July 2010), were also reviewed. The CTS pond files were released by the USFWS for purposes of planning and do not constitute a comprehensive list of all the ponds that have the potential to be California tiger salamander breeding ponds in Santa Barbara County; however, the shapefiles provided information on nearby aquatic habitats. In addition, Global Information Systems data for Environmentally Sensitive Habitat Areas provided by the Santa Barbara County Department of Planning and Development was reviewed.

Additional data regarding the potential occurrence of special-status species and policies relating to these sensitive natural resources were gathered from the following sources:

- State and federally listed endangered and threatened animals of California (CDFW, 2017b);
- Special Animals List (CDFW, 2017c) and Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2017d);
- National Wetland Inventory data (USFWS, 2017);
- Aerial photographs, Geographic Information Systems (GIS) data, and U.S. Geological Survey (USGS) topographic maps; and
- Reports and regional planning documents (biological survey data from the vicinity of the proposed Project area, applicable sections of the County's General Plan, other applicable EIRs, etc.).



- Aera East Cat Canyon Project Boundary
- Proposed Project Footprint
- Project 500ft Buffer
- Proposed Transmission Line
- Proposed Natural Gas Pipeline

Figure 4.3-1

Biological Study Area

Field Data Collection

Field surveys completed within the Biological Survey Areas included general biological resource surveys, focused species-specific surveys, and an oak tree inventory. Table 4.3-1 summarizes field surveys completed for the proposed Project. Some wildlife species may have been difficult to detect during proposed Project surveys due to their elusive behavior, cryptic morphology, or limited distribution in the Study Area. Similarly, some plants flower for a limited period of time or do not flower or germinate during periods of low rainfall. Botanical surveys were conducted during the reported blooming periods for the majority of special-status plants occurring within the region (early winter surveys were during the flowering season of special-status manzanitas; April surveys were during the flowering season for most other species). For those species reportedly flowering later than April, biologists visited reference populations to confirm flowering status. therefore, it is possible that some species of special-status plants were overlooked or undetectable during the surveys. Please refer to Appendix F for specific biological survey methodologies and personnel.

Table 4.3-1. Summary of Biological Field Surveys

Survey Dates	Survey Focus
Proposed Project Site Biological Survey Area	
July 20-21 and August 10, 2011 July 20 and August 1, 2012	California tiger salamander habitat assessment
January 15–16, 2013 (2 surveys)	Wetland Identification and Mapping, Vernal Pool Fairy Shrimp Habitat Assessment, Botanical, Wildlife
February 13, 2013 (1 survey – day and night)	California Red-Legged Frog Habitat Assessment, Wetland Identification Follow-Up
March 26, 2013 (1 survey off-site in adjacent properties)	Botanical Blooming Period Reference Survey
April 15–18, 2013 (4 surveys)	Botanical, Vegetation Community Mapping, Vegetation Rapid Assessments, Wildlife, Camera Stations, Wetland Identification Follow-Up
October 15, 2013 to September 5, 2014	Oak Tree Inventory
February 13, February 27, March 13, March 25, April 8, April 22, May 6, and May 20, 2014 (8 surveys)	Vernal Pool Fairy Shrimp Wet Season Surveys
April 11, 2014	California tiger salamander upland drift net design site walk
July 8 and 9, 2014 (2 surveys)	Vernal Pool Fairy Shrimp Dry Season Surveys
April 11, May 2, May 16, June 6, June 19, July 1, July 15, and July 25, 2014	Least Bell's Vireo Surveys (8 surveys)
October 15, 2014 – April 30, 2015 October 15, 2015 – April 15, 2016	Upland California tiger salamander drift fence surveys
March, May, and April of 2015, 2016	Aquatic California tiger salamander sampling
March 18, 2015	Jurisdictional Determination (also conducted on natural gas pipeline and electrical power line on same day)
Natural Gas Pipeline Biological Survey Area	
June 18, 2013, October 1, 2013, January 30, 2014	Botanical, Vegetation Community Mapping, Wildlife
Electrical Power Line Biological Survey Area	
February 5, 2014; May 16, 2014	Botanical, Vegetation Community Mapping, Wildlife

4.3.1.2 Regional Setting

The proposed Project site is located in the eastern portion of the State-designated Cat Canyon Oil Field in northern Santa Barbara County, approximately 10 miles southeast of the City of Santa Maria (Figure 2-1). The region is comprised of varied terrain, with steep hillsides, relatively flat valleys, canyons, and terraced plateaus. Ephemeral drainages are abundant, many of them tributaries to the Sisquoc River that is located less than one mile north of the Study Area. The Study Area also crosses the Gato Ridge and the Solomon Hills, a low mountain range in the western Transverse Ranges that separates the Santa Maria Valley to the north from the Los Alamos and Santa Ynez valleys to the south. The primary land uses in the region include oil extraction; agriculture (including vineyards and wineries), cattle grazing and other agricultural activities; and residential development.

The regional climate is mild, and in 2014 the on-site weather station logged temperatures ranging from the low 40s °F to the mid- to high 90s °F. Table 4.3-2 provides the regional annual rainfall for the proposed Project area which has experienced several years of drought.

Regionally, developed areas are interspersed or located within larger expanses of natural habitats that support a diverse assemblage of State and federally listed endangered, threatened, and rare species. Transitional areas between different plant communities often act as migration corridors for wildlife. The canyons and streams in the region, along with their associated uplands, are important movement corridors for wildlife.

4.3.1.3 Local Setting

This section provides detailed description of the biological resources of the proposed Project site and vicinity. The section begins with a general description of the site and adjacent surroundings. This is followed by a more detailed description of the vegetation and wildlife habitat found throughout the Biological Study Area (i.e., the area addressed in the survey reports provided by the Applicant, including the proposed Project site itself and surrounding buffer areas). Some vegetation or habitat types are identified as sensitive biological resource; these are addressed at the end of the overall habitat section.

All special-status plants and wildlife that may be found on the proposed Project site or in the vicinity are described under the title “Special-status Species,” with an evaluation whether each species is likely to occur on the site. Finally, wildlife movement through the proposed Project vicinity is covered as the last topic in this section.

The proposed Project site is located in the Cat Canyon Oil Field, which has been used for oil production purposes for more than 100 years. The East Cat Canyon Oil Field encompasses valleys, moderate to steep hills, and canyons, with smaller flat areas. Elevations range from approximately 480 to 1,100 feet above mean sea level (MSL). Long Canyon and Olivera Canyon traverse the proposed Project site, and Cat Canyon Creek flows from southeast to northwest along the western boundary. Drainages throughout the proposed Project site consist of dry, loose sand and rock with moderate to dense scrub and scattered oak woodland habitat. The Sisquoc River and associated floodplain is northeast of the proposed Project site. This river is subject to moderate to heavy seasonal flows and provides habitat for a variety of wildlife,

Table 4.3-2. Rainfall Totals for Sisquoc Fire Station*

Year	Rainfall Totals (inches)
2012-13	8.0
2013-14	7.2
2014-15	7.9
2015-16	12.1
2016-17	23.2
2017-18	6.5

*Average annual total 1947-2017 = 15.20 inches
 Source: <http://cosb.countyofsb.org/pwd/water/downloads/hydro/256dailys.pdf>

including several special-status plants and animals. Ephemeral tributaries to this river intersect and parallel the proposed Project site.

Properties to the west of the proposed Project site consist of large residential lots and non-Aera oil field parcels which include a network of narrow and steep unpaved and remnant asphalt roads. Properties to the east primarily consist of row crop agriculture (primarily within the Sisquoc River flood plain), large residential lots grazed by cattle, and some oil operations. The proposed Project site is a decommissioned oil field that has not been in operation since 1989, but it currently supports four test wells, two water wells, and four production wells operated by ERG. Some of the proposed Project site has been previously disturbed from past and on-going oil field maintenance activities and cattle grazing that currently occurs throughout most of the site. However, due to the steep and rugged terrain, many areas that are inaccessible to cattle have been left undisturbed and support dense native vegetation.

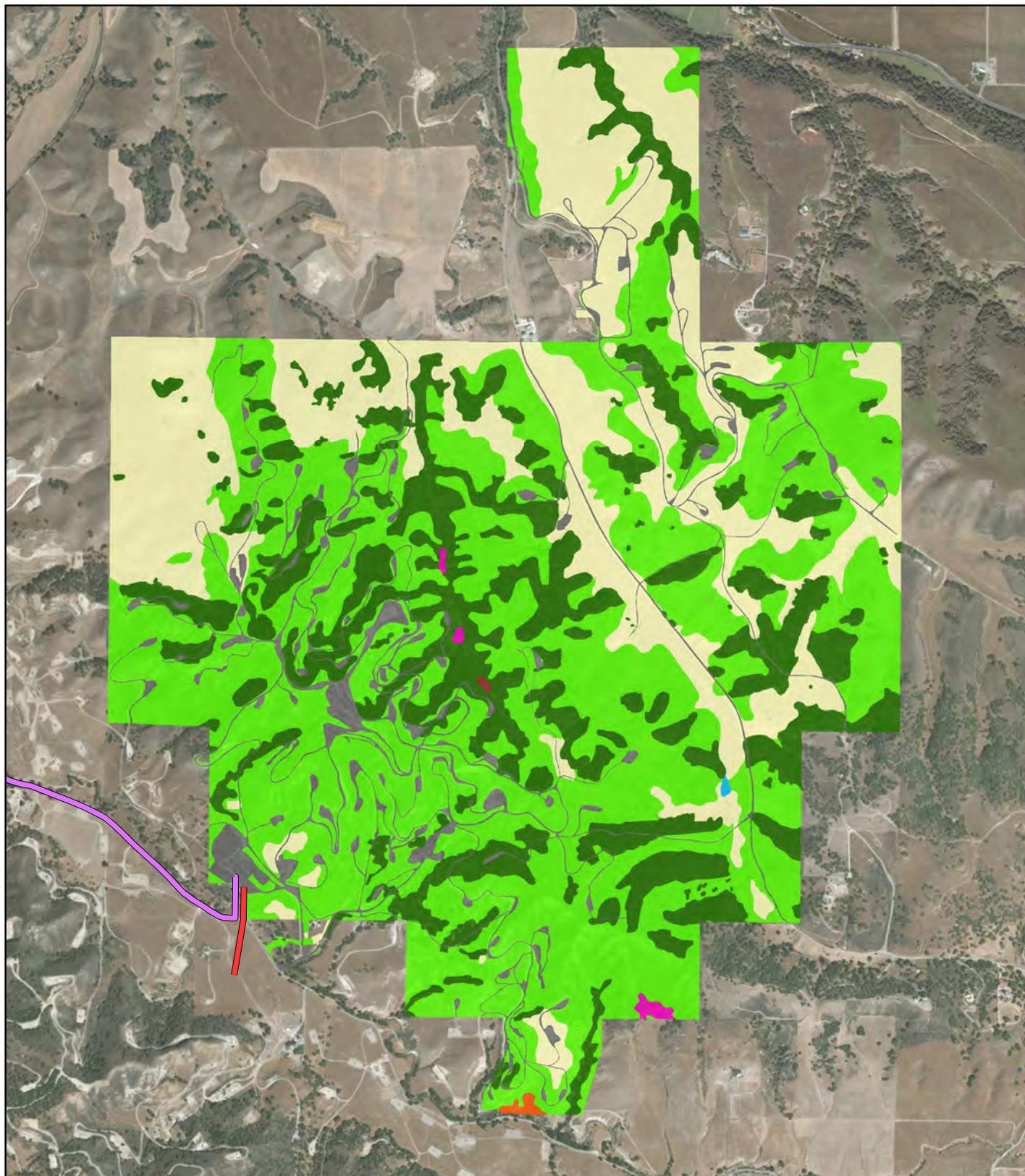
Developed and disturbed areas on the proposed Project site include office and warehouse buildings, abandoned oil wells, access roads, well pads, four non-producing test wells, former facility locations, a permitted beneficial reuse site, fresh groundwater wells, fire water and grazing tanks, and five active oil and production wells operated by ERG Resources, LLC. The majority of oil field facilities have been abandoned or removed since the 1980's.

The 14-mile natural gas pipeline alignment would be located along or within existing paved roads (e.g. Palmer Road, Dominion Road, East Clark Avenue). The pipeline route is situated alongside rotational row-crop agriculture and vineyards, city development, and large residential lots grazed by livestock. Numerous ephemeral drainages are found along the pipeline alignment; many support riparian vegetation including coast live oaks, willows, sycamores, and mulefat as well as some special-status species. There are also a number of agricultural drainages that are regularly cleared of vegetation, and the presence of water in these drainages is irregular and dependent on crop irrigation cycles.

The Pacific Gas and Electric (PG&E) electrical power line would extend from the western boundary of the proposed Project site to an adjacent parcel to the west. The power line route crosses Cat Canyon Creek and the adjacent Cat Canyon Road. The habitat along the power line route consists primarily of grazed non-native grassland, disturbed scrub, and sparse oak tree canopy. Cat Canyon Creek is an ephemeral tributary to the Sisquoc River and consists of dry, loose sand and rock with sparse to moderate scrub and scattered oak tree canopy. Riparian habitats do not occur in this section of Cat Canyon Creek.

Vegetation and Habitat

The Biological Study Area supports a mosaic of natural habitats including disturbed annual grasslands, vernal pools, several coastal sage scrub types, chamise chaparral, eucalyptus groves, and coast live oak woodland. The ephemeral drainage features and creeks support marshes, willow thickets, scrub communities, and coast live oak woodlands. Much of the Biological Study Area is grazed year-round. Figures 4.3-2a through 4.3-2c show the distribution of vegetation on the proposed Project site and liner routes. Table 4.3-3 identifies the approximate acreage of each vegetation type in the Biological Study Area. Detailed habitat maps are provided in Appendix F (Figures 5-3A through 5F of the Biological Resources Survey Report, Figures 5-3A through 5-3J of the Natural Gas Import Pipeline Biological Resources Survey Report, and Figure 5-2 of the Electrical Transmission Line Biological Resources Survey Report). See Appendix F for detailed descriptions of each habitat type and landcover mapped in the Biological Study Area.



- | | | |
|--|--|--|
|  Proposed Transmission Line |  California coastal scrub |  Eucalyptus groves |
|  Proposed Natural Gas Line |  California coffee berry scrub |  Red willow thicket |
| Vegetation |  Coast live oak woodland |  Western rush marsh |
|  Annual grasslands |  Previously Disturbed/Developed | |



0 0.25 0.5
 Scale in Miles

Figure 4.3-2a

Project Site Vegetation

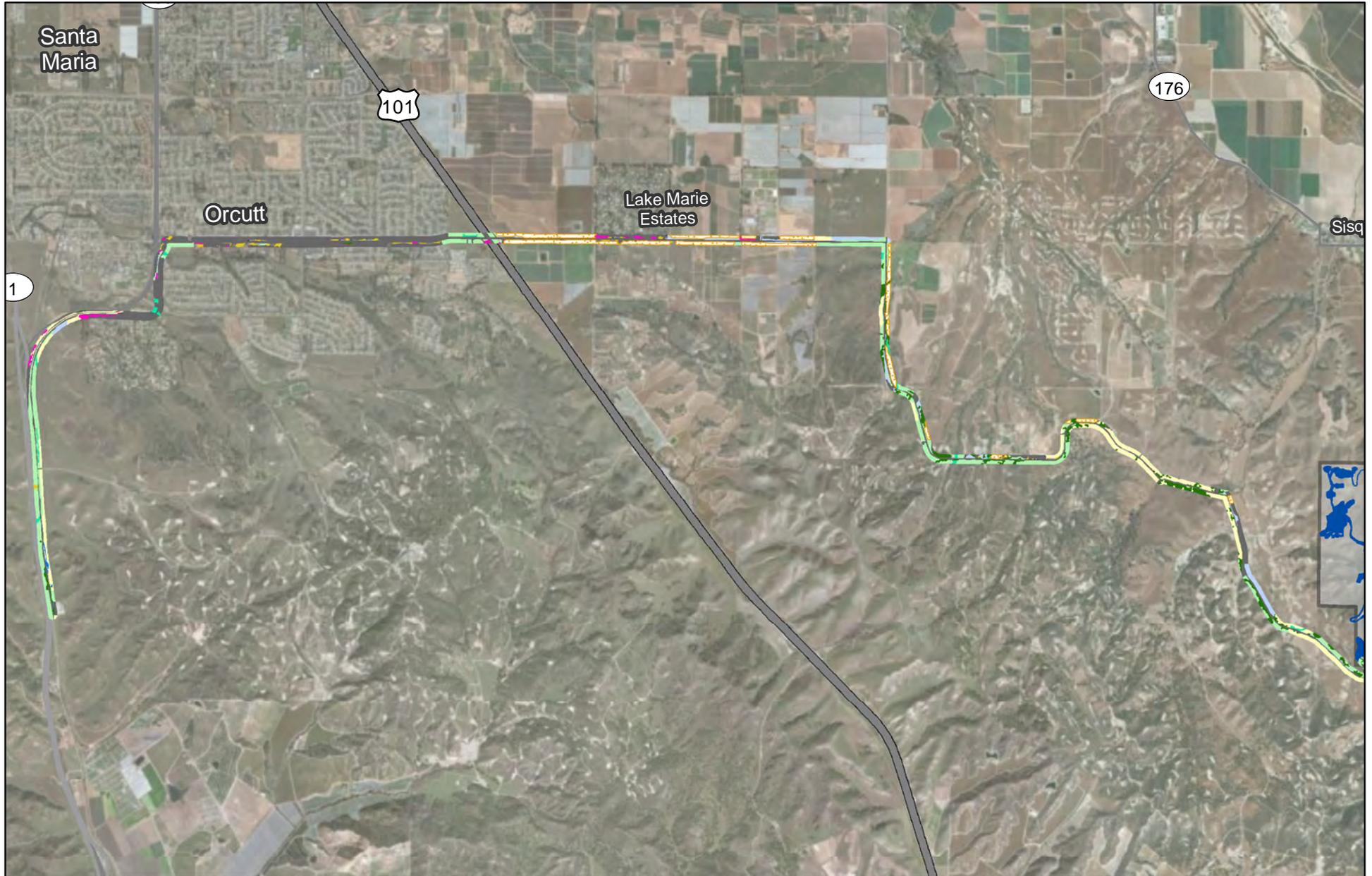


Figure 4.3-2b

Vegetation Within Proposed Natural Gas Pipeline Alignment

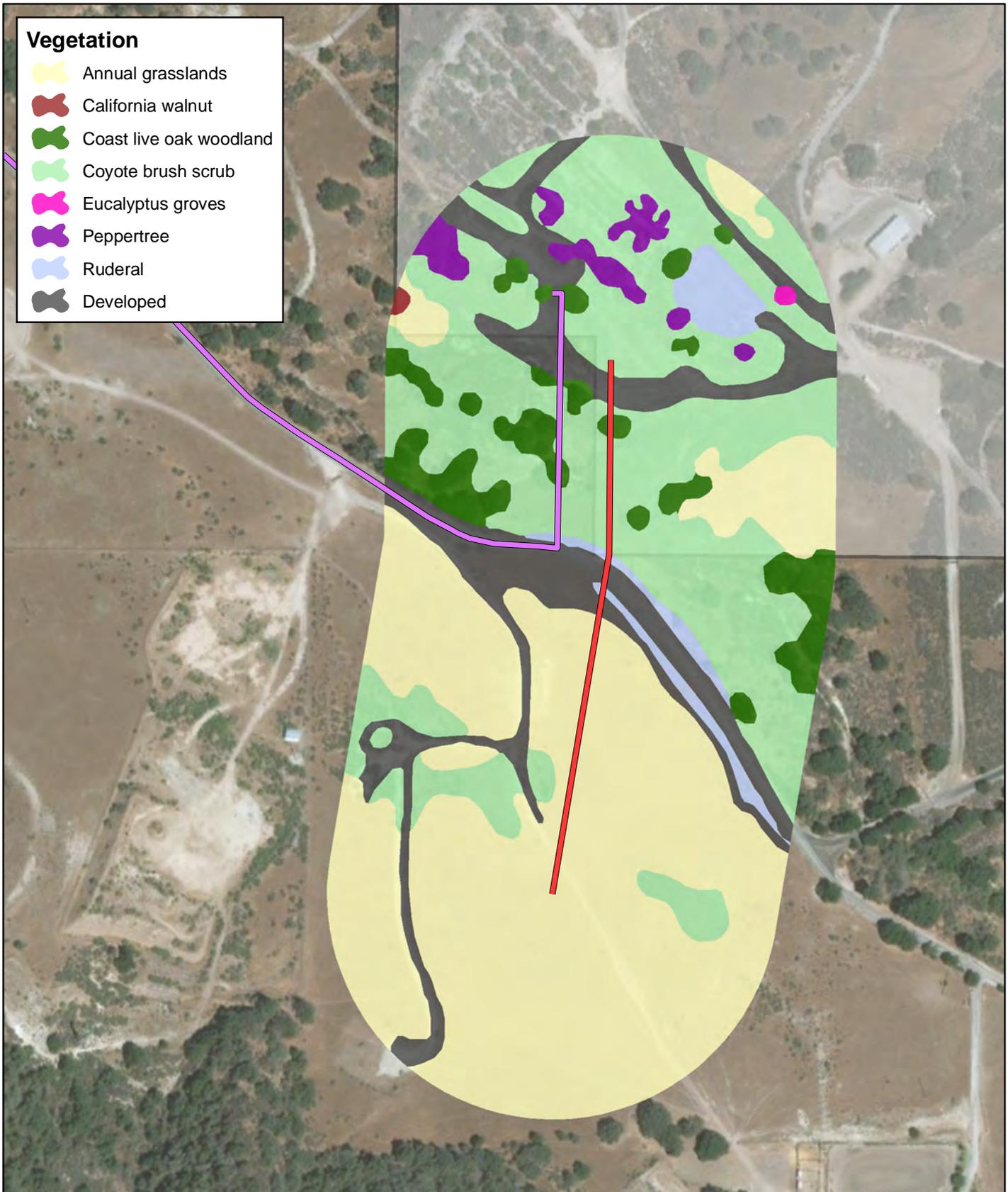
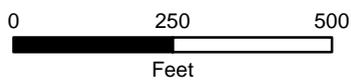


Figure 4.3-2c

Vegetation in Proposed Transmission Line Corridor



-  Aera East Cat Canyon Project Boundary
-  Proposed Transmission Line
-  Proposed Natural Gas Pipeline

The term habitat refers to the environment and ecological conditions where a species is found. Wildlife habitat is generally described in terms of vegetation, though a more thorough explanation often must encompass further detail, such as availability or proximity to water; suitable nesting or denning sites; shade; foraging perches; cover sites to escape from predators; soils that are suitable for burrowing or hiding; limited noise and disturbance; and many other factors that are unique to each species.

Table 4.3-3. Vegetation and Habitat Acreages Within the Biological Study Area

Habitat and Landcover Type	Proposed Project Site	Power Line Corridor (500-foot buffer)	Gas Pipeline Corridor (200-foot buffer)	Total Acreage in Biological Study Area ¹
Agricultural*	—	—	70	70
Annual Grassland	510.0	20.5	88.9	618.3
Arroyo Willow Thickets**	—	—	8.1	8.1
California Coastal Scrub**	1,206.2	14.3	124.4	1338.7
California Coffeeberry Scrub	0.63	—	—	0.63
California Walnut**	—	0.04	—	0.04
Coast Live Oak Woodland**	449.2	2.6	40.3	492.1
Previously Disturbed/Developed*	119.3	6.0	217	335.9
Drainage Features**	0.43	—	1.3	1.73
Eucalyptus Groves*	3.7	0.04	9.9	13.64
Ornamental*	—	—	14.9	14.9
Peppertree*	—	0.8	—	0.8
Red Willow Thickets**	2.2	—	—	2.2
Ruderal*	—	1.2	29.8	31
Western Rush Marshes**	0.5	—	—	0.5
Total Acreage	2,292.16	45.48	604.6	2,928.54

1 - Vegetation mapped in the power line corridor partially overlaps mapped vegetation in the proposed Project site; therefore, the total acreage in the proposed Project Area has been adjusted to avoid double-counting vegetation in this overlap area.

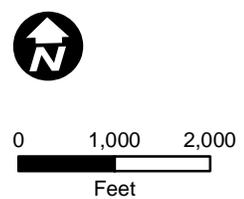
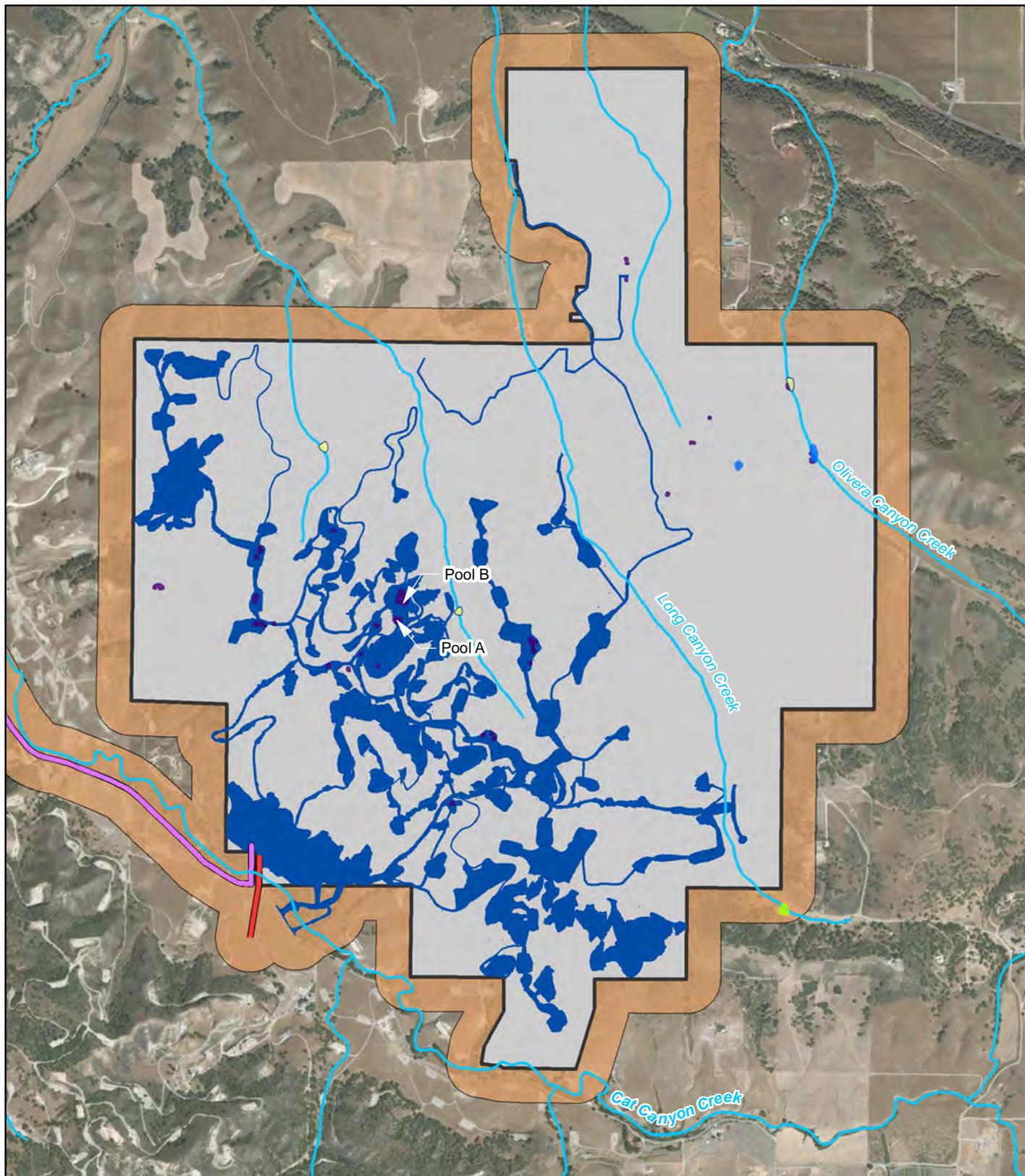
*Non-native and anthropogenic landcover types

**Sensitive vegetation type (CDFG, 2010; County of Santa Barbara, 2009 and 2010)

Aquatic Habitats

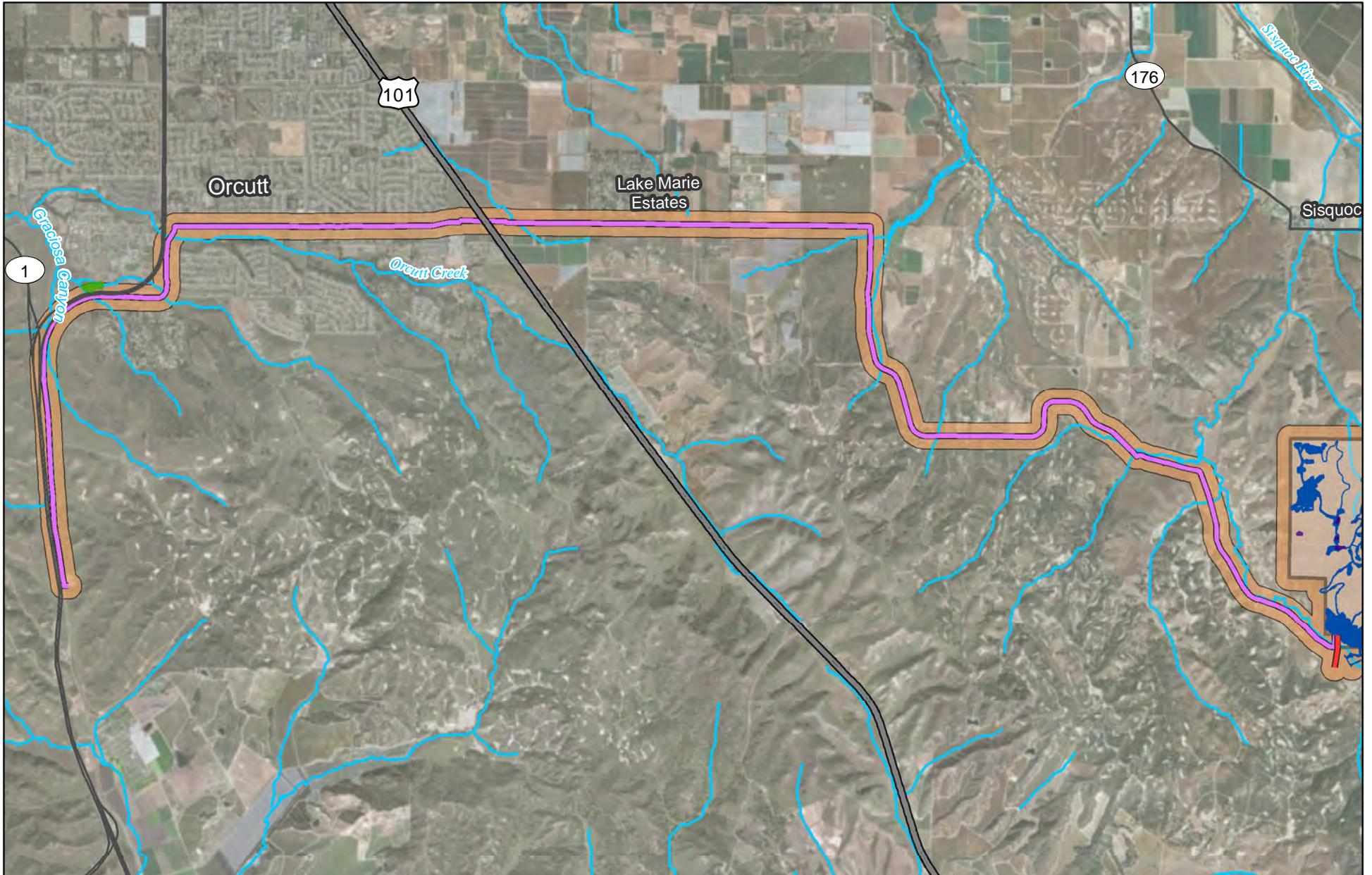
Drainages. The proposed Project site contains six blue-line drainages identified on U.S. Geological Survey topographical maps (see Figure 4.3-3a). These drainages include Cat Canyon Creek, Long Canyon Creek, Olivera Canyon Creek, and three unnamed drainages. Long Canyon Creek and Cat Canyon Creek fall within the proposed Project development footprint. In addition, Bradley Canyon Creek and Graciosa Canyon Creek intersect and parallel the natural gas pipeline (see Figure 4.3-3b).

The blue-line drainages within the proposed Project site are ephemeral and remain dry for the majority of the year except during and immediately following rainfall. After seasonal rains, the streams may hold water long enough to provide suitable breeding habitat for some amphibians and aquatic invertebrates that rely on ephemeral water sources. They do not provide a perennial water source for aquatic wildlife that rely on a continual water source for survival or breeding, such as fish.



- Aera East Cat Canyon Project Boundary
- Proposed Project Footprint
- Project 500ft Buffer
- Proposed Transmission Line
- Proposed Natural Gas Pipeline
- Vernal Pool
- NWI Wetland Data**
- Freshwater Emergent Wetland
- Freshwater Pond
- Other
- Streams

Figure 4.3-3a
Waters and Wetlands
within the
Biological Study Area



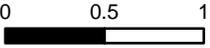
  Scale in Miles	 Aera East Cat Canyon Project Boundary	 Proposed Transmission Line	NWI Wetland  Freshwater Forested/Shrub Wetland
	 Proposed Project Footprint	 Proposed Natural Gas Pipeline	 Other

Figure 4.3-3b

Waters and Wetlands Within The Biological Study Area

The proposed 115-kV power line would cross Cat Canyon Creek as it flows from southeast to northwest along the western boundary of the proposed Project site (see Figure 4.3-3a). This drainage supports a mix of willow thickets and coast live oak woodland along portions of the channel as it meanders through numerous private properties north through the town of Sisquoc, eventually draining into the Sisquoc River. Long Canyon Creek flows through the proposed Project site and also drains to the Sisquoc River. In the upper portions of the drainage in the southeastern portion of the proposed Project site, it is a swale in grassland habitat grazed by cattle. It begins to narrow into the canyon along Long Canyon Road, supporting some scattered riparian vegetation in the northern reaches of the proposed Project site. It then flows north of the proposed Project site where it is channelized by agricultural activities before draining into the Sisquoc River. To the east of the proposed Project site, Olivera Canyon Creek is an ephemeral drainage that gathers water flow from rills in the hillsides following rainfall. This drainage is steep and flows through oak woodland and grassland habitats before draining to the Sisquoc River.

There are three other unnamed blue-line drainages that carry water from the north-facing slopes of the proposed Project site and drain north ultimately to the Sisquoc River. In addition, several other ephemeral drainages not identified as blue-line streams on topographical maps were observed during field surveys throughout the proposed Project site. These channels drain the steep hillsides within the property into the lower floodplain during periods of rainfall and remain dry for the remainder of the year. They are sandy and several have been significantly impacted by erosion at the proposed Project site. Riparian vegetation or other water-associated plant species were not identified in any of these drainages.

Vernal Pools. The Biological Study Area is encompassed by portions of the Santa Barbara Vernal Pool Region as designated by the CDFW. Vernal pools are ephemeral depressions that can range from a simple depression that collects water during rain events to a seasonally inundated pool that supports wetland vegetation. Some vernal pools, but not all of them, meet the criteria for definition as wetlands. Vernal pools may provide habitat for special-status aquatic plant and animal species. Padre recorded the presence of several “ephemeral wetland depressions,” or vernal pools, within the proposed Project survey area. These vernal pools were described as isolated shallow surface indentations consisting of relatively impermeable materials such as hardpan, clay, or basalt that restrict the downward percolation of rainwater. These depressions hold water following rainfall and may sometimes remain wet until spring or early summer, or sometimes fill and empty numerous times during the wet season.

Some vernal pools, depending on their specific wetland conditions (e.g., hydric soils, hydrology duration, or hydrophytic vegetation), may be afforded protection under federal, state, and/or local regulatory guidelines. A jurisdictional determination was prepared for the proposed Project to determine jurisdictional limits of federal and state wetlands, see Appendix F.

Field visits in 2013 and 2015 documented pooled water within the proposed Project site following rainfall. Several depressional pools were identified along abandoned well pads or containment basins that were previously graded and cleared of vegetation, and some of the pools were located on road base fill. Per federal, State and Santa Barbara County definitions, to be identified as a wetland, vernal pools must contain non-soil substrate covered by shallow water during the growing season, support hydrophytic vegetation, and contain predominately undrained hydric soils. The majority of the pools on the proposed Project site did not support appropriate vegetation and no endemic vernal pool species were observed during field visits. Fewer than twelve of the pools contained sparse vegetation on the perimeter, consisting primarily of non-native species including brass buttons (*Cotula coropifolia*, a hydrophytic plant), annual rabbitsfoot grass (*Polypogon monspeliensis*), rattail sixweeks grass (*Festuca myuros*), and yellow sweet clover (*Melilotus indicus*). Hydrophytic vegetation was not predominant and hydrology indicators were only present following rainfall and not during the region’s growing season. In addition, all pools were

located on disturbed and compacted soils that do not meet hydric soil specifications. Therefore, these pools did not meet wetland definitions for federal, state, or Santa Barbara County.

Two vernal pools on the proposed Project site remained wet into February of 2013. These pools were once used as containment basins during past oil field operations and were labeled Pool A and Pool B (Figure 4.3-3a). Pool A is a shallow depression that holds pooled water on an abandoned well pad, adjacent to an unpaved access road and is open to cattle and other wildlife to use. Since Pool A was underlain by a claypan, which was capable of holding water for longer hydro-periods, it contained hydrophytic and non-hydrophytic plants including non-native brass button patches along with Parish's spikerush (*Eleocharis parishii*), toad rush (*Juncus bufonius*), yellow sweet clover, rattail sixweeks grass, and annual rabbitsfoot grass. By April 2013, Pool A still contained water and also supported a small patch of brass buttons (a hydrophytic plant). Pool A was revisited in March of 2015 to document wetland characteristics during the jurisdictional determination fieldwork. It was classified as an "atypical situation" (per Section F of the Corps 1987 Manual; see the jurisdictional determination report in Appendix F). This means that Pool A is a wetland that has been purposefully or incidentally created by human activities. The jurisdictional determination determined that Pool A contains hydrophytic vegetation, but no hydric soil indicators. Therefore, it was determined that Pool A does not meet the federal wetland definition because it lacks at least one of the three criteria used to define federal wetlands. However, Santa Barbara County defines a wetland as supporting *at least* one indicator (hydrophytic vegetation at least periodically, undrained hydric soil substrate, or non-soil substrate that is saturated with water at some time during the growing season each year). Therefore, Pool A is considered a wetland under the County definition. Pool B is fenced off from cattle, and during the February 2013 survey, had an impervious concrete/asphalt base with no emergent vegetation and was therefore determined not to constitute a federal, State, or County wetland.

Agricultural Ditches. The natural gas pipeline traverses several row-crop agricultural fields and vineyards. Runoff from these fields is directed to agricultural ditches, which are frequently cleared of vegetation to maintain flows. Some of these agricultural ditches connect to larger agricultural drainages that terminate at catchment basins and store the water until percolating into the ground. In the Santa Maria Valley, these ditches and catchment basins are known to support amphibian movements and breeding activities. No agricultural ponds were observed within the natural gas pipeline corridor; however, agricultural ditches were observed along the roadside within the natural gas pipeline corridor and likely drain into ponds located outside of the corridor.

Sensitive Vegetation Types

Several vegetation types present in the proposed Project area are considered sensitive at the State level by the CDFW or locally sensitive by Santa Barbara County (County of Santa Barbara, 2008). These include oak woodlands, coastal sage scrub, and wetland and riparian habitats. No sensitive native grasslands were identified in the proposed Project area. Table 4.3-3 summarizes vegetation communities in the Biological Study Area. See Appendix F for descriptions of all vegetation mapped in the Biological Study Area.

The following paragraphs describe the sensitive vegetation and habitat types mapped within the proposed Project site, natural gas pipeline, and 115-kV electrical power line corridor (see Appendix F).

Arroyo Willow Thickets. Arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance) occur on stream banks and benches, slope seeps, and stringers along drainages. This alliance has an open to continuous canopy. Coyote brush is a dominant or co-dominant species in the shrub or tree canopy (Sawyer *et al.*, 2009). Arroyo willow thickets are found in patches at several locations within the gas pipeline corridor Study Area, in drainages and or creek crossings along Cat Canyon Road, Palmer Road, Dominion Road, and

Graciosa Road. This vegetation type is dominated by arroyo willow, with component tree, shrub, forb and grass species including coyote brush, poison oak (*Toxicodendron diversilobum*), scattered coast live oak, blue elderberry (*Sambucus nigra*), and foxtail barley. These thickets occur within the majority of the drainages intersected by the proposed gas pipeline Study Area.

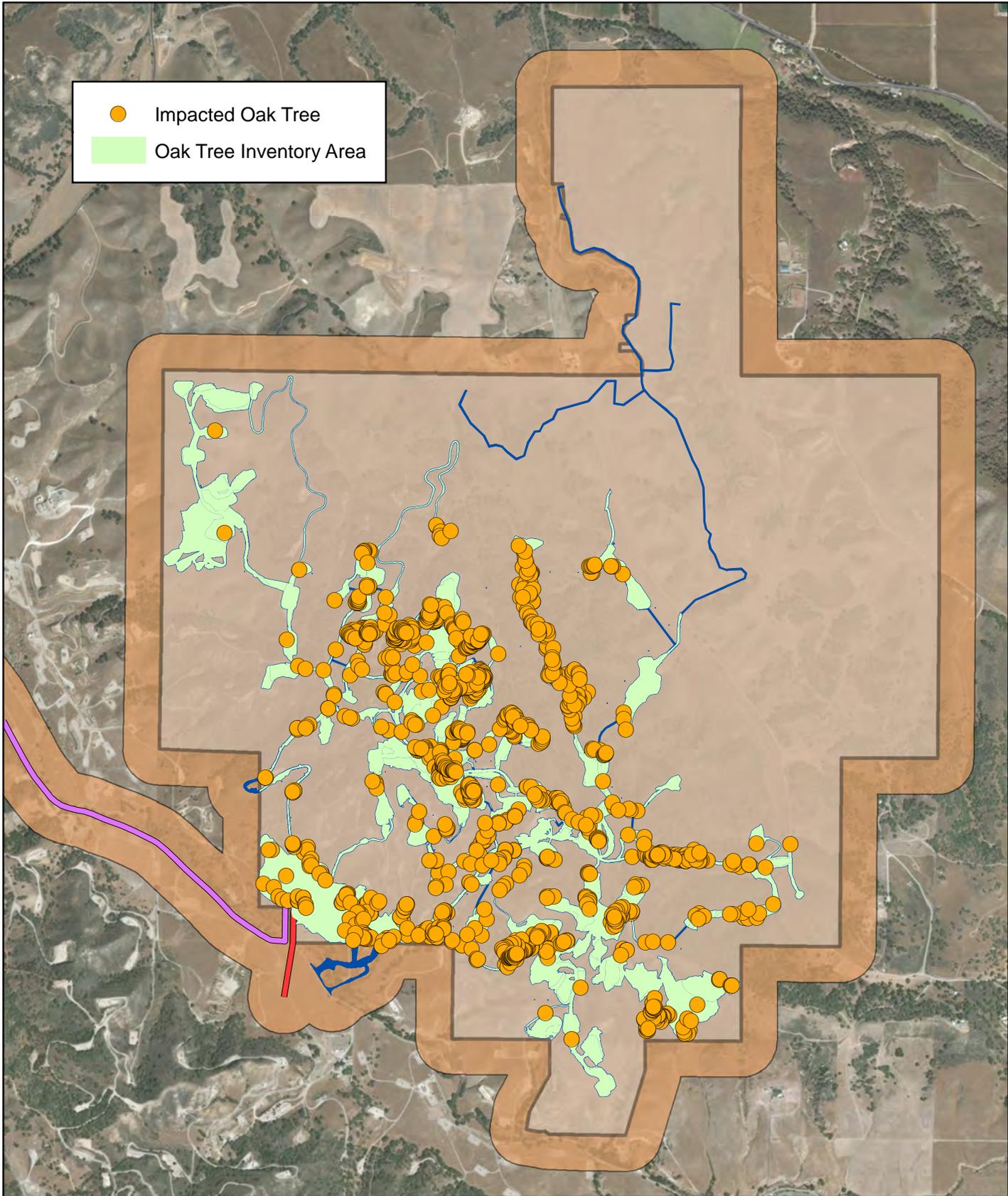
California Coastal Scrub. The coastal scrub within the proposed Project site consists of several perennial shrub species that transition in dominance in relation to distinct topographical areas (e.g., west facing hillsides, steep slopes, etc.). Field surveys identified four distinct coastal scrub vegetation types (MCVII alliances) within the proposed Project site, including black sage scrub (*Salvia mellifera* Shrubland Alliance), California sagebrush scrub (*Artemisia californica* Shrubland Alliance), mock heather (*Ericameria ericoides* stand, and coyote brush scrub (*Baccharis pilularis* Shrubland Alliance).

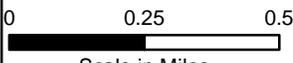
Coast Live Oak Woodland. Coast live oak woodland (*Quercus agrifolia* Woodland Alliance) occurs on alluvial terraces, canyon bottoms, stream banks, slopes, or flats, with soils that are deep, sandy or loamy with high organic matter. This alliance is characterized by coast live oak as dominant or co-dominant in the tree canopy; canopy is open to continuous, shrub layer is sparse to intermittent, and herbaceous layer is sparse (Sawyer *et al.*, 2009).

Coast live oak woodland was identified during field surveys throughout the proposed Project site on all topographic settings, ranging in cover from dense to intermittent. The quantitative vegetation assessments identified native and non-native shrubs, forbs and grasses, with coast live oak as the dominant species within this vegetation type. Component species include Italian thistle (*Carduus pycnocephalus*), ripgut grass (*Bromus diandrus*), slender wild oat (*Avena barbata*), Italian ryegrass (*Festuca perennis*), geranium (*Geranium molle*), miner's lettuce (*Claytonia perfoliata*), woodmint (*Stachys bullata*), poison oak (*Toxicodendron diversilobum*), and California hummingbird sage (*Salvia spathacea*). Mature oak trees were mapped within the proposed 335.2-acre disturbance area (Figure 4.3-4), but trees were not mapped throughout the remainder of the Biological Study Area. A total of 1,504 mature oaks were mapped (Biological Resources Survey Report prepared by Aera, Table 6-1; see Appendix F of this EIR).

Ten different soil types were identified throughout the proposed Project site, including Arnold sand, Chamise sandy loam, Chamise shaly loam, Corralitos sand, Corralitos loamy sand, Elder sandy loam, Positas fine sandy loam, rough broken land, San Andreas-Tierra complex, and sandy alluvial land. Coast live oak trees occur on all of these soil types throughout the proposed Project site covering approximately 447 acres; however, the soils with the majority of the oak woodlands are San Andreas-Tierra complex (146.5 acres), Chamise shaly loam (132.4 acres), and Arnold sand (126.4 acres). The northern slopes of the proposed Project site have the most acreage with oak woodlands at around 196 acres, followed by the western slopes with approximately 135 acres, then the eastern slopes with around 104 acres, and lastly the southern slopes with only approximately 12 acres. The majority of oak woodland acreage is found on slopes ranging from 25-55 percent (Padre, 2017b).

Oak woodlands are considered sensitive by the County of Santa Barbara and play an important role in the ecology of common and sensitive wildlife by providing food, cover, and nesting or denning habitat. Barrett (1980) lists at least 20 mammal species of this region that use oaks for food, cover, or both. Similarly, Verner (1980) identified 110 birds that use oak habitats in California during the breeding season. Notably, no deciduous oak trees or woodlands have been identified in the Biological Study Area.



  Scale in Miles

 Aera East Cat Canyon Project Boundary	 Proposed Transmission Line
 Proposed Project Footprint	 Proposed Natural Gas Pipeline
 Project 500ft Buffer	

Figure 4.3-4
Oak Tree Inventory

California Black Walnut Woodland. One small stand (0.04 acres) of coastal scrub located along the proposed powerline route consists of coyote brush with associated California walnut trees. This small stand is categorized here as California black walnut woodland (Appendix F-3). Structure is relatively open, consisting of occasional trees within a matrix of shrubs and herbs. California walnut is a watch list species (CRPR 4; see Table 4.3-4). Similar to oak woodlands, walnut woodlands support many common and sensitive wildlife species by providing food, cover, and nesting or denning habitat.

Red Willow Thickets. Red willow thickets (*Salix laevigata* Woodland Alliance) occur in ditches, floodplains, lake edges, or low-gradient depositions along streams. This alliance is characterized by red willow as dominant or co-dominant species in the tree layer; the tree layer is open to intermittent and herbaceous layer is variable (Sawyer et al., 2009). Red willow thickets were observed during field surveys at one location within the southwestern portion of the proposed Project site, in the dry bed of Cat Canyon Creek adjacent to Cat Canyon Road (Figure 4.3-2a or Appendix F, Figures 5-3A through 5F of the Biological Resources Survey Report). The quantitative vegetation assessment identified native shrubs with red willow as the dominant species within this vegetation type. Component shrub species include mulefat (*Baccharis salicifolia*), coyote brush, California mugwort (*Artemisia douglasiana*), California everlasting (*Gnaphalium californicum*), and yellow sweet clover (*Melilotus indicus*). Due to the dominance of red willow, this vegetation type is a riparian habitat, and provided protection as a Natural Community of Special Concern by the CDFW.

Western Rush Marshes. Western rush marsh (*Juncus occidentalis* Provisional Herbaceous Alliance) occurs in seasonally saturated soils on flats, depressions, and/or gentle slopes. This alliance is characterized by spreading rush (*Juncus patens*) as dominant in the herbaceous layer with intermittent to continuous cover (Sawyer et al., 2009). Based on field surveys, western rush marsh was observed at one location within the proposed Project site, in a drainage feature within an opening in coast live oak woodland habitat. A quantitative vegetation assessment identified native and non-native forb and grass species with spreading rush as the dominant species (Figure 4.3-2a or Appendix F, Figures 5-3A through 5F of the Biological Resources Survey Report). Component species include ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordaceus*), miniature lupine (*Lupinus bicolor*), rattail sixweeks grass (*Festuca myuros*), toad rush (*Juncus bufonius*), and several seedling shrub and tree species including coyote brush (*Baccharis pilularis*) and coast live oak (*Quercus agrifolia*). Soils were not saturated and no pooled water was observed during April 2014 field visits.

Common Wildlife

The mosaic of annual grasslands, coastal scrub communities, oak woodlands, and riparian habitat types interspersed between the oil production facilities throughout the Biological Study Area provide habitat for an abundance of resident and migratory wildlife species typical in the region. Surveys in support of the proposed Project as well as other studies in the area have recorded a representative sample of wildlife species. Additional resident, locally nomadic, and migratory mammal, bird, reptile, and amphibian species likely occur in the vicinity. Appendix L of *The East Cat Canyon Oil Field Redevelopment Project Biological Resources Survey Report* (August 2015; in Appendix F of this EIR) provides a list of wildlife species detected within the Biological Study Area during proposed Project surveys.

Grassland and ruderal areas typically support common wildlife species including coyote (*Canis latrans*), bobcat (*Lynx rufus*), American badger (*Taxidea taxus*), long-tailed weasel (*Mustela frenata*), jack rabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), pocket gopher (*Thomomys bottae*), and various bird and reptile species. Raptors, such as red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), barn owl (*Tyto alba*), and American kestrel (*Falco sparverius*) commonly use open grassland areas for foraging, while species such as western meadowlark (*Sturnella neglecta*) use

open grassland areas for nesting. Reptiles commonly found within grassland habitats include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), and northern pacific rattlesnake (*Crotalus oreganus*). Wildlife found in ruderal areas include common species that are tolerant of disturbance. Species common to these areas include coyote, ground squirrels, pocket gopher, and various bird and reptile species.

Habitats in the Study Area provide a suite of microhabitat conditions for a variety of terrestrial and aquatic insects, crustaceans, and other invertebrates. Focused insect surveys within the Study Area have not been undertaken; however, a suite of common insects are known from the area. These include common spiders, bees, wasp, moths, mites, ticks, and other arthropods.

California coastal scrub habitats support mammals such as brush rabbit (*Sylvilagus bachmanii*), pocket gopher, California ground squirrel, and raccoon (*Procyon lotor*). Numerous passerine bird species are expected to occur, include mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma coerulescens*), wrentit (*Chamaea fasciata*), and sparrows (*Aimophila* sp., *Melospiza* sp., *Zonotrichia* sp.). Lizards such as western fence lizard, alligator lizard (*Elgaria multicarinata*), western whiptail (*Aspidoscelis tigris*), and coast horned lizard (*Phrynosoma blainvillii*) are expected to occur within the Biological Study Area where suitable soils and food resources occur. Other reptiles such as western skink (*Plestiodon skiltonianus*), northern pacific rattlesnake, and gopher snake likely occur in this habitat type within the Biological Study Area.

Oak woodlands generally provide high-quality habitat for a large variety of wildlife species. They also contribute woody debris to the duff in the woodland understory, which provides foraging areas for small mammals and microclimates suitable for amphibians and reptiles. Acorns are a valuable food source for many animal species, including acorn woodpecker (*Melanerpes formicivorus*), scrub jay (*Aphelocoma coerulescens*), yellow-billed magpie (*Pica nuttalli*), American crow (*Corvus brachyrhynchos*), western gray squirrel (*Sciurus griseus*), and black-tailed deer (*Odocoileus emionus*). Coast live oak trees provide nesting habitat for numerous passerine birds as well as for raptors such as the great horned owl (*Bubo virginianus*) and red-tailed hawk.

Riparian habitats provide diverse habitat for a wide array of aquatic, semi-aquatic, and terrestrial wildlife species. Wildlife species known or expected to occur within riparian habitats in the Study Area include gopher snake, common garter snake (*Thamnophis sirtalis*), western toad (*Anaxyrus boreas*), treefrog (*Pseudacris hypochondriaca*), raccoon, and striped skunk (*Mephitis mephitis*), as well as a multitude of birds.

Special-Status Species

Special-status species are defined as plants or animals that meet one or more of the following criteria:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under the California or federal Endangered Species Act (CESA or ESA);
- Are candidate species being considered or proposed for listing under these same acts;
- Are designated Species of Special Concern by CDFW;
- Are fully protected by the California State Fish and Game Code, Sections 3511, 4700, 5050, or 5515;
- Are classified as California Rare Plant Rank (CRPR) 1, 2, 3, or 4 by CDFW and CNPS;
- Are of express concern to resource/regulatory agencies or local jurisdictions; or
- Are listed on watch lists or provided with special conservation designations by professional working groups/societies (e.g., Western Bat Working Group).

All special-status plants and animals that have been documented in the Biological Study Area, or have potential to occur on the proposed Project site, are addressed in the pages that follow. Tables 4.3-4 and 4.3-6 briefly summarize each special-status plant and animal species, including the conservation status, habitat, and occurrence potential on the site. For species occurring on the site, or with high occurrence potential, additional description is provided in paragraphs following Table 4.3-4.

Figure 4.3-5 identifies the approximate locations of special-status species reported in the CNDDDB. It is important to note that the CNDDDB does not represent all of the special-status species that occur in a given area, and is limited to only those occurrences that have been reported by users. Therefore, it is not an exhaustive list of potentially occurring species. Additionally, the precision of location information for records in the CNDDDB varies considerably, and point data do not necessarily represent the exact location that a species was found. Figure 4.3-6 identifies the precise locations of special-status species detected during proposed Project surveys, with the exception of oak titmouse and American badger along the natural gas pipeline. Oak titmouse was observed throughout oak woodlands along the natural gas pipeline alignment, and badger sign was observed in grasslands and agricultural communities throughout the natural gas pipeline survey area.

Critical Habitat. Several federally listed species occur in the region. Although no designated critical habitat is mapped within the proposed Project site or power line route, the natural gas pipeline crosses critical habitat for California tiger salamander, California red-legged frog, and La Graciosa thistle. In addition, critical habitat for Lompoc yerba santa, steelhead, and arroyo toad occur within 5 miles of the proposed Project site and natural gas pipeline alignment. Figure 4.3-7 identifies the locations of designated critical habitat for federally listed species in the region.

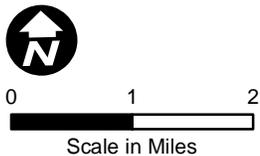
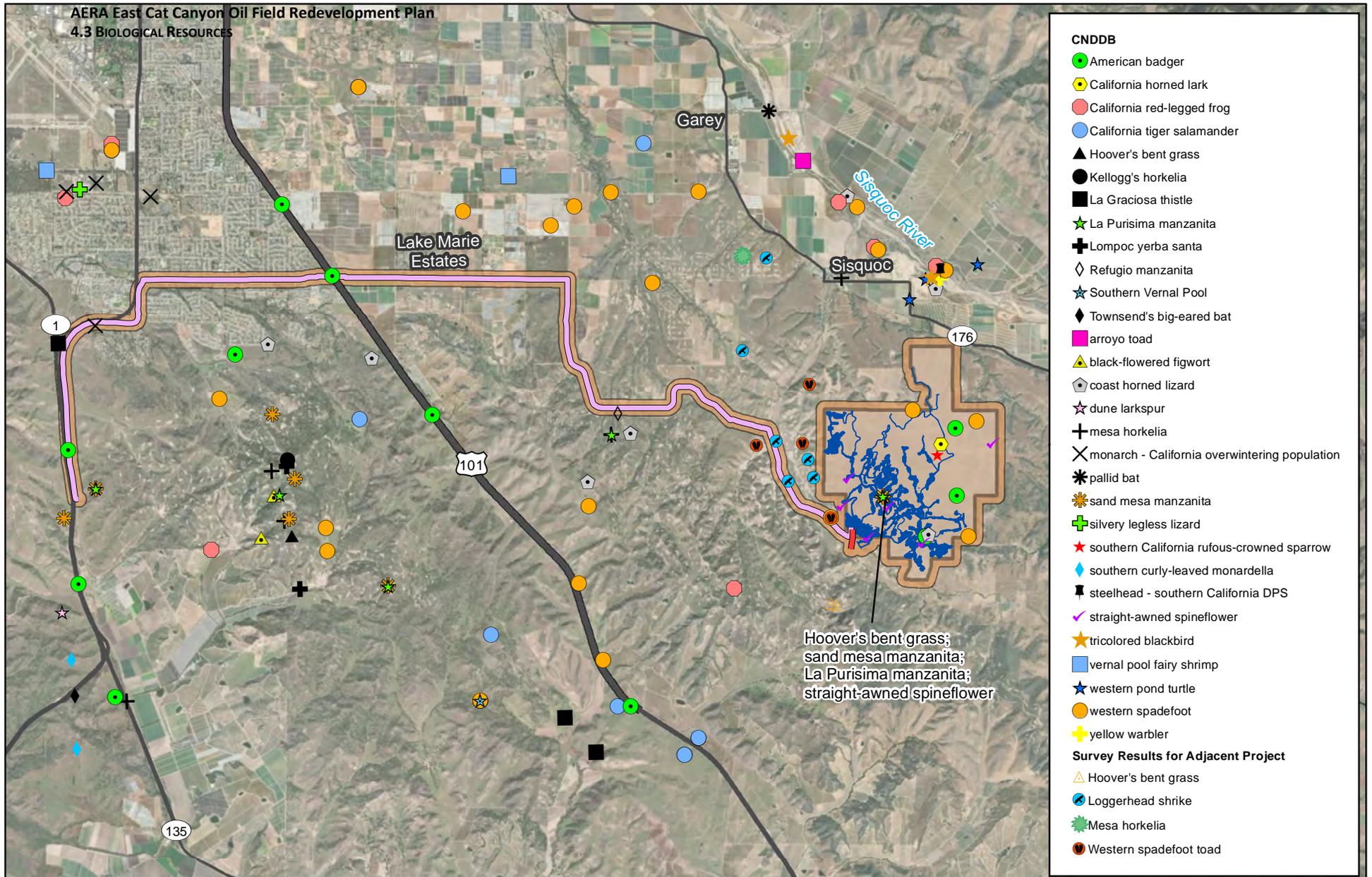
Special-Status Plants

Thirty-eight (38) special-status plants were considered for their potential to occur in the vicinity of the Study Areas, based on known ranges, habitat associations, and regional records. Seven special-status plants were identified during surveys or previously documented within the proposed Project site and linear alignments. Six of these are ranked as CRPR 1B species by the CDFW and CNPS (Hoover’s bent grass [historic occurrence only], La Purisima manzanita [historic occurrence only], sand mesa manzanita [historic occurrence only], strait-awned spineflower [present in proposed Project site], La Graciosa thistle [historic occurrence on natural gas pipeline, considered extirpated], and dune larkspur [natural gas pipeline only]) and one CRPR 4 species (southern California black walnut [powerline only]). La Graciosa thistle is also federally listed endangered and state-listed threatened.

Special-status plant species that are present or have the potential to occur in the Study Area are listed in Table 4.3-4 and shown on Figures 4.3-5 and 4.3-6. Potential for occurrence is defined as follows:

- **Present:** Species or sign of their presence recently observed on the site.
- **High:** Species or sign not observed on the site, but reasonably certain to occur on the site based on conditions, species ranges, and recent records.
- **Moderate:** Species or sign not observed on the site, but conditions suitable for occurrence and/or an historical record exists in the vicinity.
- **Low:** Species or sign not observed on the site, and conditions marginal for occurrence.
- **Not likely to occur:** Species or sign not observed on the site, outside of the known range, and conditions unsuitable for occurrence.

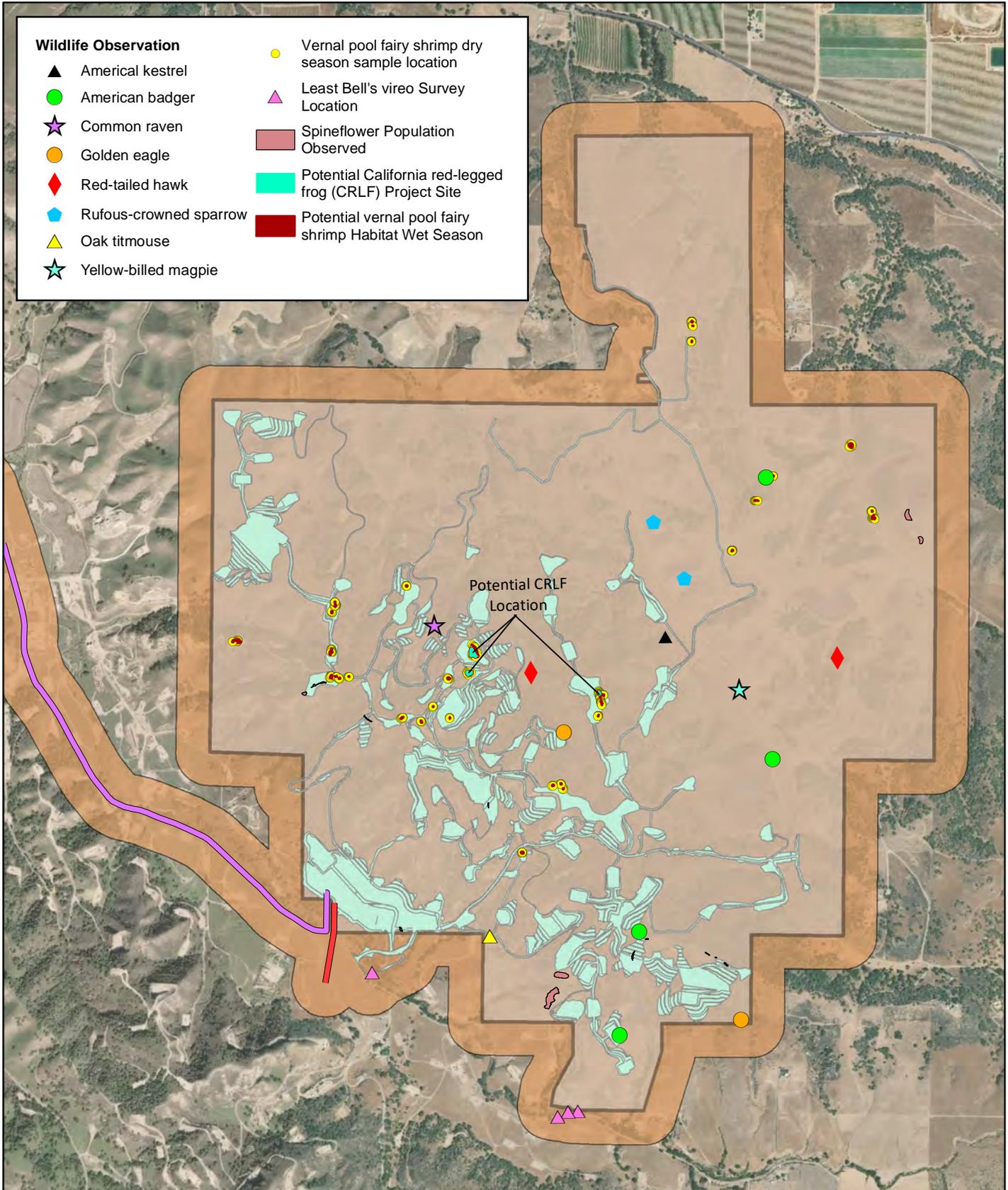
4.3 BIOLOGICAL RESOURCES



- Aera East Cat Canyon Project Boundary
- Proposed Project Footprint
- Project 500ft Buffer
- Proposed Transmission Line
- Proposed Natural Gas Pipeline

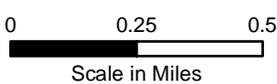
Figure 4.3-5

Regional CNDDB Records



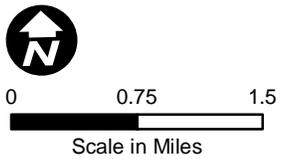
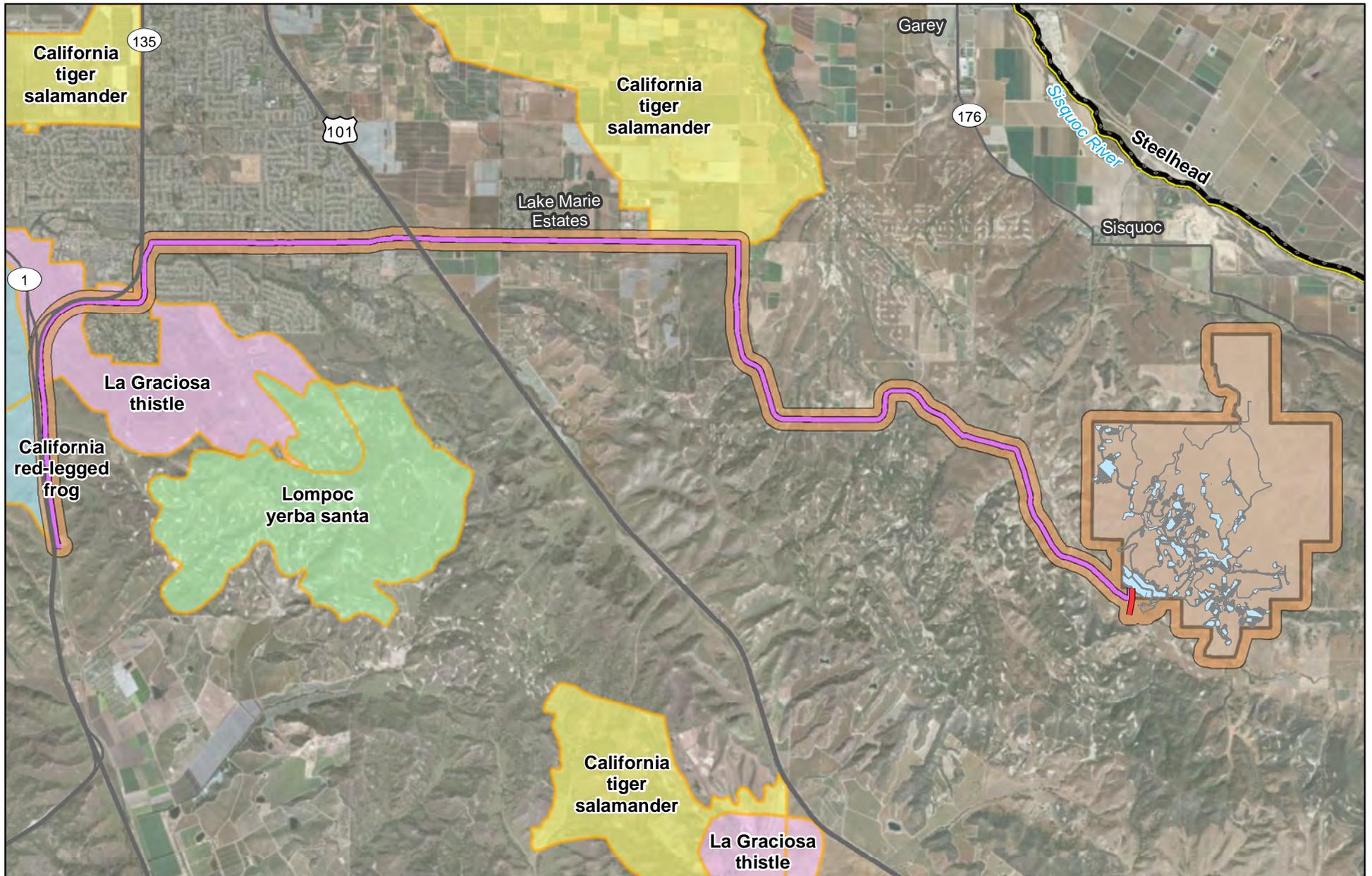
Wildlife Observation

- ▲ American kestrel
- American badger
- ★ Common raven
- Golden eagle
- ◆ Red-tailed hawk
- ◆ Rufous-crowned sparrow
- ▲ Oak titmouse
- ★ Yellow-billed magpie
- Vernal pool fairy shrimp dry season sample location
- ▲ Least Bell's vireo Survey Location
- Spineflower Population Observed
- Potential California red-legged frog (CRLF) Project Site
- Potential vernal pool fairy shrimp Habitat Wet Season



- Aera East Cat Canyon Project Boundary
- Proposed Project Footprint
- Project 500ft Buffer
- Proposed Transmission Line
- Proposed Natural Gas Pipeline

Figure 4.3-6
Biological Resources Survey Data



- Aera East Cat Canyon Project Boundary
- Proposed Project Footprint
- Project 500ft Buffer
- Proposed Transmission Line
- Proposed Natural Gas Pipeline

Figure 4.3-7
Critical Habitat

Table 4.3-4. Special-Status Plants Potentially Occurring in the Proposed Project Area

Species	Status*	Habitat Associations	Potential to Occur
<i>Agrostis hooveri</i> Hoover's bent grass	1B.2	Chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland. Sandy sites. Blooms Apr-Aug. Elevations of 195 to 2,000 feet.	High. Historical record in proposed Project site; however, not detected during Project surveys.
<i>Ancistrocarphus keilii</i> Santa Ynez groundstar	1B.1	Sandy soils in chaparral, cismontane woodland. Blooms Mar-Apr. Elevations of 130 to 430 feet.	Low. Suitable habitat occurs in the Study Area, but proposed Project site outside of elevation range. Nearest record 12.6 miles from proposed Project site.
<i>Arctostaphylos crustacea</i> ssp. <i>eastwoodiana</i> Eastwood's brittle-leaf manzanita	1B.1	Occurs in maritime chaparral on sandy soils. Blooms Mar. Elevations of 300 to 1,200 feet.	Not Likely to Occur. The proposed Project Study Area lacks suitable maritime chaparral habitat, and this perennial shrub species was not observed during proposed Project surveys. Nearest record 15 miles southwest of natural gas pipeline.
<i>Arctostaphylos purissima</i> La Purisima manzanita	1B.1	Chaparral. Sandstone outcrops, sandy soil. Blooms Jan-Mar. Elevations of 400 to 990 feet.	High. The proposed Project Study Area supports suitable habitat and a historic (1973) record exists in the proposed Project site; however, this perennial shrub species was not observed during proposed Project surveys.
<i>Arctostaphylos refugioensis</i> Refugio manzanita	1B.2	Chaparral. Sandy soils. Blooms Jan-May. Elevations of 900 to 2,690 feet.	Moderate. The proposed Project Study Area supports suitable habitat; however, this perennial shrub species was not observed during proposed Project surveys. Nearest record just outside of the natural gas pipeline Study Area just south of Dominion Road. May occur adjacent to gas pipeline development footprint.
<i>Arctostaphylos rudis</i> Sand mesa manzanita	1B.2	Chaparral, coastal scrub. Sandy soils in Lompoc-Nipomo area. Blooms Nov-Feb. Elevations of 80 to 750 feet.	High. The proposed Project Study Area supports suitable habitat and a historic (1973) record exists in the proposed Project site; however, this perennial shrub species was not observed during proposed Project surveys.
<i>Arenaria paludicola</i> Marsh sandwort	FE, SE, 1B.1	Sandy substrates and openings in freshwater and brackish marshes and swamps. Known only from two natural occurrences in Black Lake Canyon and Oso Flaco Lake; experimental introductions at Los Osos, Nipomo. Blooms May-Aug. Elevations of 10 to 560 feet.	Not Likely to Occur. No habitat in Study Area.
<i>Astragalus didymocarpus</i> var. <i>milesianus</i> Miles' milk-vetch	1B.2	Coastal scrub, coastal grasslands in clay soils at elevations of 65 to 295 feet. Blooms Mar-Jun.	Low. Suitable habitat, recorded 3 miles east of Project site in Foxen Canyon. However, proposed Project site is outside known elevation range.

Table 4.3-4. Special-Status Plants Potentially Occurring in the Proposed Project Area

Species	Status*	Habitat Associations	Potential to Occur
<i>Atriplex coulteri</i> Coulter's saltbush	1B.2	Alkaline or clay soils in coastal bluff scrub, dunes, valley and foothill grasslands. Blooms Mar-Oct. Elevations of 10 to 1,500 feet.	Low. Marginal habitat, perennial species not observed during appropriately timed proposed Project surveys.
<i>Atriplex serenana</i> var. <i> davidsonii</i> Davidson's saltscale	1B.2	Coastal bluff scrub, coastal scrub in alkaline soil. Blooms Apr-Oct. Elevations of 10 to 820 feet.	Low. Marginal habitat, not observed during appropriately timed proposed Project surveys.
<i>Calycadenia villosa</i> Dwarf calycadenia	1B.1	Occurs in the understory of chaparral and woodland habitats, as well as in open grasslands, meadows, and seeps along the central coast of California at elevations from 785 to 4,430 feet. Blooms May-Oct.	Moderate. May be outside of range (Wilken, 2007); however, suitable habitat occurs and nearest record is 5.5 miles south of proposed Project site.
<i>Chorizanthe rectispina</i> Strait-awned spineflower	1B.3	Occurs in the understory of chaparral, woodland, and coastal scrub habitats in Monterey, Santa Barbara, and San Luis Obispo Counties at elevations from 280 to 3,395 feet. Blooms Apr-Jul.	Present. Observed in proposed Project site during 2013 surveys.
<i>Cirsium scariosum</i> var. <i> loncholepis</i> [<i>C. loncholepis</i>] La Graciosa thistle	FE, ST, 1B.1	Cismontane woodland, coastal dunes, coastal scrub, marshes and swamps (brackish), valley and foothill grassland/mesic, sandy. Blooms May-Aug. Elevations of 10 to 720 feet.	High. The proposed Project Study Area supports potential habitat; recorded approx. 4 miles from the proposed Project site. The west end of the natural gas pipeline route crosses critical habitat and a historic (1906) CNDDDB record of La Graciosa thistle exists adjacent to the gas pipeline Study Area; however, this occurrence is considered extirpated by the construction of Highway 1.
<i>Cladium californicum</i> California saw-grass	2B.2	Freshwater and alkali marshes, seeps/freshwater or alkaline moist habitats. Blooms Jun-Sept. Elevations of 200 to 2,000 feet.	Low. The proposed Project Study Area lacks suitable habitat; nearest record 5.3 miles southwest of the proposed Project site.
<i>Cordylanthus rigidus</i> ssp. <i> littoralis</i> Seaside bird's-beak	SE, 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, coastal dunes. Found in sandy, often disturbed sites, usually within chaparral or coastal scrub. Blooms Jul-Aug. Elevations of 0 to 700 feet.	Moderate. The proposed Project Study Area supports potential habitat; recorded approx. 10.5 miles from the proposed Project site.
<i>Deinandra increscens</i> ssp. <i> villosa</i> Gaviota tarplant	FE, SE, 1B.1	Coastal scrub, valley and foothill grassland, coastal bluff scrub. Known from coastal terrace near Gaviota; sandy blowouts amid sandy loam soil; grassland/coastal scrub ecotone. Blooms Jun-Sept. Elevations of 115 to 1,400 feet.	Low. The proposed Project Study Area supports potential habitat, but is outside of the known range.
<i>Deinandra paniculata</i> Paniculate tarplant	4.2	Usually in seasonally mesic areas, sometimes sandy areas. Coastal sage scrub, valley and foothill grasslands, vernal pools. Blooms Apr-Nov. Elevations of 80 to 3,100 feet.	High. Observed in Cat Canyon Oilfield during adjacent project surveys in April and May 2014.
<i>Delphinium parryi</i> ssp. <i> blochmaniae</i> Dune larkspur	1B.2	Chaparral, maritime coastal dunes. On rocky areas and dunes at elevations of 0 to 660 feet. Blooms Apr-Jun.	Present. Documented within the natural gas pipeline alignment along Graciosa Road. The proposed Project site supports marginal habitat.

Table 4.3-4. Special-Status Plants Potentially Occurring in the Proposed Project Area

Species	Status*	Habitat Associations	Potential to Occur
<i>Delphinium umbraculorum</i> Umbrella larkspur	1B.3	Cismontane woodland. Mesic sites. Blooms Apr-Jun. Elevations of 1,300 to 5,300 feet.	Low. The proposed Project Study Area supports potential habitat, but is outside of the known elevation range for this species.
<i>Erigeron blochmaniae</i> Blochman's leafy daisy	1B.2	Coastal dunes and coastal scrub. Blooms Jun-Aug. Elevations of 10 to 150 feet.	Low. The proposed Project Study Area supports suitable habitat, but is outside known elevation range. Nearest record is 14 miles from the proposed Project site.
<i>Eriodictyon capitatum</i> Lompoc yerba santa	FE, SR, 1B.2	Closed-cone coniferous forest, chaparral. Sandy soils on terraces. Blooms Apr-Jun. Elevations of 130 to 1,500 feet.	Low. Marginal habitat, perennial species not observed during Project surveys. Records from about 7 miles west of the Study Area.
<i>Fritillaria ojaiensis</i> Ojai fritillary	1B.2	Occurs in the understory of chaparral and forest habitats in Sonoma, Ventura, Santa Barbara, and San Luis Obispo Counties at elevations from 985 to 3,275 feet. Blooms Feb-May.	Moderate. Suitable chaparral habitats occur in the proposed Project Study Area.
<i>Horkelia cuneata</i> var. <i>puberula</i> Mesa horkelia	1B.1	On sandy or gravelly sites in chaparral, cismontane woodland, coastal scrub. Elevations of 230 to 2,660 feet. Blooms Feb-Sep.	High. Observed in the Cat Canyon Oilfield during recent surveys for adjacent project.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	1B.1	Sandy or gravelly soils. On coastal dunes and in openings in closed-cone coniferous forests, maritime chaparral, and coastal scrub. Blooms Apr-Sept. Elevations of 30 to 660 feet.	Not Likely to Occur. The proposed Project Study Area lacks suitable habitat and is mostly outside elevational range.
<i>Juglans californica</i> Southern California black walnut	4.2	Chaparral, coastal scrub, cismontane woodland. Slopes, canyons, alluvial habitats. Elevations of 160 to 3,000 feet. Blooms Mar-Aug.	Present. Observed in the 115-kV power line Study Area.
<i>Layia heterotricha</i> Pale-yellow layia	1B.1	Cismontane woodland, pinyon/juniper woodland, as well as valley and foothill grassland where soil is alkaline or fine, friable clay at elevations of 980 to 5,600 feet. Blooms Mar-Jun.	Low. Potentially suitable habitat in proposed disturbance areas; nearest record 13 miles from the proposed Project site.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	4.3	Chaparral, coastal scrub, dry soils, shrubland. Blooms Apr-Jun. Elevations of 0 to 3,100 feet.	Moderate. Suitable habitats occur in the Study Area.
<i>Leptodactylon californicum</i> ssp. <i>tomentosum</i> [= <i>Linanthus californicus</i> ssp. <i>tomentosus</i>] Fuzzy prickly phlox	4.2	Scrub, forest, coastal strand; Burton Mesa, Nipomo Mesa. Blooms Mar-Aug. Elevations up to 600 feet.	Low. Proposed Project site distant from known locations and at upper margin of elevational range. The more common California prickly phlox was observed in adjacent project in Cat Canyon during recent surveys.
<i>Lomatium parvifolium</i> Small-leaved lomatium	4.2	Often on serpentine soils. Closed-cone coniferous forest, chaparral, coastal scrub, riparian woodland. Blooms Jan-Jun. Elevations of 60 to 2,300 feet.	High. Observed in adjacent project in Cat Canyon during recent surveys.
<i>Lonicera subspicata</i> var. <i>subspicata</i> Santa Barbara honeysuckle	1B.2	Chaparral, cismontane woodland, coastal scrub. Sandy soil. Elevations of 100 to 3,300 feet. Blooms Apr-May.	Moderate. Suitable habitat occurs in the Study Area. Nearest record 13 miles from proposed Project site.

Table 4.3-4. Special-Status Plants Potentially Occurring in the Proposed Project Area

Species	Status*	Habitat Associations	Potential to Occur
<i>Mimulus fremontii</i> var. <i>vandenbergensis</i> (<i>Diplacus vandenbergensis</i>) Vandenberg monkeyflower	FE, 1B.1	Cismontane woodland, central maritime chaparral (Burton Mesa), coastal dunes; found on sandy, often disturbed areas. Blooms Apr-Jun. Elevations of 200 to 400 feet.	Low. Marginal habitat in Study Area, proposed Project site just outside known elevation range.
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i> White-veined monardella	1B.3	Chaparral, cismontane woodland. Blooms Apr-Dec. Elevations of 160 to 5,000 feet.	Moderate. Suitable habitat occurs in the Study Area.
<i>Monardella sinuata</i> ssp. <i>sinuata</i> Southern curly-leaved monardella	1B.2	Sandy soils in chaparral, cismontane woodland, coastal dunes, and openings in coastal scrub. Blooms Apr-Sept. Elevations of 0 to 1,000 feet.	Moderate. Suitable habitat occurs in the Study Area.
<i>Monardella undulata</i> Curly-leaved monardella	1B.2	Coastal dunes, coastal scrub. Often on the borders of open, sandy areas, usually adjacent to typical back-dune scrub vegetation. Blooms Apr-Sept. elevations of 15 to 400 feet.	High. Observed in adjacent project in Cat Canyon during recent surveys.
<i>Nasturtium [Rorippa, Cardamine] gambelii</i> Gambel's watercress	FE, ST, 1B.1	Marshes and swamps (freshwater or brackish). Blooms Apr-Sep. Elevations of 15 to 1,100 feet.	Moderate. The proposed Project Study Area supports suitable habitat and nearest record is 4 miles from the natural gas pipeline.
<i>Scrophularia atrata</i> Black-flowered figwort	1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub. Sandy, diatomaceous shale and soils derived from other parent material; along swales and in sand dunes. Blooms Apr-Jul. Elevations of 30 to 820 feet.	Moderate. The proposed Project Study Area supports suitable habitat, and there are records less than 5 miles from the proposed gas pipeline and 8.8 miles from the proposed Project site.
<i>Senecio aphanactis</i> Chaparral ragwort	2B.2	Drying alkaline flats in chaparral, cismontane woodland, and coastal scrub. Elevations of 50 to 2,630 feet. Blooms Jan-Apr.	Moderate. Suitable habitat present within the Study Area; nearest record 13 miles from the proposed Project site.

Source: CDFW, 2017a; CNPS, 2017; and CCH, 2015

***Federal Rankings:**

FE – Federally Endangered
 FT – Federally Threatened

***State Rankings:**

SE – State Endangered
 ST – State Threatened
 SR – State Rare

***CRPR Rankings:**

CRPR 1A – Presumed extinct in California
 CRPR 1B – Rare or endangered in California and elsewhere
 CRPR 2 – Rare or endangered in California, more common elsewhere
 CRPR 3 – More information needed
 CRPR 4 – Limited distribution (Watch List)

For each CRPR Ranking, the following sub-categories apply:

- .1 = Seriously endangered in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
- .2 = Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 = Not very endangered in California (less than 20 percent of occurrences threatened or no current threats known)

Hoover's Bent Grass. Hoover's bent grass (*Agrostis hooveri*) is a CRPR 1B.2 species. It is also a species of concern in Santa Barbara County (County of Santa Barbara, 2010). Hoover's bent grass is a perennial herb in the grass family (Poaceae). It blooms from April to July, and typically inhabits dry sandy soils in closed-cone coniferous forests, chaparral, cismontane woodland, and valley and foothill grassland at elevations between 200 and 2,000 feet (CNPS, 2017). It is found in Santa Barbara and San Luis Obispo counties.

Hoover's bent grass has been recorded in coastal sage scrub at two locations within the Cat Canyon Oil Field, one is a historic record (1973) within the proposed Project site (Figure 4.3-5). Proposed Project surveys investigated the reported location but did not identify any Hoover's bent grass.

Straight-Awned Spineflower. Straight-awned spineflower (*Chorizanthe rectispina*) is an annual herb in the Buckwheat (Polygonaceae) Family that occurs at elevations of 85 to 1035 meters, and is generally associated with sandy or gravel soils. It is a CRPR 1B.2 species. The April 2013 survey was conducted during the expected blooming period for this species and suitable habitat occurs in coastal scrub habitat and associated soils within the proposed Project site. A total of 30 to 100 individual straight-awned spineflower were observed at 14 locations within proposed Project site, primarily on rocky substrate and/or rocky outcrops (Figure 4.3-6).

La Graciosa Thistle. La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*) is federally listed as endangered and state-listed threatened. It is a perennial herb in the sunflower family (Asteraceae) that blooms from May to August. It inhabits sandy, mesic soils in cismontane woodland, coastal dunes, coastal scrub, brackish marshes and swamps, and valley and foothill grasslands. La Graciosa thistle was not observed during proposed Project surveys; however, a portion of the pipeline route crosses designated critical habitat. A historic record (1906) just outside the natural gas pipeline Study Area along Graciosa Road, is considered extirpated by the development of Highway 1 (CDFW, 2017a).

Paniculate Tarplant. Paniculate tarplant (*Deinandra paniculata*) is a CRPR 4.2 species. It is an annual herb in the sunflower family (Asteraceae). Paniculate tarplant blooms from April to November and usually inhabits seasonally wet, and sometimes sandy soils in coastal sage scrub, valley and foothill grassland, and vernal pools (CNPS, 2017). It occurs at elevations from 80 to 3,100 feet. It is found from San Diego County north to San Luis Obispo County, and east to Riverside and San Bernardino counties. Paniculate tarplant was observed in a variety of habitats during 2014 surveys in an adjacent Cat Canyon project; however, was not observed within the proposed Project site.

Dune Larkspur. Dune larkspur (*Delphinium parryi* ssp. *blochmaniae*) is a CRPR 1B.2 plant. It is a perennial herb in the buttercup family (Ranunculaceae) that occurs on rocky areas and dunes within maritime chaparral and coastal dunes. Dune larkspur blooms from April to June. It occurs at elevations from sea level to 660 feet. Dune larkspur has been recorded in the natural gas pipeline survey area along Graciosa Road.

Mesa Horkelia. Mesa horkelia (*Horkelia cuneata* var. *puberula*) is a CRPR 1B.1 plant. It is a perennial herb in the rose family (Rosaceae) that blooms from February to September (CNPS, 2017). It typically occurs in sandy or gravelly habitats within chaparral, cismontane woodland, and coastal scrub communities ranging from 200 to 2,700 feet. It is found in Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura counties. A population of mesa horkelia was identified during recent surveys in an adjacent Cat Canyon project; however, was not observed within the proposed Project site.

Southern California Black Walnut. Southern California black walnut (*Juglans californica* var. *californica* = *Juglans californica*) is a CRPR 4.2 species. It is a deciduous tree in the walnut family (Juglandaceae), and is endemic to Southern California. Its habitat requirements are generally alluvial soils within chaparral, cismontane woodland, and coastal scrub communities at elevations from 150 to 3,000 feet. The CNPS (2015) states that much of the walnut forest vegetation community is fragmented and in decline. Southern California black walnut was observed in the 115-kV power line survey area.

California Prickly Phlox. California prickly phlox (*Linanthus californicus*) is a CRPR 4.2 plant. It is a deciduous shrub in the phlox family (Polemoniaceae). It occurs in scrub, forest, and coastal strand habitats at elevations below 5,000 feet. California prickly phlox blooms from January to August. It was recorded in coastal sage scrub and chaparral habitats during recent surveys in an adjacent Cat Canyon project.

Small-Leaved Lomatium. Small-leaved lomatium (*Lomatium parvifolium*) is a CRPR 4.2 plant. It is a perennial herb in the parsley family (Apiaceae). It is often associated with serpentine soils in closed-cone coniferous forest, chaparral, coastal sage scrub, and riparian woodlands at elevations from 60 to 2,300 feet. Small-leaved lomatium blooms from January to June. It was observed in chamise chaparral and coastal sage scrub in the Cat Canyon Oil Field during recent surveys in an adjacent project.

Curly-Leaved Monardella. Curly-leaved monardella (*Monardella undulata*) is a CRPR 1B.2 species that is also considered locally rare by Santa Barbara County (Wilken, 2007). It is an annual herb in the mint family (Lamiaceae). It occurs in a variety of habitats including chaparral, coastal dunes, coastal prairie, coastal scrub and lower montane coniferous forests. It was observed in the adjacent ERG West Cat Canyon Project during recent surveys, and has been recorded within coastal sage scrub approximately 3 miles southwest of the proposed Project site.

Special-Status Wildlife

Two listed species, the California red-legged frog (federally listed threatened) and the California tiger salamander (federally listed endangered, state-listed threatened), have a high potential to occur in the Study Area. Critical habitat for both species is designated within 5 miles of the Study Area. Although no critical habitat occurs within the proposed Project site, the natural gas pipeline crosses designated critical habitat for both species (see Figure 4.3-6). In addition, seven wildlife species identified as California Species of Special Concern (CSSC) or species with special conservation designations (e.g., birds of conservation concern or CDFW Special Animals) have been detected in the Study Area during surveys.

California Tiger Salamander (CTS). The CTS is state-listed as threatened. The Santa Barbara County Distinct Population Segment (DPS) of the CTS was federally listed as endangered throughout its entire range in 2000 under the federal ESA. The DPS is endemic to the northern portion of Santa Barbara County, California, and currently consists of six distinct metapopulations (USFWS, 2015). A metapopulation is defined as a set of local populations or breeding sites within an area where dispersal from one local population or breeding site to other areas containing suitable habitat is possible but not routine (USFWS, 2016). The proposed Project site and the natural gas pipeline alignment are mostly within the West Los Alamos/Careaga Area metapopulation, which has 11 known extant breeding ponds. The East Santa Maria metapopulation, with 5 known extant breeding ponds, is about 1 to 2 miles northwest of the proposed Project site.

CTS require vernal pools, ponds (natural or human-made), or semi-permanent calm waters where ponded water is present for a minimum 3 to 4 months for egg development and larval maturation. Adjacent upland areas that contain small mammal burrows or other suitable dry season refuge are essential habitat requirements. Adult CTS spend most of their lives underground in small mammal burrows, such as those of California ground squirrel and Botta's pocket gopher. Adults emerge from underground retreats to feed, court, and breed with the onset of seasonal fall and winter rains, when the ground becomes saturated and pools fill. Breeding typically occurs from November through March in the Santa Barbara region, with juveniles dispersing from ponds as they dry in May and June. Eggs hatch in about 10 to 14 days, and the larvae continue to develop in the pools for several weeks until they metamorphose. A minimum of 10 weeks is required for egg development and larval maturation. As the seasonal pools dry, juvenile salamanders seek refuge in surrounding upland habitat, typically in small mammal burrows as described above.

Several studies have recorded migration and dispersal distances from breeding ponds (e.g. Trenham, 2001; Loreda et. Al, 1996; Trenham and Schaffer, 2005; Orloff, 2011). Although none of these studies were conducted in Santa Barbara County, they are considered the best available sources of information on CTS dispersal distance and potential for occurrence in surrounding upland habitats. Maximum dispersal

distances of 1.2 miles (USFWS, 2000) and 1.4 miles (Orloff, 2011) are most often cited in the literature. The analysis in this EIR considers maximum dispersal distance from breeding ponds to be 1.4 miles based on the Orloff (2011) study and input from a local expert (J. Storrer, pers. comm.).

Factors including terrain and vegetation type may affect dispersal capability, but it is difficult to precisely determine the degree to which this may occur in a specific context. Man-made features such as roadways, highways, commercial or residential development, and irrigated cropland may inhibit, but not preclude dispersal. Major highways, rivers, or mountain ranges may be considered complete barriers to CTS migration.

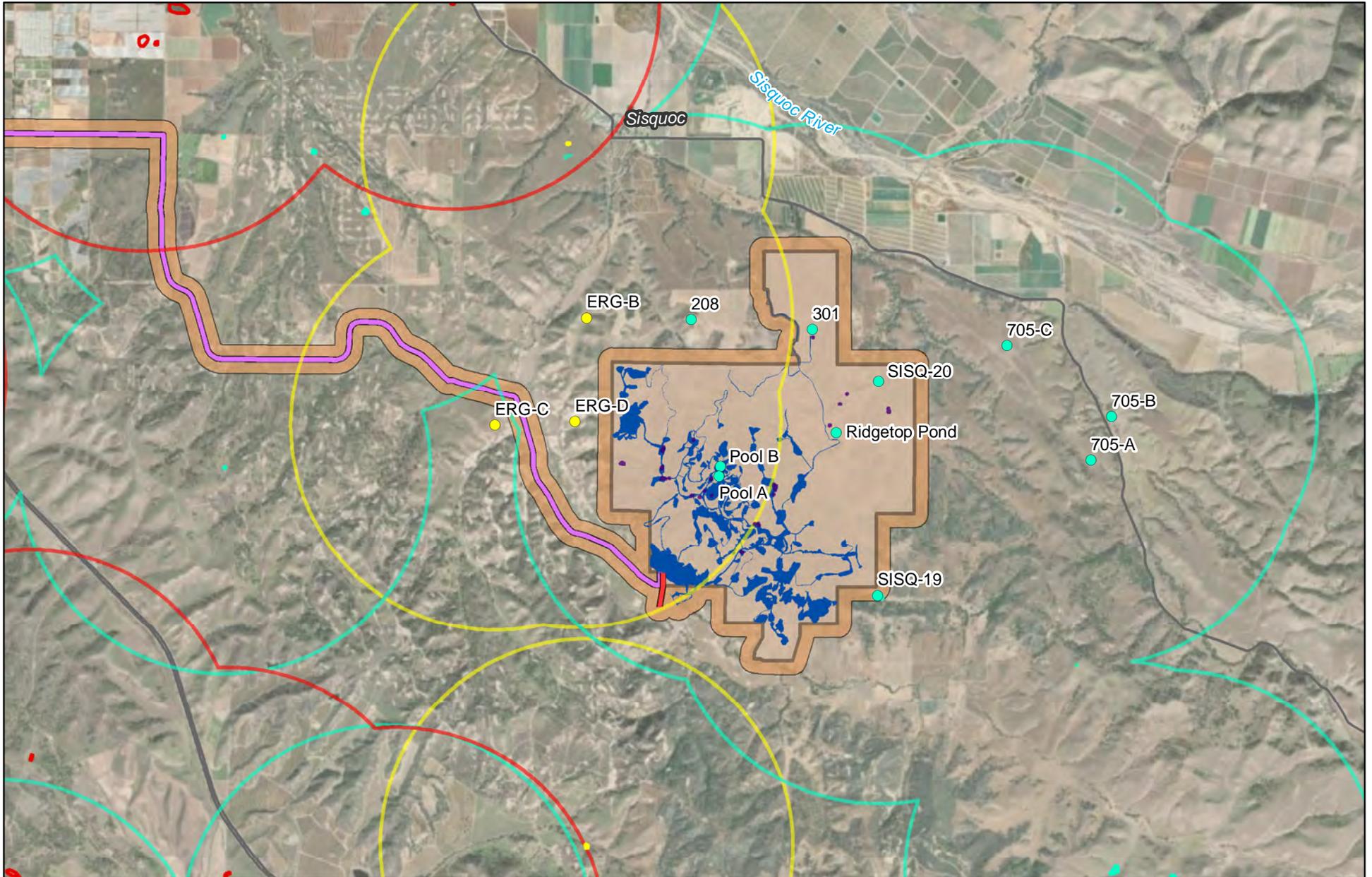
Various studies have gathered data on the use of upland habitats by CTS. This information is essential to determining the potential for impacts to habitat and mortality (i.e., incidental take) due to proposed land use conversions. Range of dispersal from breeding ponds is an important factor in assessing potential for incidental mortality, while patterns of upland habitat use (e.g., concentration of adult CTS relative to distance from breeding ponds) is most applicable to conservation planning.

The density of CTS occupying upland refugia decreases exponentially with distance from breeding ponds (Searcy and Shaffer 2007). One study showed that approximately 95 percent of migrating CTS remained within 2,034 feet of a breeding pond (Trenham and Schaffer 2005). More recent studies have suggested that a higher percentage (i.e., >5 percent) might be migrating beyond this distance (Orloff 2011, Searcy and Schaffer 2013).

The proposed Project site is within 5 miles of documented CTS breeding pools and designated critical habitat (see Appendix F and Figure 4.3-7). The natural gas pipeline Study Area runs along the southern border of designated critical habitat (Unit 2 – East Santa Maria), and occurs within one mile from a known breeding pond (TWDA-12) located near East Clark Avenue and Dominion Road. The USFWS has also identified several pools with aerial imagery that may not have been surveyed and may or may not contain suitable breeding or upland habitat. Figure 4.3-8 identifies regional aquatic features near the proposed Project site, including ponds mapped by ERG (Collins and Gaede, 2013), ponds identified by Padre from aerial imagery review and field reconnaissance (Padre, 2015), and ponds that the USFWS have identified as potentially occupied by CTS (USFWS, 2010). Three pond designations are included on Figure 4.3-8, as follows:

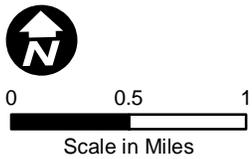
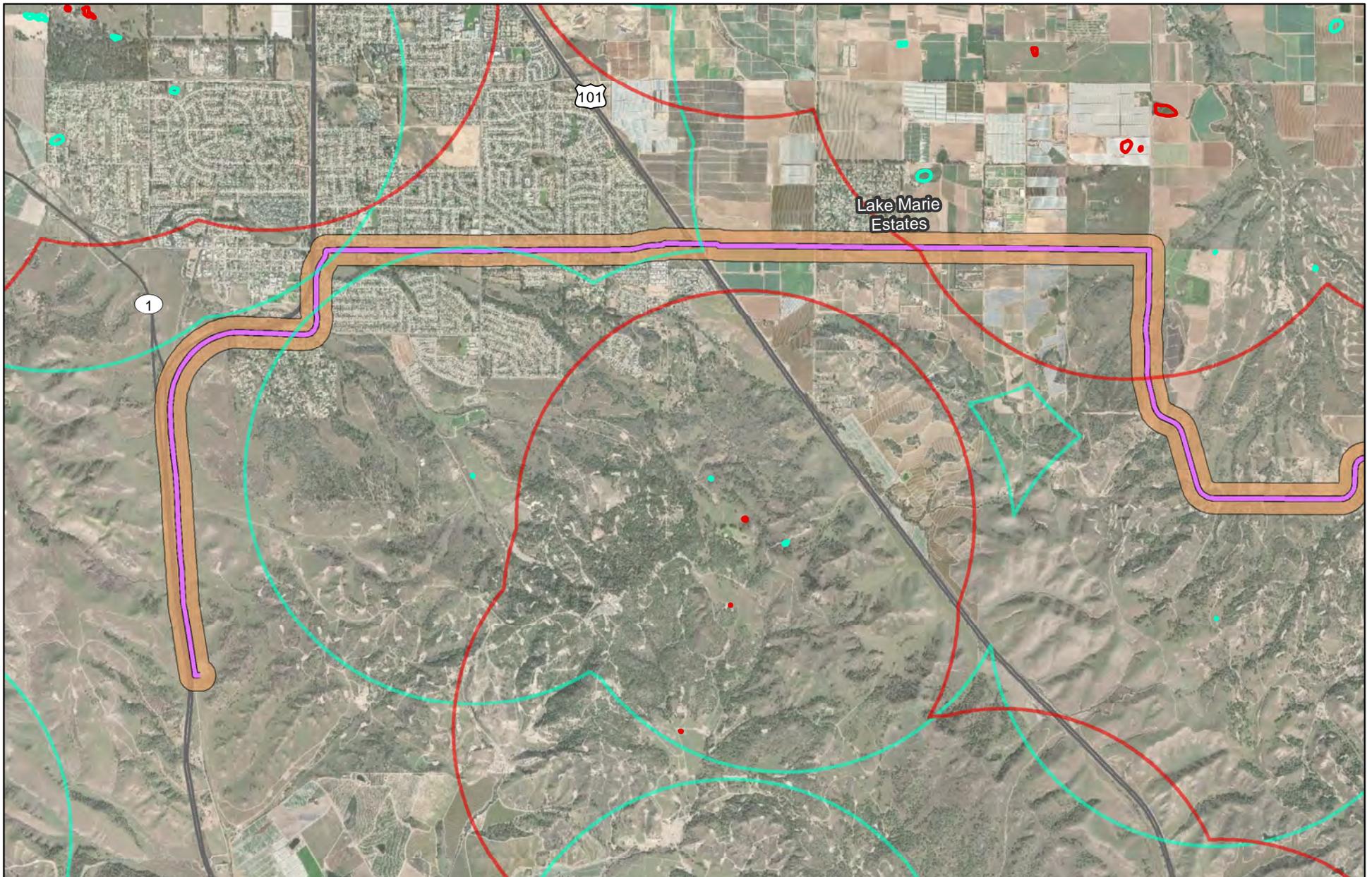
- “Known ponds” shown on Figure 4.3-8 are ponds in which CTS have been documented breeding (data provided by USFWS [2010]).
- “Potential ponds” are those the USFWS has identified that may be suitable for CTS breeding, and those identified by Padre on the proposed Project site and by ERG in adjacent areas. Several potential ponds within the site and adjacent areas were surveyed for CTS using a modified aquatic and drift fence protocol.
- “Surveyed ponds” are potential CTS ponds in Cat Canyon (outside of the proposed Project site) that were surveyed for a previous adjacent project.

Table 4.3-5 summarizes the potential CTS breeding ponds near the proposed Project site and the surveys that have been conducted at each (adapted from the proposed Project Biological Assessment [Padre, 2017d]). Aquatic features near the utility corridor were not assessed because the gas pipeline would be installed underground in roadway edges. However, Staging Area B may be located within designated CTS critical habitat.



<p>Scale in Miles</p>	Aera East Cat Canyon Project Boundary	Proposed Transmission Line	<p>CTS Pond and 1.37-mile buffer</p> <ul style="list-style-type: none"> Known Potential Surveyed for Unrelated Project
	Proposed Project Footprint	Proposed Natural Gas Pipeline	

Figure 4.3-8a
California Tiger Salamander (CTS) Ponds



Project 500ft Buffer
Proposed Natural Gas Pipeline

CTS Pond and 1.37-mile buffer

Known
Potential

Figure 4.3-8b

California Tiger Salamander (CTS) Ponds

Table 4.3-5. Potential CTS Breeding Ponds Near the Proposed Project Site

Pond ID	Distance to Proposed Project Boundary (feet)	Direction from Proposed Project Site	Sufficient CTS Hydroperiod (Y/N)	Upland Surveys (Fenced) (Y/N)	Upland Survey Dates (Rainy Season)	Aquatic Surveys (Y/N)	Aquatic Survey Dates	Rationale for No Aquatic Survey*
SISQ-19	240	South	N	Y	2014/2015, 2015/2016	N	-	1, 2
SISQ-20	Within Site Boundary	-	N	Y	2014/2015, 2015/2016	N	-	3
Pond 205 / Pool A	Within Site Boundary	-	Y	Y	2015/2016	Y	2015, 2016	-
Pool B	Within Site Boundary	-	N	N	-	N	-	4
Ridgetop Pond	Within Site Boundary	-	N	N	-	Y	2015	-
301	Within Site Boundary	-	N	N	-	N	-	4
208	1,300	North	N	N	-	N	-	1, 5
ERG-B	1,625	Northwest	Y	Y	2011/2012, 2012/2013	Y	2011, 2012, 2013	6
ERG-C	4,631	West	Y	Y	2011/2012, 2012/2013	Y	2011, 2012, 2013	6
ERG-D	1,149	West	Y	Y	2011/2012, 2012/2013	Y	2011, 2012, 2013	6
705-A	6,232	East	Unknown	N	-	N	-	1, 7, 8
705-B	6,967	East	Unknown	N	-	N	-	1, 8
705-C	3,331	East	Unknown	N	-	N	-	1, 8

Source: Biological Assessment for the East Cat Canyon Oil Field Redevelopment Project (Padre, 2017d)

*Rationale for No Aquatic Survey:

- 1 - No site access
- 2 - Water present from July 2011 - March 2012, no water present from 2014 -2016
- 3 - No observed water present at any time
- 4 - Insufficient hydroperiod
- 5 - Irregular and artificially induced hydroperiod
- 6 - Aquatic survey results provided by ERG
- 7 - Determined to have low potential to support CTS
- 8 - Distant from Project site

Two ponds that lie within CTS dispersal distance from the proposed Project site are designated by the USFWS as potential CTS breeding ponds (USFWS, 2010); these ponds include the Olivera Canyon Pond (SISQ-20), located within the proposed Project site, and Long Canyon Pond (SISQ-19), located on a parcel adjacent to the proposed Project site. SISQ-20 is located within the proposed Project site but does not appear to be capable of holding water long enough to support CTS breeding. It did not sustain surface water for more than one week during the 2012/2013 wet season and it did not hold water at all following rain events in the winter months of 2013, 2014, 2015, and 2016, and therefore could not be subjected to aquatic sampling. Long Canyon Pond (SISQ-19) is located outside of the proposed Project site on private property, and there is limited access and information available. From remote ground observations within the proposed Project site, SISQ-19 held water from July 2011 through March 2012 during field reconnaissance for the CTS habitat assessment. Maximum depth was unknown, but it appeared to contain “sufficient water to suggest that it held water for an extended period of time” (Storrer Environmental, 2013). However, this pond did not hold surface water at any point during the 2014/2015 and 2015/2016

wet seasons. These observations suggest that SISQ-19 may have either lost its capacity to retain water, perhaps via some terrain alteration, or that it required supplemental water that is no longer being provided. No aquatic surveys have been performed at this feature due to access limitations. Due to the lack of information about SISQ-19, the Applicant has assumed presence at this pond, and the proposed Project area within the 1.4-mile dispersal distance is considered CTS upland dispersal habitat.

Aquatic surveys were conducted during 2015 and 2016 at Pool A, a pool located on an existing well pad within the proposed Project site that demonstrated, during the 2014 vernal pool fairy shrimp surveys, a suitable CTS hydroperiod.

California red-legged frog surveys completed by Sage Institute, Inc. (2012) identified several small stock ponds within the adjacent ERG Operating Company, LLC property to the immediate west of the proposed Project site that may also provide suitable habitat for CTS (ERG Ponds A, B, C, D, and E). Aquatic and upland surveys of these ponds were conducted for the adjacent project in 2011, 2012, and 2013, and found no CTS (Collins and Gaede, 2014).

There were various potential CTS breeding pools that were identified throughout the proposed Project site (i.e., Pool B, "Ridgetop Pond", and "301") during initial assessments (e.g. Storrer Environmental, 2013), but ultimately were determined to have insufficient hydroperiod to support CTS breeding. A potential CTS breeding pond, "208", was identified to the north of the proposed Project site during initial desktop analysis; however, after field reconnaissance, it was determined that this aquatic feature supports an irregular and artificially-induced hydroperiod, unsuitable for CTS breeding. In addition, three potential CTS breeding ponds (705-A, -B, and -C) were identified on private property to the east of the proposed Project site during aerial imagery review. Due to access restrictions, the hydroperiod of these ponds is unknown. Pond 705-A was visually assessed by biologists in 2001 and concluded it had a low probability to support CTS based on physical characteristics and context. Ponds 705-B and 705-C were not assessed or surveyed (Storrer Environmental, 2013).

The Applicant conducted CTS surveys at the proposed Project site at the behest of USFWS and CDFW at ponds SISQ-19, SISQ-20, and Pond 205. Surveys were conducted using a modified survey design as the USFWS protocol was not feasible for the size of the proposed Project site (Padre, 2017d). Upland drift fence surveys were conducted in October 2014 – April 2015 and October 2015 – April 2016. Aquatic CTS sampling was conducted in March, April, and May of 2015 and 2016. Survey design was developed in coordination with CDFW and USFWS, and the surveys were initiated in October 2014. CTS survey results were negative. However, it is not possible to conclusively demonstrate absence of CTS within the proposed Project site without conducting protocol-level surveys. CTS have the potential to be present in proposed Project areas during movement and dispersal, particularly during rainy periods.

The Santa Barbara County DPS has been subject to significant habitat loss, and additional threats include hybridization with non-native tiger salamanders, predation and competition by non-native species, vehicle-strike mortality, and lack of regulatory compliance. Other potential threats include contaminants, disease, and climate change. CTS are occasionally seen crossing Dominion, Foxen Canyon, and Orcutt-Garey Roads on rainy nights during breeding migrations. More than 50 percent of these observations include CTS that are dead or dying from vehicle strikes (USFWS, 2016).

On December 12, 2016, the USFWS released the *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander* (Recovery Plan; USFWS, 2016). Recent genetic studies described in the Recovery Plan confirm that little to no gene flow has occurred between the Santa Barbara County DPS and other populations for a substantial period of time. This DPS represents the southernmost range of the CTS, and is the only population west of the outer Coast Ranges.

The USFWS is currently developing a General Conservation Plan (GCP) for Oil and Gas Activities in Santa Barbara County, but this process is in the early planning stages. Species covered under the proposed GCP include CTS, CRLF, and the Lompoc yerba santa. A Notice of Intent to Prepare a Draft Environmental Analysis/Document and initiation of the public scoping process was posted in the Federal Register on August 2, 2017. This Notice (FR Doc. [2017-16249](#)) states that:

The GCP is being developed to streamline environmental permitting and compliance with the ESA for proponents engaged in geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. The GCP is a conservation plan as required under the ESA for issuance of incidental take permits. Participation in the GCP would be voluntary. ITP holders would be authorized for incidental take of threatened and endangered wildlife species that could result from the activities covered under the GCP. The GCP would include conservation measures for an endangered plant species that would also be covered under the plan.

California Red-Legged Frog (CRLF). The CRLF (*Rana aurora draytonii*) is a federally listed threatened species and a California species of special concern. CRLF was federally listed as Threatened on May 23, 1996. Critical habitat for CRLF was originally designated on April 13, 2006, and revised March 17, 2010. Seven critical habitat units occur within Santa Barbara County (STB-1 through -7). The closest unit to the proposed Project site is Unit STB-3, located approximately 5.5 miles northwest of the proposed Project site. The natural gas pipeline runs adjacent to the east side of this unit along Graciosa Road (Figure 4.3-6). No critical habitat for CRLF occurs within the proposed Project site.

The Recovery Plan for CRLF was published in 2002 (USFWS, 2002). The proposed Project site occurs within the Northern Transverse Ranges and Tehachapi Mountains Recovery Unit and partially within the Sisquoc River Core Area boundary designated in the Recovery Plan.

CRLF is generally found along marshes, streams, ponds, and other permanent sources of water where dense scrubby vegetation such as willows, cattails, and bulrushes dominate. Breeding sites occur along inundated watercourses with pools that remain long enough for breeding and the development of larvae. Breeding time occurs between November and April, depending on locality (Stebbins, 2003; Storer, 1925). Permanent or nearly permanent pools are required for larval development, which takes 11 to 20 weeks (Storer, 1925; Calef, 1973).

The CRLF is known from multiple CNDDDB occurrences within 5 miles of the proposed Project, particularly in the Sisquoc River and to the west near Highway 101. A recent observation of CRLF was recorded from a pond near the Study Area (Pond E on Figure 4.3-8; observation made during a non-Project CTS study in the Cat Canyon area, see Appendix F). The western end of the natural gas pipeline abuts designated critical habitat. A breeding habitat assessment was conducted in the Biological Study Area for CRLF and determined that no potential breeding habitat occurs in the proposed Project site.

Although breeding habitat was determined to be absent, this species could disperse through the uplands between aquatic habitats within the vicinity of the proposed Project site. CRLF is known to travel through upland habitat for distances of up to 1 mile to reach breeding ponds. It has the potential to travel through the proposed work areas within drainages and in open areas during the rainy season. It may also breed in various nearby agricultural ponds.

Non-Listed Special-status Species. Several non-listed, special-status reptiles and amphibians including western spadefoot (*Spea hammondi*), silvery legless lizard (*Anniella pulchra pulchra*), coast horned lizard (*Phrynosoma blainvillii*), and coast patch-nosed snake (*Salvadora hexalepis virgulata*) have been recorded

in the general vicinity of the proposed Project, and the coast horned lizard was identified in the Study Area during surveys (see Figures 4.3-5 and 4.3-6). The coast horned lizard is a California species of concern that typically inhabits open areas of sandy soil and low vegetation in valleys and foothills from northern California to Baja California. It is found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil, including sandy washes and along unpaved roads. The coast horned lizard was observed within the proposed Project site during field surveys and is expected to occur throughout the Biological Study Area. Although legless lizard, western spadefoot, and coast patch-nosed snake were not observed during the biological surveys, there is suitable habitat (grassland and coastal sage scrub) present in the Study Area, and these species have a high potential to occur.

The Sisquoc River is less than 1 mile downstream of the proposed Project. The riparian corridor along the river supports several sensitive or listed species including CRLF, steelhead (*Oncorhynchus mykiss irideus*), arroyo toad (*Anaxyrus californicus*), western pond turtle (*Emys marmorata*), tricolored blackbird (*Agelaius tricolor*), yellow warbler (*Setophaga petechia*), least Bell's vireo (*Vireo bellii pusillus*), and pallid bat (*Antrozous pallidus*).

Focused surveys for gastropods (snails and slugs) were not conducted by the Applicant; however, some portions of the Study Area have the potential to support shoulderband snails. Shoulderband snails are a group of pulmonate (air-breathing) snails that includes one federally endangered taxon, the Morro Bay shoulderband (also known as banded dune) snail (*Helminthoglypta walkeriana*). Shoulderband snails can occur in areas with suitable micro-habitat such as rock or debris piles, dead vegetation, or small drainages where soil moisture persists. The Study Area is out of the known range for Morro Bay shoulderband snail, which is restricted to San Luis Obispo County. Several other snails, including Zaca shoulderband (*Helminthoglypta phlyctaena*) and slotted lancetooth (*Haplotrema caelatum*), are known from Santa Barbara County but are not considered special-status species by the CDFW (Magney, 2011; CDFW, 2017c).

The monarch butterfly overwinters in the region. Although not designated as a listed species or California Species of Special Concern, over-wintering monarch butterflies are identified as a "special animal" by the CDFW. Monarch butterfly wintering sites are classified as "demonstrably secure" worldwide but within California they are of "restricted range; rare." Monarch butterflies will begin to abandon autumnal roosts within northern United States and Canada in early November to December to over-wintering sites in the warmer climates in southern California and Mexico. Monarch butterflies will fly north for breeding as the milkweed plants come into bloom in the spring. Wintering aggregations of monarch butterflies in California can primarily be found on Monterey pines and in eucalyptus groves (see Appendix F). Wintering habitat components frequently include sources of moisture such as streams, ponds or abundant morning dew. Other habitat preferences include little direct sunlight, minimal wind, and moist ambient conditions. Monarch butterflies have been observed intermittently within the proposed Project site, but not in large numbers, and no roosts have been observed within the proposed Project site. Small eucalyptus groves occur within the southern boundary of the proposed Project site and will be removed as part of proposed Project activities. The CNDDDB reports an historic record (1983) of a winter roost in eucalyptus trees along the natural gas pipeline alignment on Graciosa Road; this area still contains suitable roost trees (see Figure 4.3-5) although no current roosts were identified during surveys. Additional potential roost trees consisting of eucalyptus, Monterey pine, and others occur in the proposed Project site and along the gas pipeline corridor. No suitable habitat for monarch butterfly was observed in the electrical power line survey area.

A wide variety of birds are known or expected to breed and forage in the proposed Project area in the open grassland, oak woodlands, riparian habitats, and scrub communities. Special-status birds detected on site include southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), golden eagle (*Aquila chrysaetos*), yellow-billed magpie (*Pica nuttalli*), oak titmouse (*Baeolophus inornatus*), and California horned lark (*Eremophila alpestris actia*). Other special-status birds have a high potential to occur and have been recently documented on

an adjacent property to the west; these include tricolored blackbird (*Agelaius tricolor*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), Vaux's swift (*Chaetura vauxi*), Cooper's hawk (*Accipiter cooperi*), lark sparrow (*Chondestes grammacus*), merlin (*Falco columbarius*), Nuttall's woodpecker (*Picoides nuttallii*), and rufous and Allen's hummingbirds (*Selasphorus rufus* and *S. sasin*, respectively).

Suitable habitat for nesting resident and migratory birds, including raptors, occurs in all of the habitat types within the Biological Study Area. Burrowing owl (*Athene cunicularia*), a California species of special concern and USFWS bird of conservation concern, has not been recorded nearby but open grassland habitats with ground squirrel burrows throughout the Study Area provide suitable wintering and breeding habitat. Raptors including American kestrel, red-tailed hawk, golden eagle, white-tailed kite (*Elanus leucurus*), and northern harrier (*Circus cyaneus*) likely forage over open habitats in the proposed Project area. The Biological Study Area contains suitable riparian scrub habitats that could support the least Bell's vireo and yellow warbler. Potential habitat also occurs at various locations along the gas pipeline alignment. Protocol-level surveys for least Bell's vireo were conducted at the proposed Project site along Cat Canyon Creek. The surveys did not detect least Bell's vireo; however, protocol surveys have not been conducted in the linear proposed Project components.

Four bat species are recorded in the region in the CNDDDB. Of these, the hoary bat (*Lasiurus cinereus*), the western red bat (*L. blossevillii*), and the pallid bat (*Antrozous pallidus*) are known to roost in trees. The fourth bat, the Yuma myotis (*Myotis yumanensis*), roosts in caves, rock crevices, and structures such as barns. Additional bats may also occur. The oak woodland occurring in patches around and within the Biological Study Area could provide habitat for tree-roosting bats. There are no caves, mines, or rock outcroppings that could provide roosting habitat in the area. Pallid bat was observed by Padre biologists in Hammon Fee, West Cat Canyon, approximately one mile west of the proposed Project site.

The American badger (*Taxidea taxus*) is a California Species of Special Concern that typically inhabits grasslands, farmland, and forest edges within friable soils. They dig elliptical burrows with 8- to 12-inch openings, which they utilize for cover, sleeping, hunting, caching food and breeding. A badger's home range varies from 590 to 4,200 acres. Badger activity has been identified within grassland habitats and agricultural areas within the biological survey areas, and badgers are likely widely distributed throughout open habitats in the region. (See Appendix F)

San Diego desert woodrat (*Neotoma lepida intermedia*) is a Species of Special Concern. Desert woodrats are typically associated with rocky outcroppings and coastal sage scrub habitats along the coast, dominated by California sagebrush and coyote brush, as well as coast sunflower (*Encelia californica*), black sage, and giant ryegrass (*Leymus condensatus*). This species typically constructs a nest structure with twigs, sticks, cactus parts, and various other materials. The big-eared woodrat (*N. macrotis*) is not considered sensitive but also occurs in the region and occupies similar nests. Big-eared woodrats are common to Santa Barbara County. Woodrat nests were observed throughout the proposed Project site. No focused biological surveys were completed (i.e., trapping) to determine which species occurs in the proposed Project site; however, the larger-sized nests, which were observed at the base of trees or up in tree branches in the proposed Project site, are more typical of big-eared woodrat and other dusky-footed woodrat species. Therefore, it is likely that big-eared woodrat occurs in the proposed Project site. No woodrat nests were observed during field surveys of the natural gas pipeline or electrical power line survey areas; however, suitable scrub and woodland habitat is present and woodrats may occur.

Special-status wildlife species that are present or have the potential to occur in the Study Area are listed in Table 4.3-6. Potential for occurrence is defined the same as identified for Table 4.3-4.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
INVERTEBRATES			
<i>Bombus caliginosus</i> Obscure bumble bee	SA	Coastal areas from Santa Barbara Co. north to Washington State. Food plants include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotos</i> , <i>Gindelia</i> , and <i>Phacelia</i> .	Low. Food plants occur in the Study Area, but species is typically known from coastal zone.
<i>Branchinecta longiantenna</i> Longhorn fairy shrimp	FE	Endemic to the eastern margin of the central coast mountains in seasonally astatic grassland vernal pools. Inhabit small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.	Low. Not detected during protocol-level vernal pool surveys. Not recorded in the proposed Project vicinity.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT	Inhabit small, clear-water sandstone depression pools, grassy swales, slumps, or basalt-flow depression pools.	Moderate. Potential habitat exists in the proposed Project site. Protocol-level Project surveys did not detect any vernal pool fairy shrimp. Nearest record 5 miles northwest of the proposed Project site.
<i>Danaus plexippus</i> Monarch butterfly (California overwintering)	SA	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	High. Has been observed as an occasional visitor in the Study Area. CNDDB reports historic record (1983) of a winter roost in eucalyptus trees along the natural gas pipeline alignment on Graciosa Road; this area still contains suitable roost trees. Additional potential roost trees consisting of eucalyptus, Monterey pine, and others occur in the proposed Project site and along the gas pipeline corridor.
<i>Trimerotropis occulens</i> Lompoc grasshopper	SA	Known only from Santa Barbara and San Luis Obispo Counties. Generally found on or around exposed, weathered Monterey or Sisquoc shale.	Low. Potential habitat is present within the Study Area.
FISHES			
<i>Eucyclogobius newberryi</i> Tidewater goby	FE, CSSC	Brackish water habitats along the Calif coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not Likely to Occur. No suitable aquatic habitat in the Study Area.
<i>Gasterosteus aculeatus williamsoni</i> Unarmored threespine stickleback	FE, SE, CFP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small So. California streams. Cool (<24 °C), clear water with abundant vegetation.	Not Likely to Occur. No suitable aquatic habitat in the Study Area.
<i>Oncorhynchus mykiss irideus</i> Steelhead – southern California DPS	FE, CSSC	Federal listing refers to runs in coastal basins from the Santa Maria River south to the U.S.-Mexico border. Anadromous adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean. Requires perennial stream and barrier-free passage to the Pacific Ocean.	Not Likely to Occur. No suitable aquatic habitat in the Study Area. However, it has been recorded in the Sisquoc River, which also contains designated critical habitat.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
AMPHIBIANS			
<i>Ambystoma californiense</i> California tiger salamander	FE, ST, CSSC	Inhabits annual grassland habitats, with most time spent in mammal burrows and other underground refugia. Breeds in vernal pools and other seasonal aquatic features.	High. No suitable breeding habitat in proposed Project disturbance areas; however, known from multiple pools, ponds, and impoundments within 10 miles. Nearest record approx. 4 miles southwest of Project site. Suitable grassland habitat and seasonal pools are present in the surrounding area, and this species may move through Project areas. The central portion of the natural gas pipeline runs adjacent to designated critical habitat, and Staging Area B is proposed in this critical habitat.
<i>Anaxyrus californicus</i> Arroyo toad	FE, CSSC	Endemic to southern California and northern Baja California. Habitat is highly specialized: breeding occurs only in overflow pools adjacent to the inflow channel of 3rd- and greater order streams that are free of predatory fishes. Pools with sand or gravel substrates are preferred. Terrestrial habitat consists of sand or gravel banks and washes with some scrub and/or riparian cover in the vicinity of breeding pools.	Low. Reported from the Sisquoc River (also designated critical habitat here). No potential habitat was identified in the Study Area during surveys.
<i>Rana draytonii</i> California red-legged frog	FT, CSSC	Endemic to California. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive riparian and/or emergent vegetation. Documented to disperse through upland habitats after rains.	High. No suitable breeding habitat in proposed Project disturbance areas; however, known from agricultural ponds in the region. Also multiple records along the Sisquoc River, approx. 3 miles north-northeast of the Project site. Could move through Project disturbance areas during dispersal. The west end of the natural gas pipeline runs along the edge of designated critical habitat.
<i>Spea hammondi</i> Western spadefoot	CSSC	Occurs primarily in lowland habitats with sandy or gravelly soils such as washes and floodplains, also in grassland, chaparral and woodland. Breeds in temporary rain pools that are inundated for at least three weeks.	Present. Recorded along Cat Canyon Road during recent surveys for a project adjacent to the west boundary of the proposed Project site; additional records in that adjacent project Study Area during previous studies. Several CNDDDB records within Project site.
<i>Taricha torosa torosa</i> Coast Range newt	CSSC	Coastal drainages from Mendocino County to San Diego County; SSC status applies only from the Salinas River south. Lives in terrestrial habitats (generally forest and woodland) and will migrate over 1 kilometer to breed in ponds, reservoirs and slow moving streams.	Moderate. Not reported from the area, but potential habitat occurs near the Study Area and could move through drainages or uplands in the Study Area during rainy season.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
REPTILES			
<i>Anniella pulchra pulchra</i> Silvery legless lizard	CSSC	Burrowing species found in loose sandy or loamy soils within beach, chaparral, woodland and other habitats. Soil must be suitably moist for survival.	High. Suitable habitat occurs within much of the Study Area; record from Sisquoc River area at the Sisquoc Ranch.
<i>Emys marmorata</i> Western pond turtle	CSSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs), submerged shelter and terrestrial nest sites. Requires friable soil for breeding. Documented to disperse and wander over upland habitats.	Moderate. No suitable breeding habitat in Project site; however, known from the Sisquoc River and manmade ponds in the area. Suitable habitat occurs in drainages along the natural gas pipeline alignment.
<i>Phrynosoma blainvillii</i> Coast horned lizard	CSSC	Loose, fine soils in a variety of habitats including coastal sage scrub, chaparral, grassland, coniferous forest, oak woodland, riparian woodland, and the margins of higher-elevation deserts in juniper desert chaparral. Abundant prey base of native ants and other insects required.	Present. Observed within the proposed Project site during surveys.
<i>Salvadora hexalepis virgulata</i> Coast patch-nosed snake	CSSC	Brushy or shrubby vegetation in coastal southern California. Requires small mammal burrows for refuge and overwintering sites.	High. Suitable habitat occurs within much of the Study Area.
<i>Thamnophis hammondi</i> Two-striped garter snake	CSSC	Occurs in coastal California from vicinity of Salinas to northwest Baja California. Highly aquatic, found in or near freshwater. Often along streams with rocky beds and riparian growth.	Moderate. No suitable breeding habitat in proposed Project site; however, suitable habitat occurs in drainages along the natural gas pipeline alignment.
BIRDS			
<i>Accipiter cooperii</i> Cooper's hawk	WL	Woodland, chiefly of open, interrupted, or marginal type; nest sites mainly in riparian growths of deciduous trees.	High. Observed during surveys of adjacent project in Cat Canyon in 2014.
<i>Accipiter striatus</i> Sharp-shinned hawk	WL	Prefers, but not restricted to riparian habitats; breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats; requires north-facing slopes with perches.	High. Although not observed within the Study Area, there are eBird records from Los Alamos. Suitable nesting habitat is present near the Study Area, and it could forage on site.
<i>Agelaius tricolor</i> Tricolored blackbird	CSSC, BCC	Highly colonial species, most numerous in central valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	High. Documented along Cat Canyon Road immediately adjacent to the proposed Project site during surveys.
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	WL	Resident in southern California coastal sage scrub and sparse mixed chaparral. Prefers steep rocky hillsides with grass and forb patches.	Present. Detected in proposed Project site during surveys.
<i>Ammodramus savannarum</i> Grasshopper sparrow	CSSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely colonial when nesting.	Moderate. The Study Area provides suitable grassland habitat for this species.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
<i>Amphispiza belli</i> Bell's sage sparrow	BCC, WL	Resident, though shows seasonal movements. Prefers dense chaparral and scrub habitats for breeding; associated with chamise. Also occurs in more open habitats during winter.	Moderate. Scrub vegetation in the Study Area provides typical breeding habitat for this species. Recorded in the vicinity of the Sisquoc River.
<i>Aquila chrysaetos</i> Golden eagle	CFP, WL, BCC	Resident, though wanders widely. Found in rolling foothill and mountain areas, sage-juniper flats, dessert. Cliff-walled canyons provide nesting habitat in most parts of range.	Present. Detected in proposed Project site during surveys.
<i>Asio flammeus</i> Short-eared owl	CSSC, BCC	Ground-nester. Breeding habitat includes open country such as large expanses of prairie and coastal grasslands, heathlands, shrub-steppe, and tundra as well as agricultural areas. Forages over similar habitats including open wetlands, ag fields, and grasslands; temperate N & S America, Eurasia	Moderate. Suitable foraging habitat throughout Study Area. Outside of breeding range.
<i>Asio otus</i> Long-eared owl	CSSC	Resident and visitor in the region. Nests in a variety of woodland habitats, including oak and riparian. Requires adjacent open land with rodents for foraging, and the presence of old nests of crows, hawks, magpies etc. for breeding.	Moderate. Suitable nesting habitat, including thickly wooded areas, is present in and near the Study Area. Suitable foraging habitat throughout Study Area.
<i>Athene cunicularia</i> Burrowing owl	CSSC, BCC	Resident and winter visitor in open, dry annual or perennial grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, generally those of ground squirrels.	Moderate. Suitable open grassland habitat is present in the Study Area.
<i>Baeolophus inornatus</i> Oak titmouse	BCC	Oak woods, pinyon-juniper. Along Pacific seaboard, occurs most commonly in oak woodland, including areas where oaks meet streamside trees or pines; also in well-wooded suburbs, rarely in coniferous forest in mountains. In the interior, also occurs in some woodlands dominated by pine or juniper.	Present. Observed in the proposed Project site and in oak woodlands along the natural gas pipeline during surveys.
<i>Buteo regalis</i> Ferruginous hawk	WL, BCC	Winter visitor. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys and fringes of pinyon-juniper habitats.	High. Typical open grassland habitat is present for foraging. This species is a winter visitor and does not breed in the region. eBird record at Los Alamos.
<i>Buteo swainsoni</i> Swainson's hawk	ST, BCC	Breeds in grasslands with scattered trees, juniper sage flats, riparian areas, savannahs, and agricultural or ranch land. Requires suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Low. Not know to nest in the region, but may fly over during migration.
<i>Calypte costae</i> Costa's hummingbird	SA	Resident in chaparral, scrub and woodland habitats with nectar flowers and insect populations. Nest constructed in a variety of trees and shrubs, often near water.	High. Oak woodland and chaparral habitats within the Study Area provide suitable habitat. eBird record at Los Alamos.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
<i>Carduelis lawrencei</i> Lawrence's goldfinch	BCC	A summer visitor in coastal southern California, generally uncommon and local. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	High. Oak woodland and chaparral habitats within the Study Area provide suitable breeding habitat. eBird records at the Los Flores Ranch west of the Study Area and at Los Alamos.
<i>Chaetura vauxi</i> Vaux's swift	CSSC	Summer resident. Breeds in woodlands and low-elevation coniferous forest in portions of the Coast Ranges. Nests in tree cavities, typically located in tall, isolated tree/snag.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Chondestes grammacus</i> Lark sparrow	SA	Open country with bushes, trees; pastures, farms, roadsides. For nesting, generally favors areas with some open bare ground and some taller plants; included are overgrazed pastures, sandy barrens, hedgerows near fallow fields, brushy dry grasslands, sometimes open pinyon-juniper woods. In migration and winter, found in similar areas, also open weedy fields.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Circus cyaneus</i> Northern harrier	CSSC	Resident and winter visitor. Forages in open meadows, savannah, and grassland habitats, often in association with wetlands. Nests on ground in emergent or shrubby vegetation, the latter usually in wet areas. Generally avoids forested and mountainous habitats.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Elanus leucurus</i> White-tailed kite	CFP	Resident of coastal and valley lowlands. Preys on small diurnal mammals as well as other vertebrates and insects. Nests in small to large trees, often at habitat edges.	High. Open grassland foraging habitat is present in the Study Area. Could breed along riparian corridors near the Study Area.
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	FE, SE	Summer resident in the southern third of California and the Southwest. Typically breeds in dense riparian vegetation associated with standing water. Vegetative microhabitats used for nesting variable; willows, mulefat, blackberry and cottonwood are commonly used. Nests typically within 10 feet of the ground.	Moderate. Limited suitable nesting habitat in the proposed Project site. Potential habitat occurs at various locations along the gas pipeline alignment. May be present during migration.
<i>Eremophila alpestris actia</i> California horned lark	WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	Present. Observed in the proposed Project site during surveys in 2013.
<i>Falco columbarius</i> Merlin	WL	Wide-variety of habitats including marshes, deserts, seacoasts, open woodlands, fields.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Falco mexicanus</i> Prairie falcon	WL, BCC	Resident and winter visitor. Inhabits dry, open terrain, including grasslands, scrub and desert. Breeding sites typically located on remote cliffs. Forages widely.	Moderate. Suitable cliff habitat for breeding is not present in the Study Area. May occasionally fly or forage over the Study Area.
<i>Falco peregrinus anatum</i> American peregrine falcon	CFP, BCC	Resident and winter visitor. Winters throughout the Central Valley and along portions of the coast; breeds at various coastal sites. Requires protected cliffs and ledges for nesting. Feeds primarily on water birds.	Moderate. Suitable cliff habitat for breeding is not present in the Study Area. May occasionally fly or forage over the Study Area.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
<i>Gymnogyps californianus</i> California condor	FE, SE, CFP	Resident, though home range can be very large. Requires vast expanses of open savannah, grasslands, foothill chaparral and canyons. Nests on cliffs and in caves; roosts in large trees and snags. Forages over wide areas for the carcasses of large animals.	Low. Grassland, savannah and other typical foraging habitats are present within the Study Area, and potential forage (e.g. dead livestock) may periodically be present on areas used for grazing. Suitable cliff breeding habitat is absent within and near the Study Area. USFWS tracks condor movement, and the closest individual was recorded approximately 20 miles east of the Study Area in the Los Padres National Forest. The Sisquoc Condor Sanctuary is 30 miles east.
<i>Haliaeetus leucocephalus</i> Bald eagle	SE, CFP, BCC	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mi of water. Nests in large, old-growth, or dominant live tree w/open branches, especially ponderosa pine. Roosts communally in winter.	Low. The Study Area lacks large bodies of standing water and does not provide the typical habitat for this species. Bald eagles may fly over the Study Area.
<i>Icteria virens</i> Yellow-breasted chat	CSSC	Summer resident, utilizing riparian areas with an open canopy, dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	Moderate. Limited suitable nesting habitat in the proposed Project site. Suitable habitat occurs at various locations along the gas pipeline alignment.
<i>Lanius ludovicianus</i> Loggerhead shrike	CSSC, BCC	Resident in open woodland, grassland, savannah and scrub. Prefers open areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed above ground in densely foliated shrub or tree.	High. Observed during surveys of adjacent project in 2014.
<i>Melanerpes lewis</i> Lewis' woodpecker	BCC	Resident and irregular visitor. Nests in loose colonies in open pine-oak woodlands, oak savanna, and oak woodland habitats. Nests are typically in large hollow trees or snags. Often associated with burned areas.	Moderate. Oak woodland within the Study Area provides suitable habitat for this species.
<i>Pica nuttalli</i> Yellow-billed magpie	BCC	Stream groves, scattered oaks, ranches, farms. Most numerous in open oak savanna and where riverside groves of oaks, cottonwoods, and sycamores border on open country such as pastures or farmland. Endemic to California's central valleys and coast ranges.	Present. Observed during proposed Project surveys.
<i>Picoides nuttallii</i> Nuttall's woodpecker	BCC	Resident. A relatively common species in much of its range. Occurs in woodlands, primarily those dominated by oaks.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Progne subis</i> Purple martin	CSSC	Breeds in oak woodland, conifer forest throughout California, March-Sept. Rely on cavities in trees, bridges, utility poles, lava tubes, and buildings. Most tree nest sites in San Luis Obispo and Santa Barbara counties occur in large oaks and sycamores.	Moderate. Oak woodland within the Study Area provides suitable habitat for this species.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
<i>Selasphorus rufus</i> Rufous hummingbird	BCC	Forest edges, streamsides, mountain meadows. Breeding habitat includes forest edges and clearings, and brushy second growth within the region of northern coast and mountains. Winters mostly in pine-oak woods in Mexico. Migrants occur at all elevations but more commonly in lowlands during spring, in mountain meadows during late summer and fall.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Selasphorus sasin</i> Allen's hummingbird	BCC	Brushy canyons, parks, gardens. Breeds in a variety of semi-open habitats, including open oak woods, streamside groves, well-wooded suburbs, city parks. Winters mostly in foothills and mountain forests in Mexico. Migrants also occur in high mountain meadows in late summer.	High. Observed during surveys in 2014 in adjacent project in Cat Canyon.
<i>Setophaga petechia</i> Yellow warbler	CSSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	Moderate. Limited suitable nesting habitat in the proposed Project site. Suitable habitat occurs at various locations along the gas pipeline alignment.
<i>Vireo bellii pusillus</i> Least Bell's vireo	FE, SE	Summer visitor. Breeds in riparian woodland and scrub along perennial or nearly perennial streams; prefers early successional vegetation. Willows and mulefat typically used for nesting.	Moderate. Limited suitable nesting habitat is present in the proposed Project site, but potential habitat occurs at various locations along the gas pipeline. Historic record from the Sisquoc River. Protocol-level surveys along Cat Canyon Creek in the Project site did not detect least Bell's vireo; however, protocol surveys have not been conducted in the linear proposed Project components.
<i>Xanthocephalus xanthocephalus</i> Yellow-headed blackbird	CSSC	Prefer to breed in freshwater wetlands with dense, emergent vegetation (i.e., cattails).	Moderate. Limited suitable nesting habitat is present in the proposed Project site, but potential habitat occurs at various locations along the gas pipeline.
MAMMALS			
<i>Antrozous pallidus</i> Pallid bat	CSSC, WBWG	Deserts, grasslands, shrublands, woodlands, and forests. Roost sites include old ranch buildings, rocky outcrops and caves within sandstone outcroppings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	High. Observed by Padre biologists in Hammon Fee, West Cat Canyon, approximately 1 mile west of the proposed Project site.
<i>Bassariscus astutus</i> Ringtail cat	CFP	Occurs in chaparral, coastal sage scrub, riparian scrub, oak woodlands, and riparian woodlands in proximity to permanent water.	Moderate. Suitable habitat is present within the Study Area. Irrigation ponds in surrounding areas provide a permanent water source.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	CST, CSSC, WBWG	Wide variety of habitats but most common in mesic sites. Day roosts highly associated with caves and mines. Need appropriate roosting, maternity, and hibernacula sites free from human disturbance.	Moderate. Suitable foraging habitat is present, but no roost habitat in the Study Area.

Table 4.3-6. Special-Status Wildlife Potentially Occurring in the Proposed Project Area

Species	Status	Habitat Associations	Potential to Occur
<i>Eumops perotis californicus</i> Western mastiff bat	CSSC, WBWG	Wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	Moderate. Suitable foraging habitat is present in the Study Area.
<i>Lasionycteris noctivagans</i> Silver-haired bat	WBWG	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.	Moderate. Suitable foraging habitat is present in the Study Area.
<i>Lasiurus blossevillii</i> Western red bat	CSSC, WBWG	Typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields. There may be an association with intact riparian habitat.	Moderate. Suitable foraging habitat is present in the Study Area, and potential roosting habitat occurs in riparian woodlands near the Study Area.
<i>Lasiurus cinereus</i> Hoary bat	WBWG	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Moderate. Suitable habitat occurs throughout Study Area.
<i>Myotis thysanodes</i> Fringed myotis	WBWG	Wide variety of habitats, including various woodland types. Buildings, mines and large snags are important day and night roosts.	Moderate. Suitable habitat is present in and near the Study Area.
<i>Myotis volans</i> Long-legged myotis	WBWG	Generally associated with woodlands and forested habitats, but habitat highly variable. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	Moderate. Suitable forest and woodland habitat is present in and near the Study Area.
<i>Myotis yumanensis</i> Yuma myotis	WBWG	Preferred habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies occur in caves, mines, buildings, or crevices.	Moderate. Suitable foraging habitat is present in the Study Area, and potential roosting habitat occurs in riparian woodlands near the Study Area.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	CSSC	Coastal scrub of southern Calif. from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. Particularly abundant in rock outcrops, rocky cliffs, & slopes.	High. Middens were recorded during surveys of adjacent project in Cat Canyon, but may have been from the common big-eared woodrat.
<i>Taxidea taxus</i> American badger	CSSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	Present. Burrows and tracks observed during proposed Project surveys.

Source: CDFW, 2017a; eBird, 2015

Federal Rankings:

FE = Federally Endangered
 FT = Federally Threatened
 FC = Federal Candidate for Listing
 BCC = USFWS Bird of Conservation Concern

State Rankings:

SE = State Endangered
 ST = State Threatened
 CST = Candidate for listing as State Threatened
 CFP = California Fully Protected
 SA = CDFW Special Animal
 WL = CDFW Watch List
 CSSC = California Species of Special Concern
 WBWG = Western Bat Work Group Species of Concern

Wildlife Movement

The canyons and ridgelines in the Solomon Hills, the Sisquoc River and associated uplands, and the Los Alamos and Santa Maria valleys provide a mosaic of habitats that support resident and migratory species. The Sierra Madre Mountains natural landscape block, a regional wildlife movement corridor, is located near the Cat Canyon Oil Field to the east of Foxen Canyon Road (Spencer et al., 2010). This landscape block includes the Santa Maria Valley, Santa Ynez Valley and Hills, Santa Ynez-Sulphur Mountains, Interior Santa Lucia Range, Caliente Range-Cuyama Valley, San Rafael-Topatopa Mountains, and Northern Transverse Ranges. Natural landscape blocks are large, relatively natural habitat blocks that support native biodiversity (Spencer et al., 2010).

The proposed Project site and surrounding area provides habitat for a broad array of species and it is likely that many species use the site for movement among surrounding habitat areas. Development within the Project site and vicinity is patchy, and the area is generally open with natural habitat surrounding developed pads.

Wildlife corridors and functions are evaluated in the context of individual species and their ecology. For example, low mobility species including snakes, lizards, and small mammals often have restricted home ranges. Movement from one area to another, and gene flow among geographic areas, occurs relatively slowly, over the course of multiple generations. Conserving open areas and linkages is important to prevent these types of species from becoming isolated from other populations. Wide ranging species, including mountain lions, have broad territories and move among geographic areas on a daily or seasonal basis, as a part of routine activities. Wildlife corridors facilitate movement between habitats that would otherwise be isolated. These corridors include habitat linkages between natural areas, greenbelts, and refuge systems. They can divert wildlife across permanent physical barriers to aid dispersal (e.g., underpasses and ramps that help wildlife cross highways and dams) (Haas, 2000; Simberloff et al., 1992). Furthermore, Noss (1987) suggests several benefits of corridors, including the promotion of species richness and diversity, decreased probability of extinction, maintenance of genetic variation, increased mix of habitat and successional stages, and alternative refugia from large disturbances. These species require the preservation of wildlife corridors and linkages to natural lands.

The following corridor functions are important in evaluating impacts to wildlife movement corridors:

- **Movement corridors** are physical connections that allow wildlife to move between patches of suitable habitat.
- **Dispersal corridors** are linear landscape features that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments (Beier and Noss, 1998). Dispersal corridors provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.
- **Landscape habitat linkages** (or simply linkages) are relatively large open space areas that contain natural habitat and provide connection between at least two larger adjacent open spaces that can provide for both diffusion and dispersal of many species (USACE and CDFG, 2010).
- **Wildlife buffers** are areas between the urban development edge and an important biological resource. These buffers protect the resource from adverse edge effects such as habitat degradation, increased occurrence of non-native and urban-related species, increased predation from domestic animals and mesopredators (e.g., raccoons, skunks, snakes, foxes), and other edge effects. (USACE and CDFG, 2010)

4.3.2 Regulatory Setting

The following federal, state, and local laws, ordinances, regulations, and standards apply to biological resources.

4.3.2.1 Federal Regulations

Federal Endangered Species Act. The Endangered Species Act (ESA) (16 USC 1531 et seq.) establishes legal requirements for the conservation of endangered and threatened species and the ecosystems upon which they depend.

- **Section 9.** Section 9 of the ESA lists those actions that are prohibited under the ESA, including take (i.e., to harass, harm, pursue, hunt, wound, or kill) of listed species without special exemption. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or shelter. “Harass” is further defined as actions that create the likelihood of injury to listed species to an extent as to significantly disrupt normal behavior patterns which include breeding, feeding, and shelter.
- **Section 10.** Section 10 allows for the "incidental take" of endangered and threatened species by non-Federal entities. Incidental take is defined by the ESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Section 10 requires an applicant for an incidental take permit to submit a habitat conservation plan that specifies, among other things, the impacts that are likely to result from the taking and the measures the applicant will undertake to minimize and mitigate such impacts.
- **Critical Habitat.** Designation of an area as critical habitat provides a means by which the habitat of an endangered or threatened species can be protected from adverse changes or destruction resulting from federal activities or projects. A critical habitat designation does not set up a preserve or refuge and usually applies only when federal funding, permits, or projects are involved.

Clean Water Act. The Clean Water Act (33 USC 1251 et seq.) establishes legal requirements for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters.

- **Section 401.** Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a State certification that the discharge complies with other provisions of the Clean Water Act. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California.
- **Section 404.** Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) regulating the discharge of dredged or fill material into waters of the United States, including wetlands. Implementing regulations by the USACE are found at 33 CFR Parts 320-330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the EPA in conjunction with the USACE (40 CFR Parts 230). The Guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts. In 1989 the USACE and federal Environmental Protection Agency entered into a Memorandum of Agreement to establish a no-net-loss of wetlands policy applicable to mitigation requirements under the Section 404 permitting program.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) (16 USC 703-711) is a treaty signed by the United States, Canada, Mexico, and Japan that prohibits take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., hunting waterfowl or upland game species). Under the MBTA, “migratory bird” is broadly defined as “any species or family of birds that live, reproduce or migrate

within or across international borders at some point during their annual life cycle” and thus applies to most native bird species. The US Department of Interior has recently issued a memorandum interpreting the MBTA prohibitions as being inapplicable to “incidental take.”

Bald and Golden Eagle Protection Act. The BGEPA (16 USC, 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this act. Under BGEPA, take includes “disturb,” which means “to agitate or bother a bald eagle or a golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

Plant Protection Act of 2000. Prevents importation, exportation, and spread of pests that are injurious to plants, and provides for the certification of plants and the control and eradication of plant pests. The Act consolidates requirements previously contained within multiple federal regulations including the Federal Noxious Weed Act, the Plant Quarantine Act, and the Federal Plant Pest Act.

4.3.2.2 State Regulations

California Endangered Species Act. The California Endangered Species Act (CESA) (Fish and Game Code 2050 et seq.) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect a species listed under both CESA and the federal ESA, compliance with the federal ESA will satisfy CESA if CDFW determines that the federal incidental take authorization is consistent with CESA under Fish and Game Code Section 2080.1. For projects that will result in take of a species listed under CESA but not under the federal ESA, the applicant must apply for a take permit under Section 2081(b).

Fully Protected Designations – California Fish and Game Code Sections 3511, 4700, 5515, and 5050. Prior to enactment of CESA and the federal ESA, California enacted laws to “fully protect” designated wildlife species from take, including hunting, harvesting, and other activities. Unlike the subsequent CESA and ESA, there was no provision for authorized take of designated fully protected species. Currently, 36 fish and wildlife species are designated as fully protected in California, including golden eagle.

California Senate Bill 618 (signed by Governor Brown in October 2011) authorizes take of fully protected species, where pursuant to a Natural Conservation Community Plan, approved by CDFW. The legislation gives fully protected species the same level of protection as is provided under the Natural Community Conservation Planning Act for endangered and threatened species.

Native Birds – California Fish and Game Code Sections 3503 and 3513. California Fish and Game Code Section 3503 prohibits take, possession, or needless destruction of bird nests or eggs except as otherwise provided by the Code; Section 3503.5 prohibits take or possession of birds of prey or their eggs except as otherwise provided by the Code; and Section 3513 provides for the adoption of the MBTA’s provisions (above). With the exception of a few non-native birds such as European starling, the take of any birds or loss of active bird nests or young is regulated by these statutes. Most of these species have no other special conservation status as defined above. The administering agency for these sections is the CDFW. As with the MBTA, these statutes offer no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game migratory birds.

California Native Plant Protection Act – California Fish and Game Code Sections 1900 *et seq.* Prior to enactment of CESA and the federal ESA, California adopted the Native Plant Protection Act (NPPA). CESA (above) generally replaces the NPPA for plants originally listed as endangered under the NPPA. However, plants originally listed as rare retain that designation, and take is regulated under provisions of the NPPA. The California Fish and Game Commission has adopted revisions to the NPPA allowing CDFW to issue incidental take authorization for listed rare plants, effective January 1, 2015.

Lake and Streambed Alteration Agreements – California Fish and Game Code Sections 1600-1616. Under these sections of the Fish and Game Code, an applicant is required to notify CDFW prior to constructing a project that would divert, obstruct, or change the natural flow, bed, channel, or bank of a river, stream, or lake. Preliminary notification and project review generally occur during the environmental review process. When a fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Lake and Streambed Alteration Agreement (LSAA) that becomes part of the plans, specifications, and bid documents for the project. CDFW jurisdiction is determined to occur within the water body of any natural river, stream, or lake. The term “stream,” which includes creeks and rivers, is defined in Title 14, CCR, Section 1.72.

California Porter-Cologne Water Quality Control Act. Pursuant to the California Porter-Cologne Water Quality Control Act, the State Water Resources Control Board (SWRCB) and the nine RWQCB may require permits (“waste discharge requirements”) for the fill or alteration of “Waters of the State.” The term “Waters of the State” is defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code, Section 13050[e]). Although “waste” is partially defined as any waste substance associated with human habitation, the SWRCB interprets this to include fill discharge into water bodies. The SWRCB and the RWQCB have interpreted their authority to require waste discharge requirements to extend to any proposal to fill or alter “Waters of the State,” even if those same waters are not under the jurisdiction of the USACE.

Pursuant to this authority, the SWRCB and the RWQCB may require the submission of a “report of waste discharge” under Water Code Section 13260, which is treated as an application for a waste discharge requirement.

Oak Woodlands Conservation (SB 1344). California Public Resources Code Section 21083.4 requires each county in California to consider a project’s impacts to oak woodlands during the CEQA environmental review process. If a county determines that there would be significant impacts to oak woodlands, it must require one or more specified mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands.

4.3.2.3 Local Regulations

Santa Barbara County land use policies recognizes several habitat types as being worthy of protection. These are communities that support high plant and animal diversity, are limited in extent, or tend to be vulnerable to human impacts. These habitats include native grasslands, oak woodlands, coastal sage scrub, rivers and streams, and wetlands. The County’s Land Use and Development Code (County of Santa Barbara, 2018) and Environmental Thresholds and Guidelines Manual (County of Santa Barbara, 2008) contain specific recommendations for protection of these resources. Santa Barbara County’s Comprehensive Plan Land Use Element contains resource protection policies for biological resources. Relevant Comprehensive Plan policies and development standards are listed below.

Santa Barbara County Land Use and Development Code (September 2018), Chapter 35, Section 35.52.080 Oil and Gas Pipelines, Inland Areas; Development Standards:

e. Location of pipeline corridor. A pipeline corridor shall be sited so as to avoid significant impacts to resources (e.g., aquatic habitats, and archaeological areas) to the maximum extent feasible.

f. Spills. Where pipeline segments carrying hydrocarbon liquids pass through sensitive resource areas (e.g., aquatic habitats) as identified by the project environmental review, provisions identified in the environmental review shall be applied to minimize the amount of liquids released in the sensitive areas in the event of a spill. The potential for damage in those areas shall be minimized by considering spill volumes, duration, and trajectories in the selection of a pipeline corridor. In addition, appropriate measures for spill containment and cleanup (e.g., catch basins to contain a spill) shall be included as part of the required emergency response.

Santa Barbara County Planning and Development Environmental Thresholds and Guidelines

The Santa Barbara County Environmental Thresholds and Guidelines (Published October 2008, Revised July 2015) provides habitat-specific impact assessment guidelines (Section 6, Paragraphs D.1-5) for biological communities including native grasslands, riparian, oak tree protection, and wetland habitats. These guidelines are to be used in conjunction with the general impact assessment conducted for the environmental review.

Santa Barbara County – Oak Tree Regulations

Santa Barbara County Code (2003) – Grading Ordinance Guidelines for Native Oak Tree Removal (Appendix A of Chapter 14) includes guidelines for agricultural and non-agricultural deciduous and live oak removals. Notably, no deciduous oak trees or woodland have been identified in the Biological Study Area, and specifications addressing activities where no development permit is required are not applicable for the proposed Project. Specifically, this ordinance states the following:

Live Oak Removal Associated with Activities Requiring a Development Permit. Consistency with the comprehensive plan shall apply only to live oak removal associated with activities requiring a development permit, pursuant to Chapter 35, Article III.

Consistent with the *Comprehensive Plan Conservation Element (Oak Tree Protection in the Inland Rural Areas of Santa Barbara County, Development Standard 1)*, the following applies for the protection of all species of mature oak trees:

All development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees 6 inches or greater diameter at breast height and blue oak trees 4 inches or greater diameter at breast height, or live and blue oaks 6 feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the county's Standard Conditions and Mitigation Measures. (This development standard applies to oak trees other than valley oaks, valley oak trees are addressed in separate Development Standards.)

The following *Comprehensive Plan Conservation Element* policy also applies:

Oak Tree Protection Policy 1. *Native oak trees, native oak woodlands and native oak savannas shall be protected to the maximum extent feasible in the County's rural and/or agricultural lands. Regeneration of oak trees shall be encouraged. Because of the limited range and increasing scarcity of valley oak trees, valley oak woodlands and valley oak savanna, special priority shall be given to their protection and regeneration.*

4.3.3 Environmental Thresholds

Santa Barbara County's Environmental Thresholds and Guidelines Manual (2008) includes guidelines for assessing impacts to biological resources. Impacts would be significant if the proposed Project would:

- Substantially reduce or eliminate species diversity or abundance.
- Substantially reduce or eliminate quantity or quality of nesting areas.
- Substantially limit reproductive capacity through losses of individuals or habitat.
- Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources.
- Substantially limit or fragment range and movement (geographic distribution or animals and/or seed dispersal routes).
- Substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends.

In addition, Appendix G of the CEQA Statute and Guidelines states that a project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404, of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Criteria used in determining impact significance for the proposed Project were based on those identified above. An impact to biological resources would be considered significant (before considering offsetting mitigation measures) if the lead agency determines that proposed Project implementation would result in one or more of the following:

- The potential for reduction, loss, or degradation of habitat for threatened, endangered, or special-status species;

- The potential for loss or “take” of any federal- or state-listed plant or animal species; fully protected species; special-status species, or species protected by the MBTA or other regulations;
- A net loss or permanent change in the extent or functional value of any habitat or biotic community considered biologically, scientifically, recreationally, or economically significant by federal, state, or local policies, statutes, and regulations;
- Adverse effect on federally protected wetlands as defined in Section 404 of the Clean Water Act;
- Alteration or destruction of habitat that precludes reestablishment of native populations of plants and animals;
- Impairment of movement, migration, or dispersal of resident and migratory fish and wildlife species; or
- Substantial loss of habitat or population decline of any native fish, wildlife or plant species, or overall reduction in biological diversity.

The impact discussions presented in Section 4.3.4 are organized according to these specified thresholds, acknowledging that certain proposed Project actions fall under more than one threshold (e.g., impacts to a specific sensitive habitat may also impact sensitive species).

4.3.4 Environmental Impacts and Mitigation Measures

Direct impacts are defined under CEQA as those effects that result from a project and occur at the same time and place. For biological resources, direct impacts can include the removal of vegetation, disturbance to wildlife from project-related activities, and the crushing of burrows. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance but are reasonably foreseeable and related to the project. Indirect impacts can include the disruption of native seed banks, spread of invasive plant species, changes to soil or hydrology that adversely affects native species over time, disruption of prey base, or increased predation through alterations of the physical landscape from project features. Indirect impacts may also include increased traffic and human disturbance.

Permanent Project-related impacts include the conversion of land to a new use, such as new road and surface pad construction. Temporary impacts result from activities that are of short duration (i.e., 6 to 12 months) and that do not result in a permanent land use conversion. Temporary impacts of the proposed Project include ground disturbance, noise, human activity, and vehicle traffic associated with installation of the off-site electrical power line and natural gas pipeline.

Impacts from the proposed Project are assessed for the construction phase, routine operations, and accidental spills. Construction activities include grading, well drilling, appurtenant structure construction, natural gas pipeline installation, power line construction, and associated activities. Routine operations include cyclic steaming, oil transport (via trucks or pipeline), and routine maintenance. Spills are accidental, unanticipated release of oil or produced water.

The Applicant has provided a series of Avoidance and Minimization Measures (AMMs) to address potential impacts to biological resources (see Appendix C). The requirements of the measures have been incorporated into proposed mitigation measures in this section, and where necessary, additional details, specificity, and timing of implementation have been added. The AMMs specific to biological resources are included in Table 4.3-7.

Table 4.3-7. Applicant Proposed Avoidance and Minimization Measures Related to Biological Resources

AMM No.	Measure
BIO-1	<p>Agency Permitting. Prior to the Project component's initiation of activities requiring permit coverage, all applicable permits, including California Department of Fish and Wildlife, U.S. Army Corps of Engineers, Regional Water Quality Control Board, and Santa Barbara County permits, will be obtained, as necessary. Avoidance, minimization, and/or mitigation measures required by these agencies will be incorporated into the Project.</p>
BIO-2	<p>Oak Tree Protection. The Project Oak Tree Protection Plan, provided within Appendix F-1.M, will be submitted to the County for review and approval. The approved Plan will be incorporated into the Project. At no time will oak trees be removed as part of off-site natural gas pipeline or electrical transmission line activities. A certified arborist will oversee trimming of oak tree limbs that have the potential to be impacted as a result of vehicle or equipment usage associated with off-site activities.</p>
BIO-3	<p>Oak Tree Replacement. The Project will implement an Oak Tree Replacement Plan for oak trees that will be removed. The Project Oak Tree Replacement Plan, provided in Appendix F-1.N, will be submitted to Santa Barbara County for approval. Following approval, the Plan will be implemented to mitigate oak tree removals. The Plan prescribes that each removed mature live oak tree 6 inches in diameter at breast height or greater than, will be mitigated using any combination of the following replacement alternatives:</p> <ol style="list-style-type: none"> 1. For every mature live oak tree removed, ten acorns or ten one gallon saplings or smaller containers that support a longer taproot, will be planted within the Planting Area. Saplings may include those salvaged from the Project disturbance areas (10:1 – acorns or young saplings), and/or 2. For every mature live oak tree removed, three 15 gallon saplings will be planted within the Planting Area (3:1 – 15 gallon saplings), and/or 3. For every mature live oak tree removed, ten naturally occurring oak tree saplings between 6 inches and 6 feet tall will be protected and nurtured within Planting Area or in the Project site (10:1 – sapling/nurture trees), and/or 4. Mature oak trees identified within the Project disturbance area and proposed for removal, will be transplanted to the Planting Area in order to salvage the tree. (1:1 – transplanted mature oak trees), and/or 5. Some portion of off-site planting and nurturing, in other conservation or restoration areas such as La Purisima, or in burn areas of public lands, as agreed to by the County, may also be considered as mitigation for on-site removals.
BIO-4	<p>Dust Control Measures. During construction activities and periods of high vehicle/equipment traffic along unpaved roads and work areas, dust control methods to minimize dust impacts to surrounding vegetation will be implemented for all on-site and off-site Project activities, as necessary. Dust control methods include, but are not limited to, the following:</p> <ol style="list-style-type: none"> 1. Light water spray or soil stabilizer application on stockpiles; 2. Watering or stabilizing soil on vehicle movement surface areas to prevent the generation of fugitive dust; 3. Reducing vehicle speed; and 4. Suspending earth moving or other dust-producing activities during periods of high winds or when dust control measures are not able to prevent visible dust plumes.
BIO-5	<p>Fuel Management Plan. The Fuel Management Plan for the Project site, provided as Appendix F-1.A, will be submitted to the County for review and approval. The approved Plan will be incorporated into the Project and implemented by Aera Energy.</p>
BIO-6	<p>Environmental Sensitivity Orientation. A Project-specific environmental sensitivity orientation will be prepared for the Project and each project component (i.e., natural gas pipeline, electrical transmission lines) by a biologist familiar with the Project region and incorporated into site-specific training that will be required for Project personnel working on-site. The purpose of the orientation is to educate Project personnel on local special-status wildlife species that may occur within the Project area and to provide an overview of the avoidance and minimization measures to be adhered to during the Project. In addition, personnel will be briefed on the reporting process in the event that an inadvertent injury should occur to a special-status species during construction or operations.</p>
BIO-7	<p>Delineation of Project Disturbance Limits. Prior to initial grading or construction, Project disturbance limits will be delineated in the field, under the guidance of a qualified biologist, using high visibility fencing or flagging to avoid impacts to special-status plant populations and other adjacent sensitive habitat areas. The use of heavy equipment and vehicles will be limited to the proposed work areas, existing roadways, and defined staging areas/access points.</p>

Table 4.3-7. Applicant Proposed Avoidance and Minimization Measures Related to Biological Resources

AMM No.	Measure
BIO-8	<p>Pre-Activity Surveys.</p> <p><i>Project site.</i> Pre-activity surveys will be conducted prior to initial grading, excavation, and vegetation removal activities within two weeks of planned work. Pre-activity surveys will be completed by a qualified biologist experienced with regional wildlife and plant species. These surveys will consist of the following activities:</p> <ol style="list-style-type: none"> Woodrat nest destruction using hand tools to knock down nests and deter animals out of the immediate work area. Woodrat nest destruction will first be approved by the California Department of Fish and Wildlife by written or verbal approval; Large burrows in which display signs of badger or owls, will be, scoped, and dusted around the entrance for three consecutive days to determine if the burrow is active. All active and non-active American badger burrows will be avoided to the greatest extent possible; however, if the burrow cannot be avoided and the burrow is active, then the burrow will be closed by collapsing the soil around the entrance to deter the badgers out of the work area. If the burrow is an active natal den during the breeding season (February through August), then that burrow will be avoided until the pups have grown and left the burrow. All active burrowing owl burrows will be avoided within a 300 foot buffer. The California Department of Fish and Wildlife will be contacted to determine additional minimization measures for natal dens, if necessary. In the event a burrow is being used by a burrowing owl, the burrow will be avoided until the California Department of Fish and Wildlife is notified to determine appropriate avoidance and minimization measures; Biologists will place cover boards in the work area to attract reptiles using the area. The cover boards will be checked immediately prior to ground disturbing activities to capture and relocate reptiles to adjacent suitable habitat and out of harm's way. Raking of sandy soils within the immediate work areas will also be incorporated into pre-activity surveys to help observe, capture, and relocate reptiles that may lie just under the soil surface; Biologists will identify, flag, and map with a global positioning unit any special-status plant species identified in the work area. These plant populations will be avoided to the extent practicable; however, if avoidance is not practicable, a revegetation/relocation plan will be implemented. <p><i>Natural gas pipeline.</i> Pre-activity surveys will be conducted prior to initial excavation, trenching, Jack and Bore and horizontal directional drilling activities where applicable. Pre-activity surveys will consist of the following:</p> <ol style="list-style-type: none"> A qualified biologist with experience identifying special-status plants and associated habitats will conduct a pre-activity survey of all proposed work areas, including preliminary staging and laydown areas, prior to any ground disturbing activities. Any special-status plant populations encountered will be flagged and avoided to the greatest extent possible. These areas will be avoided for staging or stockpiling of material or soil when feasible. Observations of special-status species will be reported to the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife. <p><i>Electrical transmission line.</i> Pre-activity surveys will be conducted prior to initial ground disturbance activities. Pre-activity surveys will consist of the following:</p> <ol style="list-style-type: none"> A qualified biologist with experience identifying special-status plants and associated habitats shall conduct a pre-activity survey of all work areas, including staging and laydown areas, prior to any ground disturbing activities. The surveys shall be conducted within appropriate blooming periods for potentially occurring special-status plants. Any special-status plant populations encountered shall be avoided; however, if they cannot be avoided, a relocation and monitoring plan shall be prepared and approved by the appropriate regulatory agency prior to any disturbance to the plants. Observations of special-status species shall be reported to the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife, as required; and A qualified Biologist with experience identifying American badger and burrowing owl and their potential burrows shall conduct a pre-activity survey prior to initial work activities. Potential badger and burrowing owl burrows will be avoided with a 50 foot buffer. If a burrow is identified within the immediate work area, the California Department of Fish and Wildlife will be contacted for further guidance on appropriate protective measures during Project activities.
BIO-9	<p>Straight-awned Spineflower Avoidance or Revegetation/Relocation Plan. Project activities will avoid special-status species populations identified within the Project site to the extent practicable; however, where straight-awned spineflower has been identified within the Project grading footprint and in any other cases where Project activities cannot avoid straight-awned spineflower, an agency approved revegetation plan will be implemented. The revegetation plan will provide guidelines for seed collection and topsoil salvage to ensure impacts to the population are reduced to the greatest extent possible. The plan will also incorporate monitoring and reporting methods for revegetated/ populations to ensure success.</p>

Table 4.3-7. Applicant Proposed Avoidance and Minimization Measures Related to Biological Resources

AMM No.	Measure
BIO-10	Revegetation Plan. Project activities that require the temporary removal of vegetation for cut/fill slopes, above-ground pipeline installation, and on-site electrical transmission line installation activities will be revegetated per a County-approved revegetation plan. The plan will be prepared and submitted to the appropriate regulatory agencies for approval. The revegetation plan will incorporate goals, implementation methods, and maintenance and monitoring measures to ensure successful revegetation of native plant communities. Preliminary staging and laydown yards utilized for the proposed natural gas pipeline installation that are zoned for development will be hydro-seeded upon completion of construction activities.
BIO-11	Nesting Bird Surveys. In the event that the Project site and each project component (i.e., natural gas pipeline, electrical transmission lines) initial ground disturbing and vegetation removal activities are scheduled during the nesting bird season (March 15 through September 15), a nesting bird survey will be completed by a qualified biologist with experience in bird identification and nest searching within 24 hours of disturbance activities. No active nests of native bird species protected by the Migratory Bird Treaty Act will be removed by Project activities and appropriate buffers will be incorporated into the Project plans to ensure the protection of the nest. Buffers will be delineated by a qualified biologist based on an appropriate distance to minimize disturbance to the active nest, a standard of 300 feet for passerines and 500 feet for raptors, or as required by Project permits. These buffers may be minimized by a qualified biologist on a case-by-case basis, and consistent with permit conditions, where birds are not impacted by Project activities.
BIO-12	Spill Response Plan. A Spill Response Plan will be prepared prior to Project activities and will be implemented for the life of the Project. The Plan will include appropriate measures for containment of spills, agency notifications, clean-up protocols, and procedures for restoring lay down areas and other impacted areas to pre-disturbance conditions. Spill containment equipment will be available on-site during all Project drilling and fuel handling activities. The Plan will also include protocols for locating equipment at least 50 feet from stream channels and other standing water, and inspecting and maintaining equipment to prevent leaks.
BIO-13	A Drilling Fluid Release Contingency Plan. This plan will be prepared for all horizontal directional drilling operations during the installation of the natural gas pipeline and will be prepared with special emphasis on stream crossings. This plan will include appropriate measures for containment of spills, agency notifications, clean-up protocols, and procedures for restoring lay down areas and other impacted areas to pre-disturbance conditions. Spill containment equipment will be available on-site during all drilling and fuel handling activities. A qualified Biologist knowledgeable in horizontal directional drilling operations will be onsite during horizontal directional drilling operations along actively flowing streams or ponded water to document any spill or drilling fluid release and provide additional guidance to protect biological resources in the event of a spill or drilling fluid release. In the event that a spill or drilling fluid release occurs within a stream corridor, all work will be halted and the spill will be contained using the procedures outlined in the Project-specific Drilling Fluid Release Contingency Plan.
BIO-14	Removal of Trash. All food-related items and trash will be contained in trash bins with lids and will be removed from the work areas at the end of each working day.

Table 4.3-7. Applicant Proposed Avoidance and Minimization Measures Related to Biological Resources

AMM No.	Measure
BIO-15	<p>Amphibian Avoidance.</p> <p><i>Project site.</i> To minimize impacts to migrating amphibians that travel to aquatic breeding grounds during rainy nights (i.e., spadefoot, California red-legged frog, California tiger salamander), vehicle travel within the Project site will be avoided during rainy nights to the extent practicable. In the event that vehicles must travel the roads within the Project area, speeds will be reduced. In the event a California red-legged frog or California tiger salamander is identified in a road, the U.S. Fish and Wildlife Service will be contacted immediately for further direction.</p> <p><i>Natural gas pipeline.</i> To avoid impacts to migrating amphibians to aquatic breeding grounds, construction activities between the intersection of E Clark Ave/Telephone Road and Clark Ave/Dominion Road will be completed during the daylight hours and dry weather, to the greatest extent possible thereby avoiding wet weather, when California tiger salamanders are most active. A qualified biologist will complete a pre-activity survey prior to work that follows a rainy night, to ensure no California tiger salamander are present within the work areas. Training will be provided to the crew and crew supervisors to recognize, report, and avoid California tiger salamander. In the event a California tiger salamander is observed in the work area, the work in the immediate area of the California tiger salamander will temporarily cease until agency notification is complete.</p> <p><i>Electrical transmission line.</i> Construction activities will be completed during the daylight hours, to the greatest extent possible for the electrical transmission line construction off-site. Project activities shall avoid rainy nights, when California tiger salamanders are most active. A qualified biologist shall complete a pre-activity survey prior to work that follows a rainy night, to ensure no California tiger salamanders are present within the work areas. Training will be provided to the crew and crew supervisors to recognize, report, and avoid California tiger salamanders. A biologist will be on-site or on-call during all construction activities to respond to questions or incidents. In the event a California tiger salamander is observed in the work area, the work shall cease and the U.S. Fish and Wildlife Service will be immediately contacted for further direction.</p>
BIO-16	<p>CTS Habitat Mitigation. Aera proposes to provide mitigation for the permanent removal and temporary disturbance of upland habitat based on mitigation ratios developed to reflect the potential occurrence of California tiger salamander within the acreage that would be impacted by Project activities. Mitigation includes the following:</p> <p>Temporary Impacts</p> <ul style="list-style-type: none"> ▪ Two acres of mitigation for every one acre classified as high habitat value; ▪ 0.5 acre of mitigation for every one acre classified as moderate habitat value; ▪ 0.1 acre of mitigation for every one acre classified as low habitat value; <p>Permanent Impacts</p> <ul style="list-style-type: none"> ▪ Four acres of mitigation for every one acre classified as high habitat value; ▪ Two acres of mitigation for every one acre classified as moderate habitat value; or ▪ One acre of mitigation for every one acre classified as low habitat value.

With incorporation of the Applicant’s proposed AMMs and the mitigation measures identified in this section, the proposed Project is not expected to (1) substantially reduce or eliminate quantity or quality of nesting areas; (2) substantially limit reproductive capacity through losses of individuals or habitat; (3) substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (4) substantially limit or fragment range and movement (geographic distribution or animals and/or seed dispersal routes); or (5) substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends. However, even with incorporation of feasible mitigation identified by the Applicant and in this section, the loss of over 29 acres of coast live oak woodland and over 1,500 individual oak trees would substantially reduce or eliminate species diversity or abundance at the proposed Project site.

The following subsections provide a discussion of potential oil field, power line, and natural gas pipeline development and operation impacts, as well as proposed mitigation. Sections 4.3.5 and 4.3.6 provide an analysis of Alternative and cumulative impacts, respectively.

4.3.4.1 Oil Field Development & Operation

Most of the proposed Project's impacts to biological resources would occur from installing well pads, roads, and other proposed Project infrastructure; installing underground and aboveground pipelines and power lines; the operation of new facilities and drilling; fuel management; and potential spills of oil or other hazardous chemicals. Table 4.3-8 provides the estimated acres of proposed Project disturbance per vegetation type and landcover at the proposed Project oil field site. Impacts presented in Table 4.3-8 are as reported in the Applicant's Biological Survey Report (Appendix F). The Applicant has estimated the total temporary and permanent site disturbance at 335.2 acres.

Impact BIO-1: A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on native species and habitats, special-status species and their habitats, and sensitive vegetation communities.

Unanticipated direct effects to special-status species, habitat, vegetation communities, and jurisdictional resources (e.g., drainages) both in and outside of the development footprint could occur during the operation phase in the event of a light crude oil, produced oil or water, or other hazardous material spill from proposed Project transport trucks, pipelines, or oil production facilities. Potential spills could result from seismic events, mechanical failure, structural failure, corrosion, or human error during operations. Spills and cleanup activities would potentially result in impacts to biological resources, including sensitive CTS and CRLF upland or breeding habitat, special-status plant habitat, oak woodlands, and other special-status species habitat. Small leaks or spills, which are contained and remediated quickly, may have minor or negligible impacts to biological resources. In contrast, large pipeline spills could spread into sensitive habitats (i.e., ephemeral drainages and agricultural ponds which contain sensitive species habitat) and would substantially degrade their value, with potential long-term impacts to biological resources.

The volume, location, seasonal timing, and type of any potential spill would influence the severity of impacts to biological resources. Spills in open grassland habitat, agricultural fields, or along roads would be easier to contain and clean up than spills near aquatic or riparian habitat where oil could be transported downstream. Such a spill could flow into sensitive CTS and CRLF breeding habitat or into ephemeral drainages and subsequently into the more sensitive riparian habitat along the Sisquoc River. Spills and associated contaminated storm water runoff reaching this waterway could have significant and widespread impacts to water quality and, consequently, to sensitive biological resources associated with this habitat. In addition, further damage can occur to sensitive habitats during cleanup operations, especially if techniques such as raking, shoveling, and bulldozing are employed.

Depending on the geologic formation, cyclic steam injection has the potential to result in seeps/surface expression of oil and/or produced water, or degradation of groundwater quality by oil or well stimulation fluids in oil fields. However, there is no evidence of oil seeps resulting from the historic (1960's) or recent (1980s) steam injection in the Cat Canyon Oil Field (SCS, 2015; County of Santa Barbara, 2016; DOGGR, 2016a and 2016b). Steam injection in this oil field occurs at depths of 2,300 to 2,900 feet, with the intervening low-permeability soils providing a barrier that should prevent oil from rising to the ground surface (see Section 4.9.4 for seep potential resulting from the proposed Project). Available evidence suggests that the proposed Project would be highly unlikely to result in a seep or surface expression of oil from cyclic steam injection. However, should seeps or surface expressions occur, impacts to biological resources would be similar to those described for oil spills. The Applicant has indicated that any spills on the site would be contained, both within process system walls/berms around equipment and site walls/berms around the central processing facility. Process walls/berms would be designed to contain at least 110 percent of the largest vessel plus the precipitation generated by a 100-year storm event.

Table 4.3-8. Summary of Vegetation Impacts

Vegetation Type*	Total Within Proposed Project Site (acres)	Phase I Impacts (acres)				Phase II Impacts (acres)				PROPOSED PROJECT TOTAL – Phase I and Phase II Impacts (acres)			
		Temporary Fuel Mgmt ⁵	Temporary	Permanent	Total Phase I	Temporary Fuel Mgmt ⁵	Temporary	Permanent	Total Phase II	Temporary Fuel Mgmt ⁵	Temporary	Permanent	Total Phases I and II ³
Western Rush Marshes	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Coffeeberry Scrub	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Willow Thickets	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coast Live Oak Woodland¹	449.2	3.4	0.6	13.4	17.4	2.8	0.7	8.3	11.8	6.2	1.3	21.7	29.2
Annual Grassland (annual brome and wild oats grassland)²	509.9	1.0	6.1	5.9	13.0	1.8	15.2	23.6	40.6	2.8	21.3	29.5	53.6
California Coastal Scrub (California sage scrub, black sage scrub, mock heather stand, and coyote brush scrub)³	1,025.8	10.4	37.9	51.4	99.7	8.7	31.2	44.9	84.8	19.1	69.1	96.3	184.5
Eucalyptus Groves	3.7	0.0	0.0	0.0	0.0	0.0	0.7	0.3	1.0	0.0	0.7	0.3	1.0
Previously Disturbed	119.1	1.1	8.9	39.0	49.0	1.3	2.0	14.6	17.9	2.4	10.9	53.6	66.9
TOTAL	2,111.0	15.9	53.5	109.7	179.1	14.6	49.8	91.7	156.1	30.5	103.3	201.4	335.2
Coast Live Oak Trees⁴	N/A	N/A	N/A	N/A	1,005 trees	N/A	N/A	N/A	499 trees	N/A	N/A	N/A	1,504 trees

1 - Includes tree trimming and understory removal but not tree removal.
 2 - Nonnative annual grasslands are considered sensitive in the context of this analysis because they provide dispersal habitat for listed species such as CTS in northern Santa Barbara County.
 3 - Includes Temporary Fuel Management Impacts.
 4 - Tree counts include all oak trees with a DBH of 6 inches or greater that are proposed for removal from within the Aera Energy LLC Property boundary. Oak trees within the portions of the proposed Project footprint located on adjacent parcels (not owned by Aera Energy LLC) were not inventoried, but were estimated based on GIS canopy analysis. Inventory data that included both of 6 inches or greater DBH and 8 inches or greater DBH oak trees was used to calculate the typical ratio of 6 inch to 8 inch DBH oak trees within a canopy. Using the 8 inch DBH or greater field inventory data, and the computed ratio, the number of 6 inch or greater DBH trees was estimated and used in areas where there was no 6 inch or greater field inventory data. There are approximately 10.6 percent more mature trees when oak trees 6 inch to less than 8 inch DBH are included.
 5 - Temporary Fuel Management impact acreages only reflect the area of Fuel Management that extends beyond the proposed Project footprint.
 All impacts are as reported in the Biological Survey Report (Appendix F)

***Bold** indicates sensitive vegetation type

Appropriate safety programs that would comply with existing regulations would be developed and implemented, and include preparation of a Hazardous Materials Business Plan; a Spill Prevention, Control, & Countermeasures Plan; a worker's safety program; the Aera Construction Safety Handbook; an emergency response plan; a plant safety program; facility standard operating procedures; and a Control of Work Process. Additionally, the proposed Project would require Land Use Approval for Construction Permits, DOGGR oversight, and compliance with regulations including Assembly Bill 1960 (spill prevention).

As required by existing regulations, Aera would develop an Emergency Response Plan specifically tailored to both the construction and operational portions of the proposed Project. The proposed Project emergency response plan would include crisis management and business resumption planning in order to provide for the safety of workers and the general public, as well as the protection of the environment and property in the event of a major event. The intention of the plan is to initiate measures in advance to reduce potential dangers, impacts, and losses related to potential spill or release events associated with oil and gas operations. The plan would define what would constitute an event, the appropriate organizational response team, and the location of the company emergency operations center from which management will make response decisions.

The onsite manager, or supervisor, or his/her designated representative or "person in charge" would be responsible for notifications to 911, the Santa Barbara County Hazardous Materials Unit, State Office of Emergency Services, all personnel working at the facility at the time and the nearby community in the event of a hazardous materials release/emergency shut-down. A minor event may be dealt with by the onsite cleanup crew; onsite personnel who have been trained in spill cleanup. A major event may require the assistance of offsite personnel or a cleanup contractor. In order to prevent potential incidents, all responsible measures will be taken to stop or limit the release of hazardous materials or waste, including measures such as stopping operations, collecting or containing released materials, and removing or isolating containers. Emergency response equipment would be inspected regularly to ensure that equipment is available and in good working order if required. The facility would be equipped with a combustion-fired backup generator in order to operate critical equipment in the event of a major power failure.

Impacts to biological resources from an oil or other hazardous material spill (including seep/surface expression) associated with the proposed Project would be significant, should they occur. Aera has committed to developing an Emergency Response Plan; however, specific details of the plan are not currently known. Therefore, Mitigation Measure (MM) BIO-1 requires development and implementation of an Emergency Response Action Plan to specifically mitigate impacts to biological resources in the event of an oil or other hazardous materials spill (including produced water and any seeps or surface expressions). The Plan would include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during spill response and cleanup operations, including provisions for containment and cleanup for the entire extent of the spill site. The Plan would also include low-impact techniques for clean-up operations designed to minimize further damage to sensitive habitats. The Plan would describe stipulations for site-specific habitat restoration following initial clean-up, and procedures for treatment of any oiled wildlife. Implementation of this measure would reduce impacts from oil or other hazardous materials spills; however, the potential remains for a catastrophic spill and the associated substantial environmental effects of the spill and its clean-up. **Even with implementation of mitigation, this impact remains significant and unavoidable (Class I).**

Mitigation Measures

MM BIO-1 **Emergency Response Action Plan.** The Owner/Applicant shall prepare and implement an Emergency Response Action Plan (Action Plan) that addresses protection of sensitive biological and hydrological resources and restoration of any areas, whether within the oil

field or offsite within the County due to oil transport, disturbed during a spill of oil or other hazardous materials, produced water, and associated cleanup activities. The Action Plan shall include:

- a. Specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, jurisdictional waterways and drainages, and environmentally sensitive habitat areas during response and cleanup operations. The Action Plan shall include provisions for containment and cleanup within the entire extent of the spill site.
- b. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low-pressure water flushing shall be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian areas, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Action Plan shall evaluate the non-cleanup option for ecologically vulnerable habitats.
- c. When habitat disturbance cannot be avoided, the Action Plan shall provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas shall be identified. The Action Plan shall include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species.
- d. Procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by non-native species, replaces them with suitable native species).

PLAN REQUIREMENTS and TIMING: Owner/Applicant shall submit the Action Plan to P&D for review and approval prior to issuance of the Zoning Clearance. The requirements of the approved Action Plan shall be implemented by the Owner/Applicant as necessary in the event of a spill. The Owner/Applicant shall report its implementation of emergency measures to P&D as soon as feasible in the event of a spill.

MONITORING: P&D shall conduct onsite inspection(s) to verify and document implementation of emergency action measures.

Impact BIO-2: Proposed Project construction and routine operations have the potential for degradation and loss of habitat for listed and other special-status species.

As indicated in Table 4.3-8, the proposed Project would permanently impact approximately 201.4 acres of native and non-native vegetation that could provide habitat for special-status species, including listed species. Temporary impacts would total approximately 103.3 acres, with an additional 30.5 acres impacted from fuel zone management. Proposed Project impacts in areas that are already disturbed/ruderal (66.9 acres; 20 percent of total ground disturbance) would not directly affect special-status species habitat, but indirect impacts during construction and operation could result in degradation of nearby habitats. These indirect effects could include noise and vibration, night lighting, dust, spread of nonnative and invasive weeds (especially to adjacent habitats off site), and general human disturbance that could preclude wildlife from using habitats in the general vicinity of proposed Project elements. Excessive fugitive dust can reduce photosynthetic capacity in plants over time and inhibit reproduction by

physically coating reproductive structures or excluding insect pollinators, thereby degrading habitats that special-status species depend on.

Indirect Effects from Weeds. Invasive weeds can displace native species, replace food plants or other wildlife habitat elements (e.g., cover), alter natural habitat structure and ecological function, alter natural wildfire patterns, or displace special-status plant occurrences and habitat. The spread of invasive plants is an important threat to biological resources in California. Human activities can affect weed distribution and abundance through introduction of new weed species to an area, and facilitation or propagation and spread of weeds already present.

New weed introductions occur when seeds are inadvertently introduced to a site, most often with mulch, hay bales, or wattles used for erosion control, or when they are carried on equipment tires from off site. Invasive weeds generally spread most readily in disturbed, graded, or cultivated soils.

Control of weeds in the oil field will be important to ensure special-status species habitat in and near the Biological Study Area is not degraded from proposed Project activities. However, herbicide use can result in indirect impacts to vegetation and wildlife in the oil field area. Most aquatic herbicides, and several terrestrial herbicides, are non-selective and could adversely impact non-target vegetation. Accidental spills and herbicide drift from treatment areas could be particularly damaging to non-target vegetation. Should herbicides be used as a component of the proposed Project activities, it is important to select an herbicide that has low toxicity, would not move from its target or leach into groundwater (low water solubility), and would not remain in the environment for a long period of time (low persistence). Mitigation Measure BIO-5 outlines appropriate use of herbicides.

California Tiger Salamander and California Red-Legged Frog Breeding Habitat. No known or potential breeding habitat for CRLF occurs within the development footprint, but habitat assessments identified potential CTS breeding habitat in and adjacent to the proposed Project site. The proposed Project site is within 5 miles of documented CTS breeding pools (see Figure 4.3-8). Section 4.3.1.3 (Special Status Wildlife – California Tiger Salamander) details the surveys and assessments conducted for potential CTS breeding habitat in and near the Study Area. Based on the results of habitat assessments, surveys, and ongoing coordination between the Applicant and the USFWS and CDFW, all USFWS-identified potential CTS breeding ponds in the area except one have been determined unsuitable or unoccupied for breeding CTS. Pond SISQ-19 was not accessible for aquatic sampling and drift fence surveys, and therefore has an undetermined potential to support CTS breeding. Neither SISQ-19 nor any of the other identified known or potential breeding ponds are within or immediately adjacent to the development footprint, and no direct impacts to potential breeding habitat would occur. The potential for the proposed Project disturbance areas to support dispersing CTS is described below. While proposed Project construction and operation would not directly affect any breeding habitat for listed amphibians, indirect effects could occur from noise, night lighting, contaminated runoff, or unanticipated oil spills, seeps, or surface expressions (see Impact BIO-1).

California Tiger Salamander and California Red-Legged Frog Upland/Dispersal Habitat. There are no documented CTS breeding ponds within the 1.4-mile CTS dispersal distance, but there are several potential breeding ponds within the dispersal distance (see Section 4.3.1.3 [Special Status Wildlife – California Tiger Salamander], Table 4.3-5, and Figure 4.3-8). One of these ponds is within the proposed Project site boundary, but is outside of the development footprint. Although studies were conducted at three potentially suitable breeding ponds within the adjacent West Cat Canyon Oilfield and results were negative for CTS, these studies were conducted during drought years and cannot be considered conclusive. Aquatic and drift fence surveys conducted at Pond 205 and drift fence surveys within the proposed Project site near ponds SISQ-19 and SISWQ-20 were negative for CTS, although these studies

were also conducted in drought years and under modified survey protocols to account for the size of the proposed Project.

Although CTS have not been documented in the proposed Project area, they cannot be ruled out due to the proximity to known occupied habitats and the suitable habitats that occur within the oil field. There is a moderate to high potential for CTS to move through areas of the oil field during dispersal, particularly during wet years. Annual grasslands and oak woodlands occur throughout the Study Area, and would provide the most suitable upland habitat for dispersing individuals, although other vegetation types could be used. For the purposes of this analysis, CTS upland habitat is considered to be any habitat in the proposed Project footprint with the exception of disturbed and developed areas, which are not expected to provide potential refugia due to compaction.

The USFWS currently assesses impacts to CTS habitat by calculating the reproductive value of affected habitats using a model developed based on the research of Christopher Searcy and Bradley Shaffer (Searcy and Shaffer, 2008). The model accounts for different types of project impacts (i.e., whether a project feature would impede CTS dispersal or not, and if so, a “shadow effect” beyond the impediment), the proximity to potential breeding ponds, and existing disturbances.

The total reproductive value of the project footprint, as calculated by the model, represents the CTS habitat value that would be lost. The total reproductive value of the proposed conservation area represents the CTS habitat value of the land proposed as mitigation for that loss. Searcy and Shaffer (2008) documented that density distribution of CTS decreases exponentially with increasing distance from a breeding site. Therefore, the model assigns a greater reproductive value to areas that are close to breeding sites than to areas that are farther away. The USFWS considers a mitigation ratio of 1:1 reproductive value to be compliant with the federal ESA. The USFWS indicated that it is implementing this approach rather than relying on a mitigation ratio that is based on acres of land because the modeled reproductive value of impacted and conserved lands provides a more refined proxy of the *value* of the land to the listed species. (USFWS, 2018)

The USFWS provided the results of the CTS Model for the proposed Project and alternatives on November 10, 2017 (reported in the Project Biological Assessment [Padre, 2017d] and in the February 2018 letter to K. Lehr of the Santa Barbara County Planning and Development Department [USFWS, 2018]). Based on the presumption of presence around SISQ-19, the USFWS determined that the reproductive value of the proposed Project impacts would total 31,443 units. The reproductive value of the proposed Conservation Area was calculated to be 42,741 units (Padre, 2017d and USFWS, 2018). The proposed Conservation Area represents a mitigation ratio of 1.36:1, which exceeds the 1:1 requirement of the USFWS. Therefore, the proposed Conservation Area would adequately mitigate impacts to potential CTS dispersal habitat. To ensure that the mitigation area is sufficiently protected in perpetuity, Mitigation Measure BIO-6a details requirements for the conservation easement on mitigation area. **With implementation of this measure, impacts to CTS dispersal habitat would be less than significant (Class II).**

As part of the Project Biological Assessment for the proposed Project, Padre calculated the acres of impacts to CTS dispersal habitat from pond SISQ-19 consistent with the USFWS CTS model’s classification of impacts. These impacts are categorized as 1) impacts that do not impede migration and can be completed in a single season and 2) impacts that impede migration. Under this classification system, grading for roads and pads and temporary grading that will be restored with native vegetation are categorized as impacts that do not impede migration. The proposed Project would result in approximately 108.7 acres of disturbance for grading roads/pads and 76.77 acres of temporary disturbance would be restored for a total of 185.47 acres of impacts that would *not* impede migration. Impacts that impede migration include well pump jacks and structures for a total of 4.3 acres of permanent disturbance.

The CRLF is known from multiple CNDDDB occurrences within 5 miles of the proposed Project site, particularly in the Sisquoc River and to the west near Highway 101. A recent observation of CRLF was recorded from a pond near the Study Area (during a non-Project CTS study in the Cat Canyon area (see Appendix F), which suggests this species could be found dispersing through the uplands between aquatic habitats within the general area. Like CTS, CRLF would be most likely to disperse through the proposed Project site or across the linear elements during wet weather, and may be in underground refugia at any time of year.

Any potential effects to a listed species or potential adverse modification of designated critical habitat, including for CTS or CRLF, would require either the Applicant to consult with the USFWS under Section 10 of the federal Endangered Species Act, or require a permitting federal agency (in this case, the US Army Corps of Engineers) to consult under Section 7 of the ESA. In addition, any potential take of either species would require the Applicant to obtain CDFW take authorization under the California Endangered Species Act, through either an Incidental Take Permit (ITP) or Consistency Determination (CD) adopting the terms of any federal authorization. Mitigation that may be required through federal or state authorization could include additional habitat replacement and/or a requirement to obtain CTS or CRLF mitigation bank credits to offset potential proposed Project-related impacts. However, because consultation with the USFWS and CDFW has not yet been completed, this EIR identifies mitigation that would reduce effects to listed species and their habitats to less than significant under CEQA (Mitigation Measures BIO-6a and BIO-6b, and BIO-11 under Impact BIO-3). Any additional mitigation required through federal or State consultation would be in addition to those measures identified herein.

Other Special-Status Wildlife Habitat. Habitat that could support other special-status species would be directly and indirectly impacted during proposed Project construction and operation; these species include but are not limited to western spadefoot, coast horned lizard, silvery legless lizard, western pond turtle, two-striped garter snake, coast patch-nosed snake, American badger, pallid bat, San Diego desert woodrat, and nesting habitat for birds protected by the Migratory Bird Treaty Act.

Monarch butterflies have been observed intermittently within the proposed Project site, but not in large numbers, and no roosts have been observed. Small eucalyptus groves occur within the proposed Project site (near the southern boundary) and would be removed as part of proposed Project activities, but there is no evidence that monarchs roost there. Additional potential roost trees consisting of eucalyptus, Monterey pine, and others occur in the proposed Project site. Implementation of MM BIO-7, which requires restoration of temporary impacts, and BIO-8, which requires environmental monitoring would minimize and offset impacts to potential monarch butterfly winter roosting sites. In addition, MM BIO-12, which requires pre-construction surveys and avoidance of active monarch butterfly roosts, would minimize potential impacts to monarch butterflies. If a monarch roost is found, any impacts to the trees would be avoided until roosting is complete.

Western spadefoot has been recorded in the Study Area during previous surveys and could inhabit ponds and vernal pools throughout the oil field and adjacent areas. Several vernal pools occur within and adjacent to the proposed Project footprint, including Pool A (see Figure 4.3-3a). As with CTS and CRLF, upland dispersal habitat may be impacted. In addition, accidental oil spills could directly or indirectly affect breeding habitat; see Impact BIO-1 for more information.

Approximately 268.3 acres of vegetation that could support other special-status reptiles, birds, and mammals would be directly impacted (see Table 4.3-8). Nesting birds, western spadefoot, coast horned lizard, silvery legless lizard, western pond turtle, two-striped garter snake, coast patch-nosed snake, American badger, pallid bat, and San Diego desert woodrat could utilize any of the vegetation types on the proposed Project site, although would only be expected occasionally in disturbed/developed areas.

Special-status Plant Habitat. Special-status plants observed within the Biological Study Area include straight-awned spineflower (CRPR 1B.3), dune larkspur (CRPR 1B.2, natural gas line only), Hoover's bent grass (CRPR 1B.2; historic occurrence only), and southern California black walnut (CRPR 4.2; powerline route). Ten of the 14 populations of straight-awned spineflower identified during proposed Project surveys are within or immediately adjacent to the proposed development footprint. Annual plants such as straight-awned spineflower vary widely in numbers from year to year. Thus, occurrence locations and habitat conditions are the important factors for persistence. Because surveys were conducted during years with lower than average rainfall, it is possible that additional special-status plant populations not located during the field surveys could occur as dormant seed within the proposed Project footprint or adjacent areas. A total of 268.3 acres of vegetation communities that could support special-status plants would be directly impacted, and adjacent areas could be subject to indirect effects.

APM BIO-9 requires a Straight-Awned Spineflower Avoidance or Revegetation/Relocation Plan. For any occurrence where proposed Project activities cannot avoid straight-awned spineflower, an agency approved revegetation plan will be implemented. The revegetation plan will provide guidelines for seed collection and topsoil salvage to ensure impacts to the population are reduced to the greatest extent possible. The plan will also incorporate monitoring and reporting methods for revegetated/ populations to ensure success. In addition, MMs BIO-1 through BIO-8 require a variety of measures for the protection of biological resources, including special-status species' habitats. MM BIO-1 requires development and implementation of an Emergency Response Action Plan to mitigate impacts to habitat in the event of an oil or other hazardous materials spill (see Impact BIO-1 for more information about potential spills). MM BIO-2 includes requirements for temporary support areas (including staging areas) to be located only on previously disturbed and compacted areas, and erosion and sedimentation control measures. MM BIO-3 requires best management practices (BMPs) to minimize impacts to riparian and wetland areas during construction and routine operations, including a 100-foot equipment washing setback from storm drains, water bodies, and sensitive biological resources. This setback would ensure that wash water does not enter into sensitive areas. MM BIO-4 requires worker environmental training. MM BIO-5 requires weed control, and MM BIO-7 requires restoration of temporarily impacted areas and habitat compensation for impacts to vegetation including sensitive and listed species habitat. MM BIO-6 provides detailed requirements to ensure protection of the onsite conservation lands in perpetuity. MM BIO-8 requires an independent environmental monitor to ensure implementation of all required mitigation is occurring. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. **Implementation of MMs BIO-1 through BIO-8, AQ-1a, and SGW-1 would reduce impacts to special-status species' habitats to less than significant (Class II).**

Proposed Conservation Area. The Applicant proposes to place a permanent conservation easement on approximately 687 acres within the eastern portion of the proposed Project site. The habitats that would be affected on the proposed Project site provide high value to a variety of plant and wildlife species. The site provides foraging, nesting, denning, and wildlife movement opportunities for a wide variety of wildlife, potentially including listed species like CTS and CRLF. It also supports several species of special-status plants. Habitat compensation for permanent proposed Project impacts would be required at a 3:1 ratio for all direct impacts to habitats except disturbed and developed areas. Habitat restoration would be required for direct temporary impacts to habitats except disturbed and developed areas.

The proposed Conservation Area is an opportunity to provide compensatory mitigation on site, with habitats that approximate the value of habitats that would be impacted. Table 4.3-9 provides a breakdown of mitigation required for permanent impacts, and the amount of like habitats in the Conservation Area. As shown in Table 4.3-9, there are approximately 13 fewer acres of coastal sage scrub habitats in the Conservation Area than would be required for the estimated permanent impacts to the proposed Project

site; therefore, MM BIO-7 requires that the Applicant restore disturbed and developed areas within the Conservation Area as needed to meet additional compensation requirements. It should be noted that the impact acreages reported in Table 4.3-9 are conservative estimates based on best available information at the time of this EIR preparation. Additionally, the proposed Project would remove about 0.3 acre of eucalyptus groves; however, this is a non-native tree and therefore the Applicant would not be required to replace these impacts in kind. Nonetheless, eucalyptus trees provide roosting, nesting, and perching habitat for a variety of birds, bats, and potentially monarch butterflies (see Impact BIO-3). Therefore, mitigation is required. Preservation and restoration of oak woodlands, described in detail under Impact BIO-4, would be acceptable compensatory mitigation for impacts to eucalyptus groves as wildlife habitat. Additionally, the proposed conservation area would be used to provide mitigation for unavoidable proposed Project impacts, and to provide conservation, educational, and recreational opportunities for the Santa Barbara County community. Should the footprint of the proposed Project change (downsize), or should actual impacts to oak resources be reduced from the estimates provided herein, the conservation easement may be adjusted accordingly.

Table 4.3-9. Proposed Project Habitat Impacts, Required Mitigation, and Proposed Conserved Acreages

Vegetation/Habitat Type	Total Permanent Project Impacts (acres)	Required Compensation (3:1) (acres)	Amount in Conservation Area (acres)	Existing Vegetation in Conservation Area Adequate to Mitigate Impacts?
Coast Live Oak Woodland ¹	21.7 (29.2 acres total impacts including temporary)	87.6 ¹	127.7	Yes ¹
Annual Grassland (annual brome and wild oats grassland)	29.5	88.5	260.3	Yes
California Coastal Scrub (California sage scrub, black sage scrub, mock heather stand, and coyote brush scrub)	96.3	288.9	275.8	No
Eucalyptus Groves	0.3	0.9	--	No ²
Previously Disturbed	53.6	Not Required	22.7	--
TOTAL	201.4	465.9	686.5	

1 - Impacts to individual oak trees are analyzed separately, see Impact BIO-4. All impacts to oak woodland (both temporary and permanent) require 3:1 mitigation due to habitat sensitivity and temporal loss even for restored areas. Therefore, total mitigation requirement is calculated based on 29.2 acres of total impact to oak woodlands (includes permanent, temporary, and temporary fuel management areas; see Table 4.3-8).

2 - Eucalyptus are non-native trees but do provide nesting and roosting habitat for birds, bats, and potentially monarch butterflies. Compensatory mitigation for oak woodlands would satisfy mitigation requirements for loss of eucalyptus groves.

Mitigation Measures

MM BIO-2 General Biological Resources Protection Measures. The following measures shall be fully implemented to avoid, minimize and mitigate adverse effects to habitats, native vegetation, and wildlife within the Aera East Cat Canyon Oil Field Redevelopment Plan Project areas.

- a. During construction, work areas shall be clearly delineated in the field to prevent direct impacts outside of the designated work areas. All work areas shall be approved by the Project Engineer in consultation with a County-approved biologist. All sensitive species and sensitive species’ habitats located within 10 feet of construction activities shall be delineated with specific sensitive species labeling (e.g., permanent signage stating “No Entry — Sensitive Habitat.”). The County shall site-inspect and approve

the fencing prior to commencement of the initial grading activities (including clearing and grubbing) or pipeline and power line installation.

- b. Under supervision of a qualified biologist, proposed pipeline routes shall be modified as needed and staked in the field to avoid and minimize impacts to coast live oak trees, special-status plant populations, native grasslands, riparian and wetland community types, and other sensitive vegetation. All new pipeline construction shall be monitored by a qualified biologist to ensure the measures are met.
- c. Construction of the natural gas pipeline shall occur within the compacted roadbed of existing roadways.
- d. No new areas of disturbance for lay down areas, parking, staging, stockpiling, or other support areas for the oil field, 115-kV power line, or natural gas pipeline shall be developed. Only previously disturbed areas with compacted soils shall be employed to support these work zones. Concurrence from the USFWS must be provided for any staging areas in designated critical habitat prior to ground disturbance.
- e. All general trash, food-related trash items (e.g., wrappers, cans, bottles, food scraps), and other human-generated debris shall be stored in animal-proof containers or removed from the site each day. Deliberate feeding of wildlife shall not be allowed.
- f. All concrete and asphalt debris shall be removed from the site for recycling or proper disposal. Materials shall not be placed outside of the work zone and left for future disposal. If materials are reused at the proposed Project site, stock piles shall be placed within the work zone in areas previously disturbed and free of small mammal burrows.
- g. During construction, washing of concrete trucks, paint, equipment, or similar activities shall occur in areas where polluted water and materials can be contained for subsequent removal from the site. Wash water shall not be discharged to the storm drains, street, drainage ditches, creeks, or wetlands. Areas designated for washing functions shall be at least 100 feet from any storm drain, waterbody, or sensitive biological resources.
- h. Tracked vehicles and other construction equipment shall be weed-free prior to entering and working within undeveloped areas.
- i. Best available erosion and sediment control measures shall be included in the Storm Water Pollution Prevention Plan (SWPPP) prepared for this proposed Project. These measures may include sediment basins, gravel bags, silt fences, geo-bags, or gravel and geotextile fabric berms, erosion control blankets, coir rolls, jute net, and straw bales. Storm drain inlets shall be protected. Sediment control measures shall be maintained in proper working order for the duration of the grading and until graded areas have been stabilized. Construction entrances and exits shall be stabilized using gravel beds, rumble plates, or other measures to prevent sediment from being tracked onto adjacent roadways.
- j. Use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional Proposed Project-related restrictions deemed necessary by the USFWS

and CDFW (e.g. through conditions in an incidental take authorization, if applicable). No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the proposed Project site, on off-site proposed Project facilities and activities, or in support of any other proposed Project activities.

- k. New light sources shall be minimized, and lighting shall be designed to limit the lighted area to the minimum necessary (e.g., by using downcast lights).
- l. To minimize the potential for mortality of wildlife, including listed CTS, routine construction, operations, and maintenance activities shall be conducted during daylight hours only (defined as the hours after sunrise and before sunset). Nighttime traffic shall only be allowed for activities required for safety reasons or emergencies. For planned nighttime work, such as workovers, a request shall be submitted to County P&D for review and approval and work shall not commence without prior P&D approval.
- m. The electrical power line and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) Suggested Practices for Avian Protection on Power Lines (APLIC 2006) and Reducing Bird Collisions with Power Lines (APLIC 2012) to minimize the likelihood of large bird electrocutions and collisions.
- n. To prevent wildlife entrapment, all excavations, including open trenches along active work areas of the natural gas pipeline, shall be securely covered at the end of each work day. Covers shall be installed such that no gaps remain that could allow small wildlife, including CTS, to fall into the open excavation. If covering an excavation is not feasible, escape ramps shall be provided.

REQUIREMENTS and TIMING: Owner/Applicant shall implement the biological resources protection measures throughout the construction and routine operations phases. If conflicts occur between resource agency mitigation measures and those identified herein, the most restrictive shall apply unless specifically indicated otherwise. Generally, conflicts shall be resolved in a manner which is most protective of resources.

MONITORING: P&D shall conduct onsite inspection(s) to verify and document implementation of general biological resources protection measures. P&D shall review all requests for planned nighttime work. P&D shall verify receipt of USFWS concurrence with any staging areas proposed within designated critical habitat.

MM BIO-3

Best Management Practices (BMPs) to Minimize Impacts to Riparian and Wetland Areas during Construction and Operation. The Owner/Applicant shall provide a copy of the CDFW Streambed Alteration Agreement and Clean Water Act Section 401 and 404 permits to P&D, or a written determination from the applicable regulatory agencies that such permit(s) are not necessary. The Owner/Applicant shall implement all mitigation measures and conditions contained within the Streambed Alteration Agreement obtained from the CDFW for impacts to jurisdictional areas, as well as any requirements of the Regional Water Quality Control Board (RWQCB) or the U.S. Army Corps of Engineers (USACE) for impacts to Waters of the State or Waters of the U.S., upon determination of jurisdiction and permit issuance by CDFW, RWQCB, and USACE. In addition to regulatory agencies requirements, the following BMPs shall be implemented during all construction

and operation activities in or near ephemeral drainages, Cat Canyon Creek, Long Canyon Creek, or aquatic features (including man-made ponds):

- a. No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.
- b. Vehicles and equipment shall not operate in ponded or flowing water except as described in the Streambed Alteration Agreement.
- c. The Owner/Applicant shall prevent water containing mud, silt, or other pollutants from grading or other activities from entering ephemeral drainages.
- d. Spoil sites and topsoil/overburden stockpiles shall not be located within 100 feet from the boundaries of drainages or in locations that may be subjected to high storm flows, where materials might be washed into drainages.
- e. No equipment maintenance shall occur within 100 feet of any streambed unless the maintenance area is bermed to contain leakage, and no petroleum products or other pollutants from the equipment shall be allowed to enter these areas or enter any off-site state- or federal-jurisdictional waters under any flow.
- f. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, off-site state- or federal-jurisdictional waters.
- g. The cleanup of all spills shall begin immediately. The County and the State of California Department of Toxic Substances Control shall be notified immediately by the Owner/Applicant of any spills and shall be consulted regarding clean-up procedures.
- h. A minimum setback of 100 feet from riparian woodland habitat shall be put in place during all grading, unless otherwise authorized via the CDFW Streambed Alteration Agreement and Clean Water Act Section 401 and 404 permits.
- i. Impacts on waters of the U.S./State shall be avoided for all pipeline and power line crossings by placing any footings, posts, stands, supports, or any other structure associated with the proposed Project clearly outside the bed, bank, channel, and/or riparian habitat, unless otherwise authorized through the context of Section 401 and Section 404 permits, as applicable.

PLAN REQUIREMENTS and TIMING: Prior to issuance of the Zoning Clearance, Owner/Applicant shall provide to P&D either (1) copies of the CDFW Streambed Alteration Agreement and Clean Water Act Section 401 and 404 permits, or (2) a written determination from the applicable regulatory agencies that such permit(s) are not necessary. If conflicts occur between resource agency mitigation measures and those identified herein, the most restrictive shall apply unless specifically indicated otherwise. Generally, conflicts shall be resolved in a manner which is most protective of resources.

MONITORING: P&D shall document the Owner/Applicant's compliance with requirements prior to issuing the Zoning Clearance and shall conduct site inspections to verify BMP implementation as needed during construction and operations.

MM BIO-4 **Environmental Training Program.** An environmental training program shall be developed and conducted by a P&D-approved biologist for all on-site Project personnel during construction and routine operations. An outline of the program shall be provided to P&D for approval prior to issuance of the zoning clearance. The training shall include the following:

- a. A discussion of all sensitive species that may be encountered in the proposed Project area, the laws and codes that regulate proposed Project activities to protect these species, and the protection measures that must be followed to avoid and minimize impacts.
- b. Information on identification and avoidance of small mammal burrows that could provide refuge for the CTS, CRLF, and other protected species. The training shall discuss CTS, CRLF, avoidance measures, site rules, and permit conditions to avoid impacts to listed and other special-status species.
- c. All construction personnel and permanent on-site operation personnel shall undergo the environmental training. The Owner/Applicant shall provide P&D evidence that all on-site personnel have completed the educational training prior to the start of ground disturbance or within one week of onsite employment during routine operations.
- d. A weather-protected bulletin board or binder shall be centrally placed or kept on site in an easily accessible area for the duration of proposed Project construction and operation. This board or binder will provide key provisions of regulations or Project conditions as they relate to biological resources. This information shall be easily accessible for personnel in all active work areas.

PLAN REQUIREMENTS and TIMING: Documentation demonstrating compliance with the environmental training program, including the names of personnel who received the training, shall be provided to P&D compliance staff on a monthly basis during construction and annually during operation. The outline for the training program shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance. During operations, the training program shall be reviewed and updated with P&D approval annually.

MONITORING: The Owner/Applicant shall demonstrate to P&D compliance monitoring staff that all required components of the training program are in place as required prior to initial construction and maintained throughout the maintenance period.

MM BIO-5 **Weed Control Plan.** The Owner/Applicant shall have a P&D-approved, qualified restoration ecologist or biologist prepare a comprehensive adaptive Weed Control Plan (WCP) to be administered during the construction and operation phases of the proposed Project. The WCP shall be submitted to P&D for review and approval, and shall be updated and implemented for weed eradication and monitoring for the life of the proposed Project. The WCP shall include, but is not limited to, the following:

- a. Conduct a pre-disturbance survey for invasive weeds in all presently undisturbed areas that are proposed for ground-disturbing activity in the proposed Project footprint. Weed populations that are rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2017) shall be mapped and described according to density and area covered. Identify the invasive species that will be subject to control measures (ubiquitous non-native species such as brome grasses and wild oats should be identified and described, but need not be

subject to control measures). Areas with weed infestations shall be treated prior to ground disturbance in presently undisturbed areas according to control methods detailed below and BMPs for invasive weed populations.

- b. Weed control treatments shall include legally permitted herbicide, manual, and mechanical methods approved for application. The application of herbicides shall be in compliance with State and federal laws and regulations under the prescription of a Pest Control Advisor, with P&D's concurrence, and shall be implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a forecasted measurable rain event or during high wind conditions that could cause spray drift onto native vegetation. Where manual or mechanical methods are used, plant debris shall be disposed of at an appropriate offsite location. The timing of the weed control treatment shall be determined for each plant species with the goal of controlling populations before they start producing seeds. Consultation with a County-approved, qualified wildlife biologist or botanist shall be required prior to weed control treatments to develop strategies to avoid any adverse impacts to plants and wildlife in the area.
- c. Herbicides known to have residual toxicity, such as pre-emergents and pellets, shall not be used in natural areas or within channels (engineered or not) where they could run off into downstream areas. Only the following application methods may be used: wick (wiping onto leaves); inner bark injection; cut stump; frill or hack and squirt (into cuts in the trunk); basal bark girdling; foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on windless days, or with a squeeze bottle for small infestations.
- d. Throughout construction and operation, all sites impacted by the proposed Project (including access roads within the oil field) shall be surveyed annually for new invasive weed populations, and identified weed populations shall be treated and monitored. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or re-sprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.

Weed control efforts shall be timed annually to reduce invasive weed seed production. This entails conducting weed removal when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at an approved location. Weed control efforts shall generally commence in early spring (February), or as determined each year by a qualified restoration ecologist or biologist.

- e. All seeds and straw materials used during proposed Project construction and operation shall be weed-free rice straw or other weed-free product, and all gravel and fill material shall be weed free. All plant materials used during restoration shall be native, certified weed-free, and approved by the County of Santa Barbara.

PLAN REQUIREMENTS and TIMING: The Owner/Applicant shall submit a WCP to P&D for review and approval prior to issuance of the Zoning Clearance. Requirements of the WCP shall be implemented by the Owner/Applicant as specified in the approved WCP. Owner/Applicant shall report results of pre-disturbance survey(s), weed control efforts and annual surveys during the life of the proposed Project to P&D. The County-approved biologist shall document implementation of the WCP requirements, including pre-disturbance

surveys in a summary report to P&D submitted annually during the life of the proposed Project.

MONITORING: Permit compliance staff shall conduct periodic site inspections during construction/drilling and operations and shall review pre-disturbance survey reports and annual WCP reports.

MM BIO-6a

Conservation Easement. Prior to Zoning Clearance, the Applicant shall record a conservation easement in a form approved by P&D that protects the proposed conservation area in perpetuity. The easement shall, at a minimum, meet the required mitigation ratio of 3:1 and for all impacts (temporary and permanent) to oak woodlands and for permanent impacts to all other vegetation. Based on the proposed Project's anticipated impacts, the acreage of the conservation easement would be 686.5 acres. However, the acreage of the conservation easement would be reduced if a reduced-impact alternative is implemented. The easement shall be controlled by a qualified conservation organization approved by the County. If the Project's impacts to sensitive vegetation and habitat are reduced from the acreages identified in Table 4.3-9 (e.g., through adoption of the Reduced Footprint Alternative or Oak Avoidance Alternative) then the extent of the protected conservation area may be reduced proportionally. Nonetheless, the final conservation easement shall apply to a contiguous portion of land that contains sufficient sensitive vegetation and habitat types, as well as acreage of suitable habitat for oak woodland restoration, to offset impacts to each resource according to the compensation ratios identified in Table 4.3-9.

PLAN REQUIREMENTS and TIMING: The Owner/Applicant shall submit the open space/conservation easement to P&D for review and approval prior to issuance of the Zoning Clearance. Requirements of the easement shall be implemented by the Owner/Applicant as specified in the approved easement.

MONITORING: P&D staff and/or its consultant shall review the draft easement and any required reporting.

MM BIO-6b

Conservation Habitat Management and Monitoring Plan. The Owner/Applicant shall prepare a Habitat Management and Monitoring Plan (HMMP) for the conservation area with the following minimum specifications, subject to review and approval by the County's P&D Department. The HMMP will specify objectives (identified below) and specific management actions, schedule, and budget to accomplish each objective. The HMMP will provide for periodic amendments or revisions if needed, to account for changes in baseline conditions (e.g., wildfire, or new pathogens or weeds). Revisions will be subject to review and approval by the County P&D Department. The HMMP shall include:

- a. Habitat management objectives and requirements as follows:
 1. Conservation in perpetuity of the specific habitat types identified in Table 4.3-9 and acreages as required under the conservation ratios, also identified in Table 4.3-9.
 2. Restoration of additional habitat as needed to reach necessary conservation acreage, according to the ratios identified in Table 4.3-9.

3. Minimization and control of non-native or invasive plants or animals to maximize native habitat conditions in coast live oak woodland and California coastal scrub habitats.
 4. Maintenance or improvement of habitat conditions in existing grassland habitat to maintain the existing abundance and species richness of native herbs (including native grasses, forbes, bulbs, and other annual or perennial herbs), maintain non-native annual grasses and herbs at their existing or lower cover and abundance, and prevent introduction or expansion of non-native species.
 5. Prevention and control of pathogens, including SOD, gold-spotted oak borer, polyphagous shot-hole borer, or other pathogens on native species that may become problematic in the future.
 6. Operation and maintenance of the entire conservation area, including management of grazing or educational activities, to maximize natural ecological processes, biodiversity, species conservation, and biological connectivity for coast live oak woodland and California coastal scrub habitats.
 7. Quantitative criteria and timeline identifying habitat management goals and schedule for accomplishing those goals.
 8. Specific management actions to achieve the quantitative criteria within the specified schedule.
 9. Detailed monitoring and reporting to quantify and document the results of management activities, for review by County P&D Department.
- b. A Baseline Analysis (site assessment) and report of existing conditions for each of the mitigation habitats will be prepared by a qualified biologist approved by County P&D. The site assessment will include site characteristics (topography, aspect, slope), evidence of wildlife use, aerial extent of mitigation habitats, estimates of tree density health of oak trees onsite, understory and associated vegetation, soil conditions, current land uses, and history of land and oak woodland management onsite. The Baseline Analysis will be updated on 10-year intervals.
 - c. Site Location: Address or Assessor Parcel Number(s);
 - d. Maps, site plans, or other information demonstrating how the objectives specified in the plan will be accomplished.

PLAN REQUIREMENTS and TIMING: The HMMP shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance. Requirements of the HMMP shall be implemented by the Owner/Applicant as specified in the approved HMMP. If conflicts occur between resource agency mitigation measures and those identified herein, the most restrictive shall apply unless specifically indicated otherwise. Generally, conflicts shall be resolved in a manner which is most protective of resources.

MONITORING: P&D staff and/or its consultant shall conduct periodic site inspections to validate restoration efforts and shall review any required reporting, as well as, periodic amendments or revisions if needed, to account for changes in baseline conditions (e.g., wildfire, or new pathogens or weeds).

MM BIO-7 **Habitat Restoration Plan.** The Owner/Applicant shall submit for P&D approval a Habitat Restoration Plan prepared by a P&D-approved biologist and designed to restore pre-Project character and functional value of habitats temporarily disturbed during construction and grading, and to compensate for permanent impacts. The Habitat Restoration Plan shall include the following:

- a. Compensation or restoration (preferably onsite) to offset permanent impacts to all habitats except disturbed and developed areas at a 3:1 ratio per impacted vegetation type, for a total of 465.9 acres. Replacement will occur via permanent protection (i.e., compensation) of existing habitat in the proposed Conservation Area (provided the habitat meets the same functional value as impacted habitat), onsite restoration, or both, as required to meet mitigation requirements for each habitat type. For example, the 3:1 mitigation ratio for 96.3 acres of permanent Project impacts to coastal sage scrub requires a total of 288.9 acres of mitigation lands. The Conservation Area contains 275.8 acres of coastal sage scrub habitat; therefore, the Applicant must restore 13.1 acres of degraded habitats to complete the full mitigation requirements;
- b. The restoration plan will identify quantitative success criteria for all habitat restoration that is based on both native vegetation percent cover and native species richness. Long-term performance standards shall include, but not be limited to, criteria such as requiring that restoration areas support at least 80 percent of the native species abundance and percent cover and is relatively weed free or demonstrates similar weed cover to surrounding, good quality habitat. All restoration activities and monitoring will be designed and implement with the objective of achieving the success criteria;
- c. Restoration treatments or management activities in compensation lands may include, but will not be limited to, planting of native species, soil stabilization, and on-going weed control;
- d. The restoration plan will be consistent with oak tree replacement and oak woodland restoration as described in the Oak Tree Replacement Plan, including cross-references as needed;
- e. The restoration plan will identify the proposed native plant palette and planting schedule, including use of salvaged plant materials and propagules collected onsite. All plantings will be from locally obtained plants and seed stock;
- f. The new plantings shall be irrigated with drip irrigation on a timer, and shall be weaned off of irrigation over a period of two to three years prior to P&D acceptance of the restoration habitat;
- g. The location of restoration and habitat protection sites;
- h. Irrigation requirements and schedule;
- i. Detailed monitoring program, to extend for a sufficient amount of time to ensure that new habitat is established, self-sustaining, and capable of surviving drought (minimum 5 years), and either meets or does not meet the quantitative success criteria by objective evaluation; and
- j. Replanting and other contingency measures should the success criteria not be met.

PLAN REQUIREMENTS and TIMING: The HRP shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance. The Owner/Applicant shall post a performance security to ensure installation prior to issuance of the Zoning Clearance and a maintenance security for five years of maintenance prior to P&D's approval of installation and the initiation of the required maintenance period. The Owner/Applicant shall maintain the restoration areas until they have met the established success criteria, or for a period of not less than five years following planting, whichever is longer. The Owner/Applicant shall provide P&D with monitoring reports documenting the restoration efforts annually throughout the restoration/maintenance phase.

MONITORING: P&D compliance monitoring staff shall monitor installation efforts in the field and shall review annual restoration reports submitted by the Owner/Applicant. P&D compliance monitoring staff approval is required to release the installation security upon satisfactory installation of all items in the approved plans and for release of the maintenance security upon successful completion of the maintenance requirements.

MM BIO-8 Environmental Quality Assurance Program (EQAP) Monitor. The Owner/Applicant shall fund and provide access for an Environmental Quality Assurance Program (EQAP) monitor who will be under contract to the County and shall review and monitor construction and restoration efforts to ensure that mitigation measures and conditions of approval are being implemented and that restoration success criteria are being met. The EQAP monitor shall have the authority to temporarily halt or redirect work activities if permit requirements and conditions are not being met.

PLAN REQUIREMENTS and TIMING: The EQAP monitor shall monitor construction and restoration activities as directed by P&D. This condition, including the EQAP monitor's authority to stop or redirect work, shall be printed on all final construction, grading, and building plans.

MONITORING: The EQAP monitor and/or P&D permit compliance staff shall perform site inspections throughout the construction phase and review required reports from the Owner/Applicant.

Impact BIO-3: Proposed Project construction and routine operation have the potential to injure or "take" listed and other special-status species.

Direct impacts to plants and wildlife could occur as a result of mechanical crushing and trampling. Wildlife could be killed by Project vehicles on roads, and proposed Project activities could result in loss of breeding sites and disturbance from human activity and vehicles. Indirect impacts to could include noise and vibration from earthmoving and equipment operation, fugitive dust, water quality degradation, changes in water runoff due to alterations in topography, increased erosion and sediment transport, inadvertent secondary toxicity to native wildlife from anticoagulant rodenticides used for pest control, and the spread of noxious weeds. Increased lighting during low-light periods and noise can cause some species to leave the area and can disrupt foraging, breeding, or other activities. Many insects are drawn to light, and species that prey on insects, such as bats, may be attracted to lighted areas which would increase the potential for disturbance or mortality. The following discussions address special-status species occurring or potentially occurring in the proposed Project area.

Special-Status Plants. No listed threatened or endangered plants have been documented on the site. The following special-status plants have been observed within the proposed Project site or adjacent areas (see Table 4.3-4):

- La Graciosa thistle (FE, ST, CRPR 1B.1): documented by historic occurrence on natural gas line route although now presumed extirpated;
- La Purisima manzanita (CRPR 1B.1): documented by historic CNDDDB occurrence within the proposed Project site, but not observed during recent surveys;
- Sand mesa manzanita (CRPR 1B.2): by historic CNDDDB occurrence within the proposed Project site, but not observed during recent surveys;
- Mesa horkelia (CRPR 1B.1): identified during recent surveys in the adjacent ERG West Cat Canyon Project, but not on the proposed Project site;
- Hoover's bent grass (CRPR 1B.2): documented by historic CNDDDB occurrence within the proposed Project site, but not observed during recent surveys;
- Curly-leaved monardella (CRPR 1B.2): observed in the adjacent ERG West Cat Canyon Project during recent surveys, but not on the proposed Project site;
- Straight-awned spineflower (CRPR 1B.3): fourteen distinct populations were identified within the proposed Project site, including ten within or immediately adjacent to the development footprint;
- Dune larkspur (CRPR 1B.2): identified during recent surveys on the proposed natural gas line route;
- Paniculate tarplant (CRPR 4.2): observed in the adjacent ERG West Cat Canyon Project during recent surveys, but not on the proposed Project site;
- Southern California black walnut (CRPR 4.2): identified during recent surveys on the proposed power-line route; and
- Small-leaved lomatium (CRPR 4.2): observed in the adjacent ERG West Cat Canyon Project during recent surveys, but not on the proposed Project site.

Direct impacts to special-status plants could include removal of plants and their habitat in the proposed disturbance footprint. Although none except straight-awned spineflower have been found in the proposed disturbance areas, suitable habitat (but unoccupied) for several species would be removed during construction. If any of these species are present in unsurveyed adjacent areas, indirect impacts from dust, weeds, sedimentation, and degradation of water quality could affect special-status plants. See Impact BIO-1 for a discussion of impacts from accidental oil spills and unanticipated oil seeps or surface expressions.

Vernal Pool Fairy Shrimp. Wet season protocol-level surveys were conducted on the proposed Project site in 2013/2014, and dry season surveys were conducted in the summer of 2014. All surveys on the site were negative for vernal pool fairy shrimp (see Table 4.3-6). However, vernal pools that have not been surveyed are present in the greater Cat Canyon Oil Field and surrounding areas. Direct effects to vernal pool fairy shrimp are not expected, but if present, fairy shrimp off-site could be subject to indirect effects primarily related to proposed Project runoff and sedimentation. Oil spills could directly affect vernal pool fairy shrimp if they occur within occupied habitat. Impact BIO-1 describes impacts from oil spills in more detail.

Monarch Butterfly. Small eucalyptus groves occur within the proposed Project site (near the southern boundary) and would be removed as part of proposed Project activities, but there is no evidence that monarchs roost there. Additional potential roost trees consisting of eucalyptus, Monterey pine, and others occur in the proposed Project site. MM BIO-12 requires appropriately timed surveys of any potential monarch butterfly roost trees that are proposed for removal. If a monarch roost is found, any impacts to the trees would be avoided until roosting is complete. Implementation of MM BIO-7, which

requires restoration of temporary impacts, BIO-8, which requires environmental monitoring, and BIO-12, which requires pre-construction surveys and avoidance of active monarch butterfly roosts, would reduce potential impacts to monarch butterfly habitat to less than significant (Class II).

California Tiger Salamander and California Red-Legged Frog. CTS individuals, including road-killed salamanders, have been documented along Foxen Canyon Road and Orcutt Garey Road, and a pond of unknown occupancy occurs just outside the southeastern Project boundary (pond SISQ-19). Presence is assumed and CTS could be present during the dispersal phase of its life cycle within the portion of the proposed Project area that falls within the 1.4-mile dispersal area from pond SISQ-19.

CRLF has been documented along the Sisquoc River as well as in the SCS Tracer Study Pond E, near the Study Area (see Figure 4.3-8). While CRLF is highly aquatic, it has been documented making overland movements of several hundred meters and up to one mile during a winter-spring wet season in Northern California (Bulger et al., 2003; Fellers and Kleeman, 2007) and 2,860 meters (1.8 miles) in San Luis Obispo County (Rathbun and Schneider, 2001). CRLF traveling along water courses exceeded these distances, particularly on nights with high humidity or precipitation. Therefore, both CTS and CRLF could be present in the proposed Project area during overland movements, especially during rainy weather, or in underground refugia, such as small mammal burrows, at any time of year.

During construction, individual CTS or CRLF making overland movements would be at risk for injury or mortality along proposed Project access roads and surface pad locations within the oil field, or could be entombed in any burrows that may be located within areas to be graded. During operation, CTS and CRLF could be hit by oil transport trucks or other Project vehicles on roads within the oil field and along the haul routes. The largest volume of traffic during operation would be from transport trucks. CTS or CRLF could also be subject to “take” if accidental oil spills or unanticipated seeps occur (see Impact BIO-1). Any take of the federally listed CTS or CRLF would be significant.

Other Special-Status Reptiles and Amphibians. Several special-status amphibians and reptiles could occur in the proposed Project footprint, including the following California Species of Special Concern: western spadefoot, coast range newt, silvery legless lizard, coast horned lizard, and coast patch-nosed snake (see Table 4.3-6). Western spadefoot has been documented in the Study Area on several occasions. Arroyo toad, federally listed as endangered and a California Species of Special Concern, is known from the Sisquoc River. The Study Area does not support typical habitat for the arroyo toad, but it could be subject to indirect effects if sedimentation or runoff from the proposed Project enters the Sisquoc River through the watershed, or if accidental oil spills or unanticipated oil seeps or surface expression occur (see Impact BIO-1). Direct effects to other special-status herpetofauna would be similar to those described for CTS and CRLF and could include crushing in burrows, on roadways, or in graded areas; entrapment within proposed Project excavations during construction; or entombment in burrows during earth-moving activities.

Special-Status and Native Birds. Native birds are protected under the California Fish and Game Code and MBTA (see EIR Section 4.3.2, Regulatory Setting). Most of these species have no other special conservation status. The proposed Project could also result in impacts to special-status birds, dependent on the behavior, seasonality, and habitat requirements of each species. CDFW watch-list birds and USFWS birds of conservation concern detected on site include southern California rufous-crowned sparrow, oak titmouse, California horned lark, and yellow-billed magpie. Golden eagle, a fully protected species in California, a USFWS Bird of Conservation Concern, and protected under the Bald and Golden Eagle Act, was also detected on site. A variety of other special-status birds have a high potential to occur on site (see Table 4.3-6).

The least Bell's vireo could breed in riparian habitats in the proposed Project area, including at Cat Canyon Creek. Protocol surveys were conducted at Cat Canyon Creek for the proposed Project with negative results. Least Bell's vireo is a state and federally listed endangered species, and impacts to breeding vireos would not be allowed outside of the context of take authorization under the federal and California ESA.

Vegetation throughout the proposed Project site provides suitable nesting and foraging habitat for numerous resident and migratory birds. Bird species diversity at the site is described in EIR Section 4.3.1.3 and in the proposed Project's Biological Survey Report (Appendix F). Neotropical migrants, resident passerines, and a variety of raptors occur. Noise and human activity during construction could disrupt foraging in and near the proposed Project footprint.

Many adult birds would flee from equipment during vegetation clearance, grading, trenching, and other noisy activities during the construction phase. However, nestlings and eggs would be vulnerable to impacts during construction, and are protected by the MBTA and Fish and Game Code Sections 3503 and 3513. If grading or vegetation removal were to occur during nesting season, bird nests including eggs or nestling birds could be directly impacted from crushing or removal of vegetation supporting the nest. Nests of ground-nesting birds such as killdeer and burrowing owl could be destroyed during grading and other ground-disturbing activities. Construction can indirectly cause nest failure if activities cause the parent bird(s) to leave the nest for extended periods of time. If eggs are present, flushing adults could knock eggs from the nest, or the eggs may not be incubated properly if adult birds spend extended periods away from the nest or abandon it entirely. Similarly, nestlings may starve or succumb to heat or cold if adults leave or abandon the nest.

Noise and vibration would occur from construction activities including vegetation removal, earth moving and grading, drilling, and trenching for pipeline installation. This can disturb birds (including the listed least Bell's vireo, if present) nesting in adjacent offsite areas, including riparian and wetland habitat at Cat Canyon Creek and various ponds in the vicinity. Loss of native birds or their nests, eggs, or nestlings would be significant absent mitigation.

Special-Status Mammals. Four bat species are recorded in the region in the CNDDDB (see Table 4.3-6). Of these, the hoary bat, the western red bat, and the pallid bat roost in trees. The fourth bat, the Yuma myotis, roosts in caves, rock crevices, and structures such as barns. Additional special-status and common bats could also occur. The oak woodland around and within the Study Area could provide habitat for tree-roosting bats. There are no caves, mines, or rock outcroppings that could provide roosting habitat in the proposed Project area.

The majority of adverse impacts to bat populations in the region result from disturbance of roosting or hibernation sites, especially where large numbers of bats congregate; physical closures of old mine shafts, which eliminates roosting habitat; elimination of riparian vegetation which is often productive foraging habitat; more general habitat loss or land use conversion; and agricultural pesticide use which may poison bats or eliminate their prey-base (Pierson and Rainey, 1998).

Bat life histories vary widely. Some species hibernate during winter, or migrate south. During the breeding season, bats generally roost during the day, either alone or in communal roost sites, depending on species. All special-status bats that could occur in the proposed Project site are insectivorous, catching their prey either on the wing or on the ground. Some species feed mainly over open water where insect production is especially high, but others forage over open shrublands. Both habitats are found in or adjacent to the Study Area (open water associated with agricultural ponds). Direct impacts to special-status bats would primarily be from loss of potential roosting or foraging habitat (see Impact BIO-2). Night lighting during nighttime drilling operations could attract insects that would, in turn, attract bats to areas where they

would be at risk for collision with Project equipment or crushing if they forage near the ground. Noise, vibration, and human activity could disrupt maternity roosts during the breeding season, if present. To date, no maternity roosts have been documented in or near the proposed Project disturbance area.

The American badger and San Diego woodrat are identified as California Species of Special Concern. The American badger is a grassland species that can be easily detected by its distinctive burrows. Badger sign was observed in the Study Area during 2014 surveys, and American badgers are likely distributed widely throughout open habitats in the region. The San Diego woodrat occupies rocky outcroppings with a sparse shrub layer. Woodrat middens of undetermined species were observed throughout the Study Area, but were considered likely to be those of the common big-eared woodrat (Appendix F). Direct impacts to badgers and woodrats could include mortality or injury from grading, trenching, and other ground-disturbing activity; destruction of burrows or nests during construction; and disturbance from noise, vibration, night lighting, and general human disturbance.

Impacts to special-status species would be significant absent mitigation. MM BIO-1 requires development and implementation of an Emergency Response Action Plan to mitigate impacts to habitat in the event of an oil or other hazardous materials spill. MMs BIO-2 through BIO-4 require a variety of measures for the protection of biological resources, including special-status species. These measures include worker environmental training, BMPs to minimize impacts to riparian and wetland areas, work area delineation to avoid indirect impacts in adjacent areas, requirements for temporary support areas to be only on previously disturbed areas, prohibition of wildlife feeding (to avoid drawing wildlife to the area that may prey on special-status species), prohibition of anticoagulant rodenticides, erosion and sedimentation control measures, and minimization of new light sources. MM BIO-5 requires weed control. MM BIO-6 provides detailed requirements to ensure protection of the onsite conservation lands in perpetuity. MM BIO-7 requires restoration and onsite preservation of impacted habitats at a 3:1 ratio, which includes sensitive species habitat. MMs BIO-8 through BIO-15 require biological monitoring; focused surveys for rare plants, CTS and CRLF, other special-status reptiles and amphibians, nesting birds, bat maternity colonies and hibernacula, American badger, and San Diego woodrat. These mitigation measures also require species-specific measures such as relocation out of harm's way (for non-listed species), exclusion fencing for CTS and CRLF, buffers around active birds' nests, passive relocation of badgers and woodrats, and compensation for significant impacts to rare plant populations. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. Implementation of MMs BIO-1 through BIO-5, BIO-7 through BIO-15, AQ-1a, and SGW-1 would reduce impacts to special-status species to less than significant (Class II).

Mitigation Measures

MM BIO-9 Biological Construction Monitoring. Prior to ground disturbance or other construction activities, a qualified wildlife biologist approved by the County and with permit authority granted by USFWS and CDFW to conduct surveys and handle (as applicable) the listed species that could occur shall:

- a. Conduct daily special-status species surveys immediately prior to construction activities and monitor during construction activities in the vicinity of habitats to be avoided.
- b. Monitor vegetation removal or ground-disturbing activities in all vegetated habitats (except for agricultural and disturbed/developed habitats). Once initial ground disturbance and vegetation removal is complete, monitoring frequency may be reduced to a minimum of weekly at that location while active construction work is occurring, unless otherwise required by species-specific mitigation measures or permit conditions.

- c. Flag special-status plants and habitats for avoidance prior to construction activities at each location.
- d. Inspect construction and sediment control measures, including fencing each work day during construction activities to ensure that sensitive species and habitats are not exposed to hazards.
- e. Relocate any special-status species observed during the pre-construction surveys out of harm's way into the nearest suitable habitat outside the disturbance area as appropriate, and in accordance with Project incidental take permits. Listed species may not be handled unless authorized through the context of an incidental take authorization from CDFW and/or USFWS, as applicable.
- f. Temporarily halt or redirect work to avoid impacts to special-status species or other protected biological resources.
- g. Provide a written report to the County, CDFW and USFWS if a dead or injured listed or other special-status wildlife species is observed on the proposed Project site. The report shall be delivered to the agencies within five calendar days and shall include the date, time of the finding or incident (if known), and location of the carcass and circumstances of its death (if known). The biological monitor shall, immediately upon finding the remains, coordinate with the onsite foreman to document the events that caused the mortality, if known, and implement measures to prevent future incidents. Details of these measures shall be included with the report. Species remains shall be collected and frozen as soon as possible (as allowable under applicable Incidental Take authorizations), and CDFW and/or USFWS shall be contacted regarding ultimate disposal of the remains.
- h. Coordinate with the County's permit compliance monitor(s) regarding proposed Project work schedules and locations, site inspections, and species handling.

PLAN REQUIREMENTS and TIMING: Surveys shall be conducted prior to any ground disturbances or vegetation removal. This condition shall be printed on all final construction, grading, and building plans.

MONITORING: P&D permit compliance staff/EQAP monitor will conduct regular inspections and shall receive and review periodic compliance status reports from the Owner/Applicant throughout all phases of the proposed Project.

MM BIO-10 Special-status Plant Surveys and Impact Mitigation. The Owner/Applicant shall implement the following measures to avoid, minimize, or offset the proposed Project's direct and indirect impacts to special-status plants. Although no state or federally listed threatened or endangered plants are expected on the site, nothing in the measure authorizes take or destruction of state or federally listed rare, threatened, or endangered plant species. If listed plants are identified on the site, the County shall be notified and the USFWS and/or CDFW shall be consulted prior to any activities that could affect the plants. Any listed plant shall be avoided pending the outcome of formal or informal consultation with USFWS and/or CDFW, as applicable, including issuance of incidental take authorization or a Biological Opinion.

- a. **Surveys.** Prior to initial ground disturbance at each proposed Project work-site location, including the natural gas pipeline and power line corridors, a County-approved, qualified plant ecologist or botanist shall conduct surveys for special-status plants

(State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants, County-designated sensitive plants, and CRPR 1, 2, 3, and 4 plants; see EIR Table 4.3-4) in all areas subject to ground-disturbing activity and the surrounding areas within 50 feet. Surveys are required in all currently vegetated areas that would be subject to ground disturbance or vegetation removal. The surveys shall be conducted during the appropriate blooming period(s) according to protocols established by the USFWS, CDFW, and California Native Plant Society (CNPS). Surveys conducted during a water year (October 1 through September 30) of average rainfall (15.20 inches, measured at the Sisquoc Fire Station) or greater shall be valid for a period of three years. If vegetation removal or initial site disturbance in a surveyed area does not occur within three years, surveys shall be repeated. For surveys conducted during water years of below-average rainfall, follow-up surveys must be completed during each subsequent flowering season prior to ground disturbance. Any occurrences of special-status plants found during surveys shall be fully described, mapped, and a CNPS Field Survey Form or written equivalent shall be prepared and submitted. The results of each rare plant survey shall be provided to the County in a report within three months of survey completion.

- b. Avoidance.** Prior to grading or vegetation removal at each new disturbance area, any populations of special-status plant species identified during the surveys (above) shall be protected and a disturbance-free buffer established around each population. The buffer shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including trampling, erosion, and dust. The size of the disturbance-free buffer depends upon the activities to be conducted in the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, physical and chemical characteristics of soils) that are identified by a qualified plant ecologist or botanist. The buffer for herbaceous and shrub species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, in coordination with the USFWS, CDFW, and County of Santa Barbara. Highly visible flagging shall be placed along the buffer area and remain in good working order during the duration of any ground-disturbing or vegetation removal activities in the area.
- c. Special-status Plant Salvage and Transplant Plan.** As part of the Habitat Restoration Plan identified under MM BIO-7 and under the supervision of a qualified biologist, the Owner/Applicant shall prepare and implement a rare plant salvage and transplant plan to reduce impacts to native sensitive plant species including straight-awned spineflower (CRPR 1B.3), dune larkspur (CRPR 1B.2), Hoover's bent grass (CRPR 1B.2), mesa horkelia (CRPR 1B.1), curly-leaved monardella (CRPR 1B.2), paniculate tarplant (CRPR 4.2), California prickly phlox (CRPR 4.2), small-leaved lomatium (CRPR 4.2), and southern California black walnut (CRPR 4.2) or any other special-status plants as determined by the County-approved biologist. The Habitat Restoration Plan shall include at minimum: (a) collection/salvage measures for special-status plants or seed banks, to retain intact soil conditions and maximize success likelihood; (b) details regarding storage of special-status plants or seed banks; (c) location of the proposed recipient site(s) within the Conservation Area, and detailed site preparation and plant introduction techniques; (d) time of year that the salvage and replanting or seeding

will occur and the methodology of the replanting; (e) a description of the irrigation, if used; (f) success criteria; and (g) a detailed monitoring and reporting program, commensurate with the Plan's goals. Performance standards for all plant salvaging shall include, but not be limited to, requiring that all plants salvaged and re-planted in restoration areas survive for at least five years, with replacement as needed. Replacement plants shall be monitored for five years of survival. The Plan shall be submitted to the County for approval at least 30 days prior to commencement of salvage activities.

PLAN REQUIREMENTS and TIMING: Implementation of the requirements of this measure shall be monitored by the Owner/Applicant's qualified biologist and submitted monthly (for pre-construction surveys), and annually (for Rare Plant Salvage and Transplant Plan) in reports to P&D.

MONITORING: P&D permit compliance staff and/or EQAP monitor shall conduct periodic site inspections during construction and shall review all reports submitted by the Owner/Applicant Biologist.

- MM BIO-11 Pre-Construction Surveys and Avoidance Measures for Special-Status Reptiles and Amphibians, including CTS and CRLF.** The Owner/Applicant shall retain a qualified biologist with permit authority granted by USFWS and CDFW to conduct focused surveys for all special-status reptiles and amphibians, including CTS and CRLF, immediately prior to vegetation removal and grading (within 24 hours before vegetation removal or ground disturbance). Surveys shall be conducted within the work area and surrounding 100-foot buffer. If non-listed special-status reptiles or amphibians are found, the biologist shall relocate the animals to a safe location outside the proposed Project disturbance area in suitable habitat. Listed species such as the CTS and CRLF shall not be handled or harassed, and shall be avoided, unless relocation is authorized through incidental take authorizations by the USFWS and CDFW. The Owner/Applicant's biologist shall coordinate all surveys and monitoring activities with the County's EQAP monitor. For the two listed species, CTS and CRLF, the following additional survey requirements will apply.
- a. Following rain events when 0.5 inch or greater has fallen within 24 hours, the qualified biologist shall survey all work areas before the start of the day's work activities. These surveys are in addition to the clearance surveys conducted prior to initial construction or ground disturbance in a work area described in MM BIO-9. Surveys are required in all work areas and in the surrounding 500-foot buffer. Proposed Project construction work, including trenching and boring activities associated with the natural gas pipeline installation, shall be suspended when rain events are forecast in order to prevent take of listed species and for worker safety. Following rain events, all vehicles and equipment shall be escorted by the qualified biologist or EQAP monitor and limited to 5 miles per hour with drivers advised to carefully look for and avoid vehicle strikes on any amphibians or wildlife species that may be dispersing on the roads. The 5-mile-per-hour speed limit shall apply as long as ground surfaces remain damp, under the direction of the biologist.
 - b. If any CTS or CRLF are observed on the site, work shall be halted and the USFWS and CDFW shall be contacted to determine the approach to continuing work. Work shall not resume until approval by those two agencies is provided to P&D.

- c. A full-time biological monitor shall monitor all vegetation clearing and initial site grading to at least the upper 18 inches of soil except in previously disturbed and compacted soils. The biologist shall also monitor grading, trenching, and installation for all pipelines.
- d. For all proposed Project work during the wet season (typically November 1 through April 30), the following measures to avoid impacts to CTS and CRLF shall be implemented:
 - 1. **Work area delineation.** Where initial site disturbance will occur in currently undisturbed habitat within 1.4 miles of ponds SISQ-1, SISQ-9w, and SISQ-9e, work areas shall be fenced or marked with highly visible material (e.g., orange vinyl mesh construction fencing) to prevent equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist shall assist in determining the boundaries of the area to be fenced in consultation with the USFWS, CDFW, and the County. All workers shall be advised that equipment and vehicles must remain within the fenced work areas.
 - 2. **Exclusion fence.** The authorized biologist shall direct design and installation of exclusion fencing at active work areas along the natural gas pipeline within 1.4 miles of ponds SISQ-9w and SISQ-9e, and monitor fence condition at least weekly and within 24 hours of storm events to ensure it remains intact. The biologist shall perform or direct any required repairs to exclusion fencing. Fencing to exclude CTS and CRLF shall be at least 24 inches in height. Exclusion fencing may be removed once excavations are backfilled and the area restored.
 - 3. The authorized biologist shall direct the installation of the exclusion fence and conduct a minimum of three nocturnal surveys to identify any CTS or CRLF within the fenced area. If CTS or CRLF are observed at any time in fenced areas, no activity shall occur in the fenced area and the authorized biologist shall consult with the USFWS and the County. No handling of CTS or CRLF is authorized without take authorization from the USFWS and CDFW (as applicable).
 - 4. If CTS or CRLF are found in any work area, whether fenced or not, work shall cease and the authorized biologist shall notify the CDFW, USFWS, and the County. The authorized biologist shall consult with USFWS, CDFW, and the County as to the need for additional surveys or fencing and shall ensure such surveys/fencing are implemented as authorized by these agencies.
 - 5. All proposed Project activities, including vegetation clearing and initial site grading activities for proposed Project construction that may occur immediately adjacent to potential breeding pools or other areas where CTS or CRLF may congregate shall be conducted in accordance with proposed Project incidental take authorizations.
 - 6. The authorized biologist shall have the authority to stop all activities until appropriate corrective measures have been completed.
 - 7. If a CTS or CRLF is found during any surveys or during construction, all construction work shall cease in that area and the CDFW and USFWS shall be contacted. Following notification to CDFW and USFWS, the CTS shall be relocated pursuant CDFW/USFWS requirements and in accordance with proposed Project incidental take authorizations to a nearby burrow beyond the disturbance footprint. Exclu-

sion fencing shall be installed at the work area (if not already present) to prevent the animal(s) from re-entering active construction zones.

PLAN REQUIREMENTS and TIMING: The qualified biological monitor shall submit documentation of implementation of the requirements of this measure to P&D for review, including monthly monitoring reports documenting pre-construction surveys and implementation of protective measures such as exclusion fencing. The biologist shall notify the USFWS, CDFW, and the County within 24 hours of the observation of listed species. Monthly and final reports identifying the number of non-listed animals moved, any mortality identified during relocation, and the general health of the species shall be completed and submitted to the County during all proposed Project phases.

MONITORING: P&D permit compliance staff and/or the EQAP monitor shall conduct periodic site inspections during construction and shall review all reports submitted in accordance with this measure for satisfactory implementation of the required avoidance measures.

MM BIO-12 Pre-Construction Surveys and Impact Avoidance Measures Monarch Butterflies. The Owner/Applicant shall retain a County-approved, qualified butterfly surveyors familiar with standard roost-locating techniques. Surveys for wintering monarch butterflies shall be conducted in suitable habitat (Eucalyptus groves) prior to any tree removal between October 1 and March 30. Qualifications of the biologists shall be submitted to the County for approval. Surveys shall be conducted in accordance with the following guidelines:

- a. Surveys shall cover all potential monarch butterfly winter roosting habitat within disturbance areas and within a 500-foot buffer of these areas.
- b. Surveys shall be conducted no more than 3 days prior to the start of vegetation removal or ground-disturbing activity in previously undisturbed areas.
- c. If active monarch butterfly colonies are detected during the survey, the Owner/Applicant shall map each colony and establish a disturbance-free buffer within which no proposed Project activities may occur until the butterfly roost is no longer active as documented and confirmed by the authorized biologist. The size of the disturbance-free buffer shall be determined by the authorized biologist, and shall depend on the species' tolerance to human activity, location of the colony relative to the work area, any vegetation or other materials that may screen the nest from noise and view of work, the nature of the work (e.g., heavy equipment use vs. hand tools), and any other pertinent information. Buffer sizes shall be a minimum of 100 feet.
- d. Prior to the start of any new proposed Project-related ground disturbance activities, the authorized biologist shall provide the County a report or memorandum describing the findings of the colony surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of all butterfly species observed. If active monarch colonies are detected during the surveys, the report shall include descriptions of avoidance zones and methods used to determine avoidance zones and maps or aerial photos identifying colony locations and the boundaries of no-disturbance buffer zones.
- e. The authorized biologist shall monitor active monarch butterfly colonies no less than twice per week until the butterflies have dispersed for the season. Activities that

might, in the opinion of the authorized biologist, disturb roosting shall be prohibited within the buffer zone until such a determination is made.

- f. Throughout the construction and operation phases of the proposed Project, monarch colony locations, proposed Project activities in the vicinity of the colonies, and any adjustments to buffer areas shall be described and reported in monthly and final monitoring reports to the County.

PLAN REQUIREMENTS and TIMING: The Owner/Applicant's qualified biologist shall ensure proper implementation in the field of the measures required herein. The Owner/Applicant's monitor shall provide prior notification to P&D permit compliance staff of the dates and times of pre-construction surveys and shall provide written reports to P&D as described above.

MONITORING: P&D and/or EQAP monitor shall conduct site inspections prior to and during construction.

MM BIO-13

Pre-Construction Surveys and Impact Avoidance Measures for Migratory and Nesting Birds. The Owner/Applicant shall retain a County-approved, qualified avian biologist to conduct pre-construction surveys and monitor active nests during construction. Surveys for nesting birds shall be conducted prior to any vegetation removal or initial ground disturbance that will occur during the breeding period (from January 15 through August 31). The authorized biologists conducting the surveys shall be experienced bird surveyors and familiar with standard nest locating techniques. Qualifications of the biologists shall be submitted to the County for approval. Surveys shall be conducted in accordance with the following guidelines:

- a. Surveys shall cover all potential bird nesting habitat within disturbance areas and within a 500-foot buffer of these areas.
- b. Surveys shall be conducted no more than 3 days prior to the start of vegetation removal or ground-disturbing activity in previously undisturbed areas.
- c. If active nests are detected during the survey, the Owner/Applicant shall map each nest and establish a disturbance-free buffer within which no proposed Project activities may occur until the nest fledges or fails, as documented and confirmed by the authorized biologist. The size of the disturbance-free buffer shall be determined by the authorized biologist, and shall depend on the species' tolerance to human activity, location of the nest relative to the work area, any vegetation or other materials that may screen the nest from noise and view of work, the nature of the work (e.g., heavy equipment use vs. hand tools), and any other pertinent information. Buffer sizes shall be a minimum of 100 feet for non-raptor species and 500 feet for raptors.
- d. On a case by case basis, if the recommended nest avoidance buffer zones are not feasible, non-disturbance buffer zones shall be established by the qualified biologist based in consideration of the line of sight from the nest to the worksite, the nesting bird's behavior, existing and Project-related background disturbance levels, or other biological or physical attributes. Continuous monitoring of the nest site by a qualified biologist shall occur during disturbance activities, and a nest observation log shall be updated once per hour during construction activities. If the monitoring biologist determines nesting activities may fail as a result of work activities, all work shall cease (except access along existing roadways) within the recommended avoidance area

until the biologist determines the adults and young are no longer reliant on the nest site. A site-specific nest protection plan shall be submitted to the County P&D and CDFW for review and approval if additional nest protection measures are determined necessary by the monitoring biologist.

- e. Prior to the start of any new proposed Project-related ground disturbance activities, the authorized biologist shall provide the County a report or memorandum describing the findings of the nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed. If active nests are detected during the surveys, the report shall include descriptions of avoidance zones and methods used to determine avoidance zones and maps or aerial photos identifying nest locations and the boundaries of no-disturbance buffer zones.
- f. The authorized biologist shall monitor active nests colonies no less than twice per week until nestlings have fledged and dispersed,. Activities that might, in the opinion of the authorized biologist, disturb nesting activities shall be prohibited within the buffer zone until such a determination is made.
- g. Throughout the construction and operation phases of the proposed Project, nest locations, proposed Project activities in the vicinity of nests, and any adjustments to buffer areas shall be described and reported in monthly and final monitoring reports to the County.
- h. Construction activities within 500 feet of riparian habitats along the natural gas pipeline alignment will be conducted outside of the breeding season for least Bell's vireo (April 10 through July 31, per USFWS survey protocol). If avoidance during the breeding season is not feasible, USFWS protocol surveys for least Bell's vireo shall be conducted in suitable habitat. If breeding least Bell's vireos are identified, a 500-foot buffer will be established around each territory. This buffer may be adjusted in coordination with USFWS, CDFW, and the County, provided that the 60-dBA noise threshold will not be exceeded within the active territory.

PLAN REQUIREMENTS and TIMING: The Owner/Applicant's qualified biologist shall ensure proper implementation in the field of the measures required herein. The Owner/Applicant's monitor shall provide prior notification to P&D permit compliance staff of the dates and times of pre-construction surveys and shall provide written reports to P&D as described above.

MONITORING: P&D and/or EQAP monitor shall conduct site inspections prior to and during construction.

MM BIO-14 Maternity Colony or Hibernaculum Surveys and Avoidance Measures for Sensitive Bats. Any necessary removal of potential bat roost habitat (i.e., large trees, snags, or rockpiles with interstitial crevices that are outside of existing disturbance areas) shall occur between September 1 and October 31 to the extent feasible to avoid potential impacts to bat maternity or hibernation roosts. If the September 1 to October 31 work window is not feasible, pre-disturbance bat roost surveys shall be conducted by a County-approved qualified biologist. The qualified biologist must hold appropriate permits from the CDFW to handle bats and conduct roost evictions. No more than 15 days prior to vegetation removal or initial site disturbance in previously undisturbed areas, the qualified biologist shall conduct surveys for sensitive bats within 300 feet of proposed disturbance areas. If

hibernacula (hibernation roosts) or maternity roosts are found, no work shall occur within 100 feet during the hibernation period (November 1 to March 31) or breeding season (March 1 to July 31), as applicable.

If non-breeding bat roosts are found in snags, rock piles, trees or other substrate scheduled to be removed, the bats shall be safely evicted, under the direction of the qualified biologist and in coordination with CDFW, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures are sufficiently warm for bats to exit the roost because bats do not typically leave their roosts daily during winter months in southern coastal California. This action is intended to allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified biologist shall first be disturbed at dusk by various means at the direction of the bat biologist to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day. There shall be no less or more than one night between initial disturbance and the grading or tree removal.

PLAN REQUIREMENTS and TIMING: The qualified biologist shall conduct surveys for sensitive bats within 300 feet of proposed disturbance areas and shall report results of the surveys to P&D. The biologist shall inform P&D and CDFW of the need to evict any sensitive bats prior to implementing the evictions and shall monitor and report the results of such evictions to P&D and CDFW.

MONITORING: P&D permit compliance staff and/or the EQAP monitor shall conduct periodic site inspections during construction and shall review all reports submitted by the qualified biologist.

MM BIO-15

Focused Surveys and Avoidance Measures for American Badger and San Diego Woodrat.

No more than 30 days prior to the commencement of vegetation clearing or grading in previously undisturbed areas, the Owner/Applicant shall retain a County-approved, qualified biologist to conduct surveys for American badger and San Diego woodrat within native vegetation and annual grasslands in the proposed disturbance area. If present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den. Woodrat middens shall be flagged and protected by a minimum 10-foot disturbance-free buffer. Maternity badger dens shall be avoided during pup-rearing season (15 February through 1 July) and a minimum 200-foot disturbance-free buffer established. The extent of buffers shall be flagged in the field utilizing a method highly visible by construction crews. Buffers may be modified in coordination with the CDFW. A biological monitor shall monitor for adequate protection of all identified dens and middens and to ensure that all flagging is kept in place during new vegetation removal and initial ground-disturbing activities during the construction phase.

If avoidance of an occupied, non-maternity badger den is not feasible, badgers shall be relocated in coordination with the CDFW and the biological monitor. If avoidance of an occupied woodrat midden is not feasible, the qualified biologist shall relocate the midden as follows: (1) all understory vegetation shall be cleared in the area immediately surrounding active midden followed by a period of one night without further disturbance to allow woodrats to vacate the midden; (2) each occupied midden shall then be disturbed

by a qualified wildlife biologist until all woodrats leave the nest and seek refuge off-site; and (3) the nest sticks shall be removed from the proposed Project site and piled at the base of a nearby hardwood tree (preferably a coast live oak or California walnut). Relocated nests shall not be spaced closer than 100 feet apart, unless a qualified wildlife biologist has determined that a specific habitat can support a higher density of nests.

A written report documenting all badger-related activities (e.g. den flagging, monitoring, badger removal) and all woodrat nests flagged or relocated shall be provided to the County of Santa Barbara within 30 days of completion of the activities. A copy of the report shall also be provided to the CDFW.

PLAN REQUIREMENTS and TIMING: The biologist shall conduct surveys prior to the commencement of vegetation clearing or grading and shall submit the written reports to P&D and CDFW.

MONITORING: P&D permit compliance staff and/or the EQAP monitor shall conduct periodic site inspections during construction and shall review all reports for satisfactory implementation of the required mitigation measures.

Impact BIO-4: Proposed Project construction has the potential to result in a net loss or permanent change in the extent or functional value of sensitive vegetation communities and loss of individual oak trees.

Sensitive vegetation communities in the proposed Project footprint include western rush marshes, red willow thickets, arroyo willow thickets, California walnut, coast live oak woodland, and California coastal scrub. Table 4.3-8 details temporary and permanent impacts to sensitive vegetation.

Oaks and Oak Woodlands. Oak trees and the woodland habitats they constitute provide important habitat values for many wildlife species, including listed species and other special-status species (Padre, 2017b). Construction and restoration of the access roads and well pads, as well as associated buildings and features, would have a direct impact on oak trees and oak woodlands (Table 4.3-7). The proposed Project includes the removal of approximately 1,500 oak trees with a diameter at breast height (dbh) of six (6) inches or larger, primarily located within the 29.2 acres of oak woodland that would be directly affected (see Figure 4.3-4). Trees that do not need to be removed for proposed Project construction may still be directly impacted by trenching and grading activities that could cut through root zones or compact soils around trees. In addition, many coast live oak trees with branches overhanging roads and well pads would need to be pruned back to allow access for oil rigs and equipment. Greater than 25 percent loss of canopy on any one tree would constitute removal. Removal of individual oak trees would fragment oak woodland habitat breaking up the tree canopy, reducing the ecological functions and habitat value.

The Santa Barbara County Environmental Thresholds and Guidelines Manual (2008), Section 6.D.4.b provides impact assessment guidelines for oak woodlands and forest habitat areas and states, "Project-created impacts may be considered significant due to changes in habitat value and species composition such as the following: (1) habitat fragmentation, (2) removal of understory, (3) alteration to drainage patterns, (4) disruption of the canopy, and (5) removal of significant number of trees that would cause a break in the canopy or disruption in animal movement in and through the woodland."

Section 6.D.5. provides impact assessment guidelines for individual native trees and states,

- a. *Description. Native specimen trees, regardless of size, are potentially significant [...].*
- b. *Definition. Specimen trees are defined, for biological assessment purposes, as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species.*

- c. *Native Tree Impact Assessment. In general, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant.*

The coast live oaks on the site meet the above criteria as “specimen trees” subject to the County guidelines. Although the proposed Project would remove 6.5 percent of trees on the site (fewer than 10 percent as identified in the guidelines), the proposed Project’s effects would be substantial, due to the large number of trees removed or damaged, as well as the widespread landscape-level pattern of direct and indirect effects to oak trees and woodlands throughout the extensive proposed Project site. There would be habitat fragmentation, disruption of the canopy, and disruption of animal movement in and through the woodland.

There would also be indirect impacts to oak woodland habitat within and adjacent to the proposed Project site during construction and operation including noise and vibration, night lighting, dust, potential spread of nonnative and invasive weeds, potential spread of pathogens (sudden oak death), erosion, and oil spills. Additionally, excessive fugitive dust could reduce photosynthetic capacity in plants over time and inhibit reproduction by physically coating reproductive structures or excluding insect pollinators, thereby degrading habitats that special-status species depend on for survival. Most of these indirect impacts are described under Impacts BIO-1 and BIO-2.

An additional indirect impact that could affect proposed Project site oaks is Sudden Oak Death (SOD – *Phytophthora ramorum*). *Phytophthora ramorum* is a plant pathogen that causes SOD in several oak tree species, including coast live oak, and also causes twig and foliar diseases in many other plant species. *Phytophthora ramorum* is a type of water mold that produces spores in moist environments and can be spread by water, wind-driven rain, plant material, soils, or human activity (COMTF, 2018). SOD has been documented throughout much of the coastal and Sierra Nevada regions of northern and central California, (including Monterey County) but is not currently known from Santa Barbara County. Nonetheless, construction equipment and activities have the potential to introduce and spread SOD in the proposed Project area. Contaminated soils on equipment and vehicles that are not cleaned properly could introduce the pathogen to the proposed Project area. Also, imported soil and soil from nursery plants that is contaminated with the pathogen could infect the proposed Project area.

The Applicant has proposed AMMs including an Oak Tree Protection Plan (Padre, 2017c) and an Oak Tree Replacement Plan (Padre, 2017b) (Appendix G). A permanent Conservation Easement of up to 686.5 acres is also proposed for a portion of the eastern side of the proposed Project area where no surface oil production activities are proposed. Based on the proposed Project’s anticipated impacts, the acreage of the conservation easement is estimated as 686.5 acres. However, the acreage could be reduced if the Project’s impacts are reduced through an alternative design. The Conservation Easement would be used to provide mitigation area for unavoidable proposed Project impacts, and to provide conservation, educational, and recreational opportunities for the Santa Barbara County community. Currently, the proposed Conservation Area supports 127.7 acres of existing oak woodland and the Oak Tree Replacement Plan estimates that it has the potential to support an additional 247.2 acres of created oak woodland. Presuming a maximum of 9,024 replacement oak trees (at the 6:1 replacement ratio identified in Mitigation Measure 17b) and successful replanting of oaks throughout the estimated 247.2 acres of suitable habitat, total oak density within the created woodland areas would be approximately 37 trees per acre, or spacing trees about 35 feet apart. Thus, the available acreage within the proposed Conservation Area is sufficient to support the replacement trees.

- **Oak Tree Protection Plan.** As proposed by the Applicant, the current Oak Tree Protection Plan addresses oak trees that are within proximity of the proposed Project grading and construction areas that are not planned for removal. The Plan is intended to protect oak trees during construction activities

and include the following: defining oak tree protection areas and installing fencing and signage, locating storage and staging areas outside of oak tree protection areas, documenting and replacing unexpected tree removals or extensively damaged trees, grading in a manner that does not cause ponding and ensuring that there is proper drainage for nearby oaks, protecting oaks within 25 feet of buildings from stucco and/or paint splatter, maintaining a 6 foot buffer from the drip line of oaks for landscaped irrigation, minimizing trimming of oak tree limbs and arborist oversight, protecting sensitive root zones, treating cut roots properly under direction of certified arborist and/or licensed pest control applicator, and an environmental sensitivity orientation for workers. Monitoring of any damaged trees is also proposed for a period of seven years to assess health.

- **Oak Tree Replacement Plan.** As proposed by the Applicant, the current Oak Tree Replacement Plan addresses the replacement of the 1,500 coast live oaks that would be removed by the proposed Project. The replacement coast live oak trees would be planted within the proposed conservation easement (east of Long Canyon Road) in locations defined as the Potential Oak Planting Area and deemed suitable to support oak woodland habitat based on soil types, aspects, and slope ranges. The primary approach for oak tree mitigation would be the on-site planting of locally-sourced replacement acorns (10:1), saplings from locally-sourced acorns (3:1), or salvaged mature trees (1:1), and the nurturing of existing oak saplings within the conservation easement (10:1). The Plan is general and states that more detailed landscape plans would be developed for each location identified in the Plan for replacement planting and would include details for the planting layout, irrigation, mulch, and protective cages and/or fencing. The Plan also acknowledges the impacts to oak woodland habitat, as well as individual oak trees, and proposes to restore approximately 3 acres of oak woodland habitat for every acre impacted.

The Oak Tree Protection Plan and the Oak Tree Replacement Plan provide the basis for mitigation of the proposed Project's impacts to oak trees and oak woodlands. The Applicant's existing Oak Tree Protection Plan does not include information about how exposed or cut roots will be treated, an inventory of oak trees that are likely to necessitate trimming or root protection from proposed Project construction or operations, and a detailed monitoring plan to track health and survival of all impacted trees for 7 years. Additional or supplemental mitigation measures are identified below that require detailed information about performance standards addressing both short- and long-term objectives, Maintenance and Monitoring Program, and Adaptive Management Plan.

Other Sensitive Vegetation. Native grasslands are considered rare in both the State and the County. Grasslands mapped on the proposed Project site are heavily dominated by non-native species, with only minimal cover of native grasses (Section 4.3.1.3). Therefore, none of the annual grasslands were considered native grassland. Nonetheless, grasslands in Santa Barbara County provide habitat for a variety of rare species including the CTS. Approximately 53.6 acres of annual grassland would be directly impacted by proposed Project implementation, of that approximately 29.5 acres would be permanent impacts (Table 4.3-7).

Approximately 184.5 acres of coastal sage scrub would be removed for proposed Project development. For reference, 18 percent of the approximately 1,026 acres of coastal sage scrub habitat mapped within the proposed Project site would be directly impacted. Of this, 96.3 acres (9.4 percent) of impacts would be permanent. This habitat provides a unique vegetation structure and set of foraging resources that supports a variety of wildlife and sensitive plants. Coastal sage scrub has experienced rapid decline in the past decade from increasing development of coastal areas within southern California and frequent fires causing type conversion to non-native annual grasslands. It is considered a sensitive vegetation type by the CDFW and the County.

Riparian habitats, including ephemeral and perennial streams, are biologically productive and diverse, and are the exclusive habitat of several threatened or endangered wildlife species and many other special-status species. Riparian and wetland habitats are highly productive ecosystems that also provide drinking water sources and foraging, nesting, and cover habitat for a diverse assemblage of wildlife species, both within the riparian habitats and adjacent upland habitats. Many wildlife species are wholly dependent on riparian habitats throughout their life cycles, and many others use riparian habitats only during certain seasons or life history phases. For example, certain mammals require drinking water or cool, shaded cover during summer but otherwise may live in upland habitats. Numerous amphibians breed in aquatic habitats but spend most of their lives in uplands. Direct impacts to riparian vegetation at the proposed Project site would be limited to the three proposed access road crossings of Cat Canyon and Long Canyon Creeks. These crossings would temporarily impact a total of 0.17 acres of riparian vegetation, with a total of 0.11 acres of permanent impacts (Padre, 2017a). Indirect impacts to native vegetation communities could include alterations in existing topography and hydrology regimes, the accumulation of fugitive dust, disruptions to native seed banks from ground disturbance, and the colonization of non-native, invasive plant species.

Ongoing operations and maintenance impacts would occur during routine inspection and maintenance of the proposed Project facilities including access road and pipeline repairs and maintenance. These impacts could include trampling or crushing vegetation by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence.

Impacts to sensitive vegetation would be significant absent mitigation. MMs BIO-1 through BIO-8 require a variety of measures for the protection of biological resources, including sensitive vegetation. MM BIO-1 requires development and implementation of an Emergency Response Action Plan to mitigate impacts to habitats in the event of an oil or other hazardous materials spill (see discussion under Impact BIO-1 for more information about potential spills). MM BIO-2 includes requirements for temporary support and staging areas to be only on previously disturbed areas, erosion and sedimentation control measures, and measures to minimize the potential spread of sudden oak death and other pests. MM BIO-3 requires best management practices to minimize impacts to riparian and wetland areas during construction and routine operations. MM BIO-4 requires worker environmental training. MM BIO-16a requires an Oak Tree Protection Plan to guide activities (including trenching) near oak trees. Any tree damaged to the extent that it will not survive would be replaced according to the requirements of the separate Oak Tree Replacement Plan (MM BIO-16b). Measures BIO-16a through BIO-16d include implementation of the Oak Tree Protection Plan and Oak Tree Replacement Plan as well as monitoring by a qualified arborist/biologist, and avoidance measures to prevent introduction or spread of SOD. MM BIO-5 requires weed control, MM BIO-6 provides detailed requirements to ensure protection of the onsite conservation lands in perpetuity, and MM BIO-7 requires restoration of temporarily impacted areas and habitat compensation for impacts to vegetation, including sensitive and listed species habitat. Habitat compensation or restoration would occur at a 3:1 ratio for all habitats except disturbed and developed areas (see discussion under Impact BIO-2). MM BIO-8 requires an independent environmental monitor to ensure implementation of all required mitigation is occurring throughout proposed Project development. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. **Implementation of the recommended mitigation measures would reduce impacts to most sensitive vegetation to less than significant (Class II).**

The proposed removal of coast live oak trees would result in significant oak tree and oak woodland habitat loss. Oak trees are very slow to regenerate, especially in areas of low annual rainfall. Oak restoration efforts have been challenging across the state and it is not an easy or guaranteed endeavor. Even with

tree replacement and the proposed conservation easement, there is a temporal habitat loss that would take several decades, and possibly longer, to replace the habitat value and ecological functions that would be lost to proposed Project development. Some habitat components of mature woodlands, such as large tree cavities suitable for mammal dens or owl nests, may take even longer to replace. The Applicant proposes to remove 1,004 trees (13.4 acres of oak woodland) during the first year and to remove the remaining 496 trees (8.3 acres of oak woodland) during the seventh year. If construction and restoration efforts began in 2018 and were successful, the loss of these oak woodlands would largely be replaced by about 2050 or later. However, there are many uncertainties in a long-term restoration project, such as climate change, disease, or fire, that may make efforts more difficult in the future. **Implementation of the recommended mitigation measures would reduce impacts to oak trees and sensitive species habitat; however, even with implementation of available feasible mitigation identified here, there would be a significant degradation and loss of oak trees and oak woodland habitat with the removal of 1,500 oak trees totaling 29.2 acres of oak woodland. In addition, there would be a significant net temporal loss and permanent change in the extent and functional value of oak woodland communities. Therefore, this is a Class I impact.**

Mitigation Measures

- MM BIO-16a Oak Tree Protection Plan.** The Owner/Applicant will prepare and implement an Oak Tree Protection Plan (OTPP), to be based on Applicant's existing OTPP (Padre, July 2017). The OTPP shall be revised by a P&D-approved arborist or biologist in order to protect all oak trees not slated for removal. All components of MM BIO-16d (Invasive Plant and Plant Pathogen Abatement) will apply to oak tree protection and related activities. The revised plan shall include the following, as well as any other P&D revisions and recommendations:
- a. Fencing of all trees to be protected at least 6 feet outside the dripline with chain-link (or other material satisfactory to P&D) fencing at least 3 feet high, staked to prevent any collapse, and with signs identifying the protection area placed in 15-foot intervals on the fencing.
 - b. Fencing/staking/signage shall be maintained throughout all grading and construction activities.
 - c. All trees located within 25 feet of buildings shall be protected from stucco and/or paint during construction.
 - d. No irrigation is permitted within 6 feet of the dripline of any protected tree unless specifically authorized.
 - e. The following are not permitted unless specifically authorized by P&D in advance. If authorized, the following will only be conducted by hand and under the direction of a P&D-approved arborist/biologist:
 1. Any trenching required within the dripline or sensitive root zone of any specimen.
 2. Cutting any roots of one inch in diameter or greater, encountered during grading or construction. If authorized, roots must be cut cleanly and treated as specified in the Oak Tree Protection Plan.
 3. Tree removal and trimming.
 - f. Special equipment: If the use of hand tools is deemed infeasible by P&D, P&D may authorize work with rubber-tired construction equipment weighing five tons or less.

If significant large rocks are present, or if spoil placement will impact surrounding trees, then a small tracked excavator (e.g., 215 or smaller track hoe) may be used as determined by P&D staff and under the direction of a P&D-approved biologist.

- g. Grading shall be designed to avoid ponding and ensure proper drainage within driplines of oak trees.
- h. If the P&D-approved arborist/biologist certifies that any oak or willow tree is damaged to such an extent that it will not survive, it shall be replaced as described in the final Native Tree Replacement Plan (see BIO-16b, below). If the approved arborist/biologist determines that 20 percent or more of the canopy or root area of a tree is removed or damaged, the tree will be presumed removed. The required mitigation shall be done under the direction of the qualified biologist and in consultation with P&D. Any performance securities required for installation and maintenance of replacement trees will be released by the County after its inspection and confirmation of satisfactory installation and maintenance.
- i. An inventory of oak trees that are likely to necessitate trimming or root protection from proposed Project construction or operations. This shall include all trees with “sensitive root zone” potentially within areas subject to grading, soil compaction, or irrigation, and all trees with canopies that may need trimming. The sensitive root zone for each tree shall be defined as the area extending from the base of the tree to a distance 1.5 times the radius of the tree’s canopy.
- j. Monitoring plan to track health and survival of all impacted trees for 7 years.

PLAN REQUIREMENTS: The OTPP shall include the elements listed above. Where applicable, required components relating to earth movement, construction and temporary or permanent protection measures shall be incorporated. **TIMING:** The Owner/Applicant shall submit the OTPP to P&D for review and approval prior to issuance of the Zoning Clearance. Plan components shall be included on grading plans prior to the issuance of grading permit(s). The Owner/Applicant shall install tree protection measures onsite prior to the initial pre-construction meeting and prior to grading and/or construction at each individual work site.

MONITORING: P&D compliance monitoring staff shall document that trees identified for protection were not damaged or removed or, if damage or removal occurred, that correction is completed as required by the OTPP.

MM BIO-16b Oak Tree Replacement Plan (OTRP) – Planned Removal and Unexpected Damage. The Owner/Applicant will prepare and implement an Oak Tree Replacement Plan (OTRP), to be based on Applicant’s existing OTRP (Padre, July 2017). The OTRP shall be revised by a P&D-approved arborist or biologist to mitigate for authorized or unexpected losses of native trees (oaks and willows). All components of MM BIO-16d (Invasive Plant and Plant Pathogen Abatement) will apply to oak tree replacement and related activities. The Plan shall, at a minimum, include the following components as well as any other P&D revisions and recommendations:

- a. Clarification of oak tree and oak woodland performance standards (i.e., quantitative success criteria) addressing both short- and long-term objectives for consistency with standards of (1) six self-sufficient coast live oak trees for each mature oak tree removed due to proposed Project activities, and (2) 3 acres of restored oak woodland

for each acre impacted. The numbers of planted acorns or nursery stock trees or numbers of “nurture” trees, shall clearly correspond to the 6:1 performance standard regarding self-sufficient trees at the end of the monitoring period, anticipating that not all acorns or plantings will be successful. Similarly, the planting patterns and other restoration techniques will clearly correspond to the 3:1 performance standard regarding woodland acreage.

- b. Detailed schedule (e.g., a Gantt chart) of all restoration activities, including obtaining plant propagules, issuing contracts, and performing all phases of planting and restoration work during the appropriate season². The schedule shall identify the responsible party for each task, and identify each “critical path” for successful restoration. The schedule will specify completion dates for each requirement, relative to application or issuance of grading permits.
- c. Description of existing oak woodlands, in terms of aerial extent, habitat diversity (structure, shrub/herb associates, wildlife use), sustainability (documentation of mortality, oak tree and associated shrub/herb health assessment), oak tree and associated shrub inventories/counts, densities (i.e., trees per acre) of oak trees and any co-dominant species, analysis of habitat functions and values as a basis for quantitative woodland performance standards.
- d. Explanation of the oak tree and oak woodland quantitative success criteria conformity to applicable county and state oak mitigation requirements.
- e. Replacement of damaged oak trees or those planned for removal shall occur at 10:1 ratio (acorns/saplings) or greater, to be planted and maintained in a manner that will yield the required 6:1 replacement rate³. Alternate ratios may be applicable for saplings (identified below), also planted and maintained in a manner that will yield the required 6:1 replacement rate. Replanting and mitigation tree locations will be shown on plans. The revised plan shall include a detailed planting methodology (including spacing among planted acorns or saplings) so that replacement acorns or saplings will result in the required 6:1 ratios.
- f. Nurture trees – As an alternative to tree replacement, for no more than five percent of mature oak trees removed, naturally occurring oak tree saplings between 6 inches and 6 feet tall may be protected and nurtured within the Potential Oak Planting Area or in areas of the proposed Project site unaffected by proposed Project disturbance, at a 10:1 ratio (i.e., 10 established sapling/nurture trees for one removed tree). Nurturing will only be applicable for seedling or sapling size oaks that would otherwise be vulnerable to damage or loss, not yet meeting criteria as “established,” and in suitable locations for establishment (e.g., not located beneath an existing closed canopy). Saplings selected for nurturing will be subject to County P&D approval.
- g. If using replacement trees rather than acorns, the nursery stock must be 15-gallon or larger size containers, with saplings grown from locally obtained seed at minimum 6:1

² Acorns should be collected in mid- to late summer for maximum viability; planting should occur after the onset of fall/winter rains and no later than late February.

³ Note that planting two viable acorns per hole, followed by culling to yield one live seedling per hole yields good establishment rates, but would necessitate at minimum 12 live acorns per removed tree, assuming 100% establishment.

ratio to yield six established self-sufficient trees for each mature tree removed (assuming 100 percent success). All replacement trees will be obtained from a nursery source certified free of SOD pathogen and free of gold-spotted oak borer and polyphagous shot-hole borer damage.

- h. Selected trees shall be boxed and transplanted if feasible. If a P&D approved arborist certifies that it is not feasible to replant the tree, it shall be replaced according to the Oak Tree Replacement Plan specifications. The revised Oak Tree Replacement Plan shall include an estimated survival likelihood for transplanted oaks, and specify a minimum 7-year monitoring period for health and vigor of transplanted trees, and shall include remedial measures for any transplanted trees that fail to become established.
- i. Detailed and quantitative description of viable acorn collection methods and seasonality; storage location, methods and conditions; inventory management methodology; and schedule. The description will specify the number of fertile acorns to be collected in August and September and stored pursuant to best practices (e.g. storage bags with vermiculite, checked weekly⁴), including a 20 percent allowance for anticipated non-viable acorns.
- j. Detailed and quantitative description of oak sapling production, nursery management, and the locations and capacity of contract nurseries.
- k. Identify suitable proposed Project site and conservation area locations for additional mitigation, including demonstration that oak planting would be feasible (in terms of habitat suitability, land ownership, and long-term control of the mitigation site).
- l. A detailed Maintenance and Monitoring Program and a detailed Adaptive Management Plan. The Maintenance and Monitoring Program shall include weed control techniques and strategies, necessary replacement planting activities, and monitoring (both qualitative horticultural/progress monitoring and quantitative success monitoring). The Maintenance and Monitoring Program shall also include information about how the habitat value and ecological function of the restoration area will be studied and specific success criteria. The Adaptive Management Plan shall describe the restoration approach and strategy.
- m. Criteria for demonstrating self-sufficiency of planted and nurtured trees, including a tree survival period of a minimum of two years without maintenance (e.g. irrigation) with demonstrable continued growth and absence of pests. Trees not meeting success criteria will be monitored for an additional 7 years following replanting or relocation.
- n. The trees shall be irrigated with drip irrigation on a timer until established (a period to be established by the P&D approved arborist). The trees shall be weaned off of irrigation over a period of two to three years.
- o. No permanent irrigation shall occur within the dripline of any native tree.
- p. All new and replanted trees shall be protected from predation by wild and domestic animals and from human interference by the use of staked, chain link fencing and gopher fencing during the maintenance period.

⁴ See <http://sactree.com/pages/346>, Storing Acorns.

- q. Restoration activities shall be performed by workers familiar with restoration work and supervised by a qualified restoration biologist/ecologist/environmental scientist or certified arborist. Contractors and subcontractors will be subject to County P&D review and approval, to be based on previous oak tree and oak woodland restoration projects.
- r. Detailed explanation of long-term conservation management of the oak planting and restoration site, including when (or if) the site will be transferred to a third-party manager and corresponding transfer of the proposed Project's mitigation and monitoring responsibilities (including potential remedial measures and subsequent monitoring and management). This section must be consistent with planned conservation management of the site as planned according to MM BIO-6.
- s. Detailed text description of the Pilot Study (identified in the July 2017 Plan) including planting locations, specifications, and schedule.
- t. For any proposed off-site oak tree planting or nurturing (i.e., areas outside the proposed Project area and proposed conservation easement), the revised Plan will identify potentially suitable sites and acreages and specify terms for long-term protection of those sites. Planting or nurturing trees in burned areas will only be acceptable if the burned areas are demonstrably failing to recover naturally from fire (i.e., failing to resprout from above-ground limbs or basal burls).
- u. Reporting requirements, including a schedule and content for progress reports. The reports must provide sufficient detail to document progress completed to date, and confirm that materials and contractors are available to complete each phase according to the approved restoration schedule.
- v. An appendix, containing the full text of applicable county or State oak mitigation requirements.
- w. **Guarantee.** As part of the contract price, the restoration contractor shall guarantee and maintain all work for a period of not less than seven years and extending beyond seven years for include seven of monitoring for any needed replacement oak plantings, and warrant that the Performance Standards specified above will be met. The contractor shall guarantee both workmanship and plant materials, replacing any and all plants that die at appropriate intervals, and maintaining such replacements until the minimum survival rate is achieved. In addition, a 100% survival rate over the first year is required. All plants dead at the end of each month during the year after planting shall be replaced immediately. The Owner/Applicant will provide a copy of the contractor's guarantee to the County for its review and approval.

PLAN REQUIREMENTS and TIMING: The Oak Tree Replacement Plan shall be based on the existing draft Plan and shall be updated by a P&D-approved biologist or arborist to incorporate the aforementioned conditions, and submitted to P&D for review and approval prior to issuance of the Zoning Clearance. The Owner/Applicant shall provide P&D a copy of the signed contract with the restoration contractor. The Owner/Applicant shall post a performance security to ensure installation and a minimum 5-year maintenance period for replacement trees prior to initial brushing or grading. The performance security shall be based upon the itemized plants within the aforementioned contract.

MONITORING: The contractor's guarantee will be subject to P&D review and approval. P&D compliance monitoring staff shall conduct periodic site inspections to monitor installation and maintenance of replacement trees. The performance security for installation may be released by the County upon satisfactory installation, as determined by P&D, of all items in the approved Plan and the maintenance security may be released upon successful implementation, as determined by P&D, of maintenance measures for the required period of time.

MM BIO-16c Onsite Arborist/Biologist. The Owner/Applicant shall designate a P&D-approved arborist/biologist to be onsite throughout all grading and construction activities which may impact native trees. The arborist/biologist's duties shall include the responsibility to ensure all aspects of the approved Oak Tree Protection Plan and Oak Tree Replacement Plan are carried out, and participation in the initial pre-construction meeting and subsequent pre-construction meetings, as needed. The name and contact information for the approved arborist/biologist shall be submitted to P&D prior to the initial onsite pre-construction meeting.

MONITORING: P&D compliance monitoring staff shall coordinate with the arborist/biologist and conduct site inspections as appropriate.

MM BIO-16d Invasive Plant Pathogen Abatement (SOD Prevention). An approved biologist will ensure that the spread or introduction of plant pathogens will be avoided to the maximum extent possible. To reduce the potential for spread of sudden oak death and other pests, all grubbed woody material shall be chipped, spread out to dry, and disposed of on site or at an appropriate facility. To minimize the unintended movement of host material, soil, and water from areas infested with *Phytophthora spp.* the following Best Management Practices will be implemented:

- a. In the event that there is a risk of infestation at any Work Area, establish a vehicle and equipment power wash station to remove potentially contaminated accumulations of soil, mud, and organic debris. The station should be located within the potentially infested area, paved or rocked, well-drained so that vehicles exiting the station do not become contaminated by the wash water, and sited where wash water and displaced soil does not have the potential to carry fines to a watercourse
- b. Prior to entry to any proposed Project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high-pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed).
- c. Compliance with the provision is achieved by demonstrating that the vehicle or equipment has been cleaned at a commercial vehicle or appropriate truck washing facility.
- d. The interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris (interiors may be vacuumed or washed).
- e. Footwear and small tools must be thoroughly cleaned and sanitized before moving to a new job site. Shoe soles must be free of debris and soil. (Water, a stiff brush, screw-driver or similar tool can be used to remove soil from shoe treads). Once soil or debris have been removed, an appropriate sanitizing agent of ethyl or isopropyl alcohol (at least 70% concentration) must be used to kill pathogen spores which may be present

on boot soles or tools (sanitizing agent may be applied by using spray bottles filled with alcohol to thoroughly wet the surface). Boot soles and hand tools must be sprayed with enough alcohol that surfaces are fully coated and wet. (Brushes and other implements used to help remove soil will be cleaned after use with alcohol.)

PLAN REQUIREMENTS AND TIMING: Conditions identified above shall be implemented for any soil-disturbing activities throughout the life of the proposed Project. The Owner/Applicant shall prepare a reporting format or log sheet for of all related compliance activities, to be submitted to the OTPP to P&D for review and approval prior to issuance of the Zoning Clearance. All SOD prevention activities will be included in monthly and final reports.

MONITORING: P&D compliance monitoring staff shall periodically inspect or verify on-site compliance and will review the monthly and final reports.

Impact BIO-5: Proposed Project construction and routine operations have the potential to adversely affect waters of the U.S. and waters of the state.

The Applicant completed a jurisdictional delineation to identify Waters of the U.S. on the proposed Project site (Padre, 2016; see Appendix F). Delineations of waters of the state and areas under the jurisdiction of CDFW were not assessed in the report, but impacts were addressed in the Notification of Lake or Streambed Alteration submitted to CDFW and Water Quality Certification application package submitted to the Central Coast RWQCB (November 2017; Padre, 2017a). Direct impacts would occur to the following federally and state jurisdictional features: Cat Canyon Creek and Long Canyon Creek.

Cat Canyon Creek is ephemeral and follows the western boundary of the proposed Project site. An existing entrance road to the site crosses Cat Canyon Creek and would be used during initial proposed Project construction. A new proposed Project site entrance would be constructed approximately 300 feet downstream of the existing entrance to accommodate two-way traffic. The new crossing would require installation of a culvert. Impacts would include 0.22 acres of temporary disturbance and 0.14 acres of permanent disturbance within the jurisdictional limits of Cat Canyon Creek, for a total of 0.36 acres (210 linear feet) of impact (Padre, 2017a).

Long Canyon Creek is an ephemeral creek that bisects the proposed Project site, running generally south to north. Two road improvements would directly impact Long Canyon Creek; these improvements include one culvert installation and one Arizona crossing. The Long Canyon Road Crossing #1 would include installation of a box culvert, resulting in 0.02 acres of temporary disturbance and 0.02 acres of permanent impacts, for a total of 0.04 acres (180 linear feet) of impacts to Long Canyon Creek (Padre, 2017a). The Long Canyon Road Crossing #2 would be an at-grade concrete crossing resulting in temporary impact of 0.02 acres and a permanent impact of 0.01 acres, with a total impact of 0.03 acres (150 linear feet) (Padre, 2017a).

Additional features identified during the jurisdictional delineation include two vernal pools, which the Applicant determined do not meet the federal definition of a wetland. However, Pool A meets the County of Santa Barbara's definition of a wetland, and would likely meet state definitions, pending final determination by RWQCB (see Section 4.3.1.3, Aquatic Habitats). This pool lies within the proposed Project development footprint and would be removed, resulting in 0.11 acres of direct impacts.

Indirect impacts would also occur to federal and state jurisdictional features. These impacts could include alterations to the existing topographical and hydrological conditions, sediment and runoff deposition, and the introduction of non-native, invasive plant species could occur during construction and operation.

Proposed Project operation could result in spills of hazardous materials due to geologic hazards, mechanical failure, structural failure, corrosion, or human error. Such spills could potentially result in water quality impacts to creeks and shallow groundwater; see discussion under Impact BIO-1 (A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on native species and habitats, special-status species and their habitats, and sensitive vegetation communities).

The proposed Project would temporarily or permanently impact a total of 0.43 acres of jurisdictional wetland and riparian habitat. The Applicant would comply with the state and federal regulations regarding jurisdictional waters. As such, it would obtain any required permits pursuant to Section 401 and 404 of the CWA, the State Porter-Cologne Act, and the Lake and Streambed Alteration Agreement (LSAA) program under California Fish and Game Code Section 1600 (as specified under AMM BIO-1, Agency Permitting). The Applicant is coordinating with the Central Coast RWQCB, USACE, and CDFW regarding permits for these impacts (see Padre, 2017a). To mitigate for impacts to jurisdictional waters, the Applicant proposes a Conceptual Wetland Restoration Plan (see Appendix F-6). As part of the Conceptual Wetland Restoration Plan, the Applicant proposes restoration of Cat Canyon Creek between the existing crossing and the proposed new crossing. The riparian corridor and creek channel within this stretch of Cat Canyon Creek have been disturbed by past land use practices and high-water flows, as evidenced by visible deposits of petroleum solids, erosion damage on the banks, and sedimentation within the creek channel. Restoration of this reach of Cat Canyon Creek would improve the function and quality of riparian habitat at this location (Padre, 2017a). The Plan has been submitted to the Central Coast RWQCB, ACOE, and CDFW for review and comment, as part of the permit application process. Additionally, applicant proposed AMMs BIO-4 (Dust Control Measures), BIO-6 (Environmental Sensitivity Training), BIO-7 (Delineation of Project Disturbance Limits), BIO-12 (Spill Response Plan), and BIO-13 (Drilling Fluid Release Contingency Plan) would serve to avoid or minimize potential impacts to jurisdictional waters.

To comply with the federal Clean Water Act no net loss policy, as well as USACE and CDFW requirements under their respective CWA Section 404 and Fish and Game Code Section 1600 permitting programs, any direct impacts to riparian habitats and associated waters of the U.S. or waters of the state would be mitigated by compensation or restoration at a minimum 3:1 ratio (see MM BIO-4). If approved by the regulatory agencies, the proposed restoration detailed in the Applicant's Conceptual Wetland Restoration Plan may be used to satisfy some or all of the requirements of MM BIO-4, which requires the minimum 3:1 mitigation to include restoration, enhancement, and/or compensation, as appropriate. In addition, MM BIO-1 requires development and implementation of an Emergency Response Action Plan to mitigate impacts to habitat in the event of an oil or other hazardous materials spill. MM BIO-2 includes requirements for temporary support areas to be only on previously disturbed areas and erosion and sedimentation control measures. MM BIO-3 requires BMPs to minimize impacts to riparian and wetland areas during construction and routine operations including setbacks for refueling and equipment maintenance, contaminated water and debris containment, and a minimum setback of 100 feet from riparian habitats for all grading. MM BIO-4 requires worker environmental training, MM BIO-5 requires weed control, and MM BIO-7 requires restoration of temporarily impacted areas and habitat compensation for impacts to vegetation including riparian and aquatic habitats. MM BIO-8 requires an independent environmental monitor to ensure implementation of all required mitigation occurs. MM AQ-1a requires dust control measures, and MM SGW-2 requires an Erosion and Sediment Control Plan. **Implementation of the AMMs and the recommended mitigation measures would reduce impacts to waters of the U.S. and waters of the state to less than significant (Class II).**

Impact BIO-6: Proposed Project construction and routine operations have the potential to impair movement, migration, or dispersal of resident and migratory fish and wildlife species.

The proposed Project site is located near a regional wildlife corridor (Spencer et al., 2010), and the canyons and ridgelines in the Solomon Hills, the Sisquoc River and associated uplands, and the Los Alamos and Santa Maria valleys provide a mosaic of habitats that support resident and migratory species. The oil field and surrounding area provides habitat for a broad array of species and it is likely that many species use the area for movement.

Ridgelines, canyon bottoms, and drainages within the region are likely to serve as movement corridors for a variety of terrestrial wildlife, including large animals such as deer, bear, coyote, mountain lion, and bobcat. However, wildlife do not limit their movement to specific drainages. For many species including mule deer and small carnivores, movement patterns are often more dispersed and include large swaths of open areas and vegetated trails.

Proposed development within the oil field is patchy, and the area is generally open with enough natural habitat surrounding developed pads and other oil field infrastructure to afford movement opportunities around the proposed facilities. Development of wells and appurtenant facilities in the Aera East Cat Canyon Oil Field could interfere with terrestrial wildlife movement primarily during construction. Construction activities would affect wildlife in adjacent habitats by interfering with localized movement patterns or causing animals to temporarily avoid areas adjacent to the work. More mobile species (birds and larger mammals) are expected to disperse into adjacent habitat areas during land clearing and grading, and other temporary construction activities.

During operations, proposed Project activities that could interfere with wildlife movements include vehicles traversing the area, personnel onsite for well inspection and maintenance, and access road maintenance, truck transport of light crude oil to the field and produced oil from the field, and unanticipated spills and spill response activities.

Migrating terrestrial animals and birds are not expected to be as sensitive to proposed Project disturbances as resident or breeding species because of the wide variety of habitats and open space available in the region. Mobile wildlife would be able to respond to construction and operation activities by adjusting their movement patterns. In addition, the proposed Conservation Area would protect intact habitat that would allow for wildlife movement.

Mitigation measures proposed under Impacts BIO-1, BIO-2, and BIO-3 would protect habitat and wildlife or mitigate impacts to habitat, which would minimize effects to wildlife movement during construction and operation. MM BIO-1 requires development and implementation of an Emergency Response Action Plan to mitigate impacts to habitat in the event of an oil or other hazardous materials spill. MM BIO-2 requires a variety of measures for the protection of biological resources, including work area delineation to avoid indirect impacts in adjacent areas, requirements for temporary support areas to be only on previously disturbed areas, prohibition of wildlife feeding (to avoid drawing wildlife to the area that may prey on special-status species), erosion and sedimentation control measures, and minimization of new light sources. MM BIO-3 requires BMPs to minimize impacts to riparian and wetland areas. MMs BIO-4 and BIO-7 require worker environmental training, restoration of temporarily disturbed areas, and onsite compensation for permanent impacts to habitat. MM BIO-6 provides detailed requirements to ensure protection of the onsite conservation lands in perpetuity. Measures BIO-16a through BIO-16d include implementation of the Oak Tree Protection Plan and Oak Tree Replacement Plan as well as monitoring by a qualified arborist/biologist, and avoidance measures to prevent introduction or spread of SOD. MM BIO-5 requires weed control. MM BIO-8 requires an independent environmental monitor to ensure

implementation of all required mitigation is occurring throughout proposed Project development. **Implementation of these measures would reduce impacts to movement and migration to a less than significant level (Class II).**

4.3.4.2 Power Line Construction and Operation

Impact BIO-1: A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on native species and habitats, special-status species and their habitats, and sensitive vegetation communities.

This potential impact does not apply to the power line component of the proposed Project.

Impact BIO-2: Proposed Project construction and routine operations have the potential for degradation and loss of habitat for listed and other special-status species.

Under Impact BIO-2, power line impacts to habitat would primarily be temporary during construction. The permanent impacts from installing up to 10 tubular steel poles or light-duty steel poles would be minimal. Each pole would be supported on a footing 6 feet in diameter, resulting in 28.3 square feet of permanent disturbance, for a total of up to 282.7 square feet of disturbance (0.0065 acre). MM BIO-2 includes requirements for temporary support areas (including staging areas) to be located only on previously disturbed and compacted areas, and erosion and sedimentation control measures. MM BIO-3 requires best management practices (BMPs) to minimize impacts to riparian and wetland areas during construction and routine operations, including a 100-foot equipment washing setback from storm drains, water bodies, and sensitive biological resources. This setback would ensure that wash water does not enter into sensitive areas. MM BIO-4 requires worker environmental training. MM BIO-5 requires weed control, and MM BIO-7 requires restoration of temporarily impacted areas and habitat compensation for impacts to vegetation including sensitive and listed species habitat. MM BIO-8 requires an independent environmental monitor to ensure implementation of all required mitigation is occurring. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. **Implementation of these mitigation measures would reduce impacts to special-status species' habitats from construction and operation of the power line to less than significant (Class II).**

Impact BIO-3: Proposed Project construction and routine operation have the potential to injure or "take" listed and other special-status species.

Impacts from construction and operation of the power line would be similar to, but lower in magnitude than, those described for the proposed Project site in Section 4.3.4.1. The only special-status plant found in the power line survey area was Southern California black walnut (CRPR 4.2), and no special-status wildlife or their sign were observed although the power line alignment likely provides habitat for most of the same species that could occur on the proposed Project site.

During operation, the 0.3-mile 115 kV overhead power line could cause bird mortality through collision or electrocution. Bird collisions with power lines generally occur when a power line or other aerial structure transects a daily flight path used by a concentration of birds, or where migrants are traveling at reduced altitudes and encounter tall structures in their path (Brown, 1993). Shield wires are the lines most associated with bird collisions on power lines because they are the highest wire and are smaller in diameter (i.e., often less than two-inches) making them more difficult to see (APLIC, 2012). Collision rates generally increase in low light conditions, during inclement weather such as rain or snow, during strong winds, and during panic flushes when birds are startled by a disturbance or are fleeing from danger. Collisions are more probable near wetlands, valleys that are bisected by power lines, and within narrow passes where

power lines run perpendicular to flight paths. Passerines (e.g., songbirds) and waterfowl (e.g., ducks) are known to collide with wires (APLIC, 2012), particularly during nocturnal migrations or poor weather conditions (Avery et al., 1978). The proposed Project's power line is relatively short in length, but would introduce a new line into an area where there are no such existing obstacles to bird movement. In addition, it would cross Cat Canyon Creek, which may provide additional risk to birds concentrating in riparian habitats near the proposed Project. Risk of bird collisions with the power line would be significant absent mitigation.

Large aerially perching birds may also be subject to electrocution on the power line, once it becomes operational. In addition, nests may be built in areas that are susceptible to electrical charges that could result in fire as well as an electrical outage. Indirect effects could also include increased risk of wildfire from electrocuted birds contacting flammable vegetation or other materials. Electrocution occurs when a perching bird simultaneously contacts two energized phase conductors or an energized conductor and grounded hardware. This happens most frequently when a bird attempts to perch on a power line tower or pole with insufficient clearance between these elements. Electrocution can occur when horizontal separation is less than the wrist-to-wrist (flesh-to-flesh) distance of a bird's wingspan, or where vertical separation is less than a bird's length from head-to-foot. Electrocution can also occur when birds perched side-by-side span the distance between these elements (APLIC, 2006). Raptors that could use the towers for nesting such as prairie falcons, red-tailed hawks, and golden eagles could be electrocuted while landing. However, the majority of raptor electrocutions are caused by lines that are energized at voltage levels between 1 kV and 69 kV, and the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low (APLIC, 2006). Nonetheless, the potential for bird electrocution on the proposed Project 115-kV power line would be significant absent mitigation.

MMs BIO-2 through BIO-4 require a variety of measures for the protection of biological resources, including special-status species. These measures include worker environmental training, BMPs to minimize impacts to riparian and wetland areas, work area delineation to avoid indirect impacts in adjacent areas, requirements for temporary support areas to be only on previously disturbed areas, prohibition of wildlife feeding (to avoid drawing wildlife to the area that may prey on special-status species), prohibition of anticoagulant rodenticides, erosion and sedimentation control measures, and minimization of new light sources. MM BIO-2 also requires the proposed Project 115-kV power line to be designed to APLIC standards to minimize collision and electrocution risk to birds. MM BIO-5 requires weed control. MM BIO-7 requires restoration and onsite preservation of impacted habitats at a 3:1 ratio, which includes sensitive species habitat. MMs BIO-8 through BIO-15 require biological monitoring; focused surveys for rare plants, CTS and CRLF, other special-status reptiles and amphibians, nesting birds, bat maternity colonies and hibernacula, American badger, and San Diego woodrat. These mitigation measures also require species-specific measures such as relocation out of harm's way (for non-listed species), exclusion fencing for CTS and CRLF, buffers around active birds' nests, passive relocation of badgers and woodrats, and compensation for significant impacts to rare plant populations. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. **Implementation of these mitigation measures would reduce the 115-kv power line impacts to special-status species to less than significant (Class II).**

Impact BIO-4: Proposed Project construction has the potential to result in a net loss or permanent change in the extent or functional value of sensitive vegetation communities and loss of individual oak trees.

Impacts from the power line under Impact BIO-4 would be minimal, as no oak woodlands would be removed for this proposed Project component. Although the power line would cross Cat Canyon Creek, it has been designed to avoid placing poles within the creek. Other sensitive vegetation mapped within the

power line corridor (including a 500-foot buffer) includes California coastal scrub and California walnut, and as described above, total impacts for power line installation would be minimal.

MM BIO-2 includes requirements for temporary support and staging areas to be only on previously disturbed areas, erosion and sedimentation control measures, and measures to minimize the potential spread of sudden oak death and other pests. MM BIO-3 requires best management practices to minimize impacts to riparian and wetland areas during construction and routine operations. MM BIO-4 requires worker environmental training. MM BIO-5 requires weed control and MM BIO-7 requires restoration of temporarily impacted areas and habitat compensation for impacts to vegetation, including sensitive and listed species habitat. MM BIO-8 requires an independent environmental monitor to ensure implementation of all required mitigation is occurring throughout proposed Project development. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. **Implementation of the recommended mitigation measures would reduce power line impacts to sensitive vegetation to less than significant (Class II).**

Impact BIO-5: Proposed Project construction and routine operations have the potential to adversely affect waters of the U.S. and waters of the state.

Construction and operation of the power line would have minimal impacts under Impact BIO-5. The proposed electrical power line would extend from the western portion of the proposed Project site to an adjacent parcel to the west. The power line would cross Cat Canyon Creek and the adjacent Cat Canyon Road; however, the power line would span these features and proposed Project activities would not impact the bed or bank of Cat Canyon Creek. The habitat in the creek at this location consists primarily of grazed non-native grassland, disturbed scrub, and sparse oak tree canopy. Riparian habitats do not occur in this section of Cat Canyon Creek. Potential indirect impacts to Cat Canyon Creek during construction would be as described for the proposed Project site (see Section 4.3.4.1), and would be avoided or minimized through the implementation of MMs BIO-2, BIO-3, and BIO-7. **These measures would reduce power line impacts to jurisdictional waters to less than significant (Class II).**

Impact BIO-6: Proposed Project construction and routine operations have the potential to impair movement, migration, or dispersal of resident and migratory fish and wildlife species.

Interference with wildlife movement would mainly occur during power line construction, as described for the proposed Project site (see Section 4.3.4.1). During operation, the power line could have minor effects to bird movement if it results in collisions as described above. **Implementation of MMs BIO-2 through BIO-4 and BIO-7 would ensure impacts to wildlife movement and migration remain less than significant (Class II).**

4.3.4.3 Natural Gas Pipeline Construction and Operation

Impact BIO-1: A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on native species and habitats, special-status species and their habitats, and sensitive vegetation communities.

This potential impact does not apply to the natural gas pipeline component of the proposed Project.

Impact BIO-2: Proposed Project construction and routine operations have the potential for degradation and loss of habitat for listed and other special-status species.

This impact would apply to the natural gas pipeline, which is within one mile of a known CTS breeding pond located near East Clark Avenue and Dominion Road, and the work area would be within the dispersal distance from this pond (see Figure 4.3-8). In addition, the proposed 1-acre Staging Area B for the gas pipeline would be within designated CTS critical habitat on the north side of Clark Avenue west of Dominion Road. The proposed pipeline alignment is within an existing paved roadway, and construction would not permanently or temporarily impact CTS habitat. However, proposed Project activities at the staging area would affect adjacent habitat potentially including agricultural lands, annual brome grassland, ruderal areas, or coyote brush scrub, depending on the final location selected. This location is within dispersal distance of the known CTS breeding pond SISQ-9e, and the staging area could result in take of CTS if it is located within undeveloped habitats with uncompacted soils and potential burrows or other refugia. To minimize the potential to harm CTS in burrows, MM BIO-2 requires all temporary staging areas to be located in disturbed areas with compacted soils and this measure would apply to Staging Area B. MM BIO-2 also requires that the Applicant obtain concurrence from the USFWS if the staging area would be located within designated critical habitat.

The CNDDDB reports an historic record (1983) of a winter roost in eucalyptus trees along the natural gas pipeline alignment on Graciosa Road, and this area still contains suitable roost trees; however, no current roosts were identified during surveys. Additional potential roost trees consisting of eucalyptus, Monterey pine, and others occur along the gas pipeline corridor. MM BIO-12 requires appropriately timed surveys of any potential monarch butterfly roost trees that are proposed for removal. If a monarch roost is found, any impacts to the trees would be avoided until roosting is complete. **Implementation of MM BIO-7, which requires restoration of temporary impacts; BIO-8, which requires environmental monitoring; and BIO-12, which requires pre-construction surveys and avoidance of active monarch butterfly roosts, would reduce impacts to special-status species habitat to less than significant (Class II).**

Impact BIO-3: Proposed Project construction and routine operation have the potential to injure or “take” listed and other special-status species.

Impacts could occur during natural gas pipeline construction. While the pipeline footprint would primarily be within existing paved roads and disturbed road edges, several special-status species could occur in the area. Dune larkspur (CRPR 1B.2) was recorded in the natural gas pipeline survey area along Graciosa Road and could be subject to impacts as described for the proposed Project in Section 4.3.4.1. While the proposed natural gas pipeline crosses designated critical habitat for the federally and state-listed La Graciosa thistle, this species was not identified during surveys. CTS also could be present during dispersal within the natural gas pipeline Study Area which runs along the southern border of designated critical habitat (Unit 2 – East Santa Maria), within one mile from a known breeding pond located near East Clark Avenue and Dominion Road. CTS or CRLF could also become trapped in trenches during construction of the natural gas pipeline.

The least Bell’s vireo could breed in riparian habitats along the natural gas pipeline alignment. Although protocol surveys were conducted at Cat Canyon Creek for the proposed Project site with negative results, potential habitat along the natural gas pipeline route was not surveyed. Least Bell’s vireo is a state and federally listed endangered species, and impacts to breeding vireos would not be allowed outside of the context of take authorization under the federal and California ESA. To avoid impacts to least Bell’s vireo, MM BIO-13 requires protocol surveys for least Bell’s vireo in and near riparian habitat along the natural gas pipeline during the breeding season. If found, a 500-foot buffer would be established and noise levels

could not exceed 60 dBA in the active territory. Impacts to non-listed nesting birds, mammals, reptiles, and amphibians during pipeline construction would be as described for the proposed Project site in Section 4.3.4.1.

MMs BIO-2 through BIO-4 require a variety of measures for the protection of biological resources, including special-status species. MM BIO-5 requires weed control. MM BIO-7 requires restoration of temporary impacts. MMs BIO-8 through BIO-15 require biological monitoring; focused surveys for rare plants, CTS and CRLF, other special-status reptiles and amphibians, nesting birds, bat maternity colonies and hibernacula, American badger, and San Diego woodrat. These mitigation measures also require species-specific measures such as relocation out of harm's way (for non-listed species), buffers around active birds' nests, passive relocation of badgers and woodrats, and compensation for significant impacts to rare plant populations. MM BIO-11 requires exclusion fencing at active work areas along the natural gas pipeline within 1.4 miles of ponds SISQ-9w and SISQ-9e to avoid CTS or CRLF from entering active work areas. MM AQ-1a requires dust control measures, and MM SGW-1 requires an Erosion and Sediment Control Plan. **Implementation of these mitigation measures would reduce the natural gas pipeline impacts to special-status species to less than significant (Class II).**

Impact BIO-4: Proposed Project construction has the potential to result in a net loss or permanent change in the extent or functional value of sensitive vegetation communities and loss of individual oak trees.

Sensitive vegetation mapped within the natural gas pipeline corridor includes arroyo willow thickets and California coastal scrub. Impacts to these vegetation types are expected to be minimal and primarily indirect effects, because the pipeline would be installed in roadways and would cross under drainages using HDD to minimize effects to sensitive vegetation. However, approximately 40.3 acres of coast live oak woodland was mapped within the footprint of the proposed natural gas pipeline corridor, where the trees may be at risk of root damage during trenching. According to MM BIO-16a, if 20 percent or more of the root area of any tree is damaged or removed, the tree will be considered "removed" and subject to replacement according to MM BIO-16b. **Implementation of MMs BIO-2 through BIO-5, BIO-7 through BIO-9, and BIO-16a through BIO-16d would minimize or avoid impacts to sensitive vegetation along the natural gas pipeline. With implementation of these measures, impacts would be less than significant (Class II).**

Impact BIO-5: Proposed Project construction and routine operations have the potential to adversely affect waters of the U.S. and waters of the state.

The natural gas pipeline construction could result in impacts under Impact BIO-5. The proposed natural gas pipeline would cross Cat Canyon Creek. To minimize potential for direct impacts to jurisdictional waters, the pipeline would be installed under the creek via Horizontal Directional Drilling (HDD). The natural gas pipeline would also cross Orcutt Creek, Graciosa Canyon Creek, and eight unnamed agricultural drainages in addition to Cat Canyon Creek. As proposed, the proposed Project would utilize HDD techniques to install the pipeline under the drainage crossings, as necessary to prevent direct impacts. However, if impacts cannot be avoided the Applicant would need to obtain the appropriate state and federal permits. MM BIO-3 requires BMPs to minimize impacts to riparian and wetland areas during construction and routine operations including setbacks for refueling and equipment maintenance, contaminated water and debris containment, and a minimum setback of 100 feet from riparian habitats for all grading. This measure also prohibits impacts on state or federal jurisdictional waters for all pipeline crossings unless authorized through LSAA or CWA permitting. **Implementation of MMs BIO-2 through BIO-5 and BIO-7 would reduce impacts to less than significant (Class II).**

Impact BIO-6: Proposed Project construction and routine operations have the potential to impair movement, migration, or dispersal of resident and migratory fish and wildlife species.

Interference with wildlife movement would be temporary and would only occur during pipeline construction. See Section 4.3.4.1 for a discussion of temporary construction-related impacts to wildlife movement. **Implementation of MMs BIO-2 through BIO-4 and BIO-7 would ensure impacts to wildlife movement and migration remain less than significant (Class II).**

Impact BIO-7: An unanticipated surface expression of drilling fluid at HDD crossings under Cat Canyon Creek and other drainages has the potential to result in a substantial adverse effect on native species and habitats, special-status species and their habitats, and sensitive vegetation communities.

Unanticipated direct effects to special-status species, habitat, vegetation communities, and jurisdictional resources could occur during construction of the 14-mile natural gas pipeline. SoCal Gas would install its new pipeline under several drainages along the route via horizontal directional drilling (HDD) in order to minimize surface disturbance. While HDD is less intrusive than trenching which directly impacts habitats along the surface of the route, this construction method carries the risk of drilling lubricants escaping the drilled tunnel and migrating up to the surface environment through subsurface fractures (the system is pressurized during drilling). The drilling lubricant is a bentonite slurry, a fine clay material that is non-toxic and commonly used in agriculture. However, aquatic plants and animals in sensitive riparian areas can be smothered by the fine particles of the bentonite slurry if an unanticipated surface expression of drilling fluid occurs.

MM BIO-17 is recommended to ensure that impacts from a potential unanticipated surface expression of drilling fluid would be minimized. This measure also requires submittal of the final CDFW LSAA to the County prior to commencement of construction on the natural gas pipeline and the development of an HDD Management Plan. **Implementation of this measure would reduce potential impacts to vegetation and wildlife along the natural gas pipeline route from unanticipated surface expression of drilling fluid to a less than significant level (Class II).**

Mitigation Measure

MM BIO-17 HDD Fluid Management Plan for the Natural Gas Pipeline. A management plan shall be prepared for the Horizontal Directional Drilling (HDD) crossings under Cat Canyon Creek and other named and unnamed drainages along the natural gas pipeline route. The plan shall include, at a minimum, the following measures:

- a. Worst-case scenario development and response effort descriptions.
- b. Drilling pressure monitoring to ensure pressures do not exceed those needed to penetrate the formation.
- c. Monitoring by a minimum of two monitors (located both upstream and downstream) throughout drilling operations to ensure early detection and swift response in the event of a surface expression of drilling fluid.
- d. Site-specific contingency measures shall be developed for the drill site, taking into consideration terrain, access, resource sensitivities, and proximity of suitable areas for staging response equipment for the unanticipated surface expression of drilling fluid.
- e. Agency notification.
- f. Training for responding personnel.

- g. Prevention, containment, clean up, and disposal of released drilling mud. Preventative measures shall include incorporation of the recommendations of a pre-construction geotechnical investigation to determine the most appropriate drilling depth and drilling mud mixture for the HDD bore site. Containment shall be accomplished through construction of temporary berms/dikes and use of silt fences, straw bales, absorbent pads, straw wattles, and plastic sheeting. Clean up shall be accomplished with plastic pails, shovels, portable pumps, and vacuum trucks.
- h. A copy of the Lake and Streambed Alteration Agreement (LSAA) shall be provided in the Plan. If the LSAA also requires development of a HDD Fluid Management Plan, that plan, as approved by CDFW, may be used to satisfy this measure provided it adequately addresses the requirements identified herein, as determined by the County (P&D).

PLAN REQUIREMENTS and TIMING: The Owner/Applicant shall submit the HDD Fluid Management Plan to P&D for review and approval prior to initiation of the HDD pipeline installation activity. Owner/Applicant shall notify P&D permit compliance staff in advance of the schedule for conducting HDD activities. Owner/Applicant shall monitor pipeline installation activity in accordance with the approved HDD Fluid Management Plan. If conflicts occur between resource agency mitigation measures and those identified herein, the most restrictive shall apply unless specifically indicated otherwise. Generally, conflicts shall be resolved in a manner which is most protective of resources.

MONITORING: P&D shall conduct periodic site inspection(s) during HDD activity and periodically thereafter until site restoration is completed.

4.3.5 Cumulative Effects

The proposed Project could result in adverse effects on biological resources that are cumulatively considerable when evaluated in conjunction with other past, present, or reasonably foreseeable future projects in the vicinity. Section 3 (Cumulative Scenario) identifies a list of projects considered in this cumulative impact analysis. Most of the cumulative projects involve oil field expansions and related projects (e.g., Foxen Petroleum Pipeline, ERG West Cat Canyon, and PetroRock oil field development proposals). Oil field expansions which include the drilling of additional wells could result in an increased threat of spills, unanticipated seeps, and disturbances to sensitive migratory corridors and upland habitat for sensitive amphibian species. An increase in operating wells would include additional well pad and pipeline construction within leases, some of which could occur in locations where sensitive biological resources have been recorded. It is likely that such projects would add to the cumulative effect of disturbances to sensitive habitats that potentially support special-status plant or wildlife species, or constrain the movement of wildlife through the local area. The Foxen Petroleum Pipeline (FPP) could ultimately support up to three oil field expansion projects, although the proposed Project would not use it. If operations of FPP is realized and subsequently produces an oil spill, impacts would be significant and unavoidable. (These impacts are addressed in the certified Final EIR [SCH #2013061011, County EIR 13EIR-00000-00002] for the FPP project.)

The proposed Project would not directly impact breeding habitat for CTS and CRLF, and therefore would not contribute to cumulative impacts to aquatic breeding habitat regionally. However, the proposed Project would directly impact upland habitats that could support CTS during dispersal. The cumulative oil field projects and the FPP would also impact potential upland dispersal habitat. Although the FPP's impacts would be temporary and the pipeline route would be restored following construction, impacts to

dispersing CTS could occur during the construction phase, which could overlap with the proposed Project and result in cumulative impacts to dispersing CTS and their upland habitat. The FPP is closer to the nearest known CTS breeding pond than the proposed Project (TWDA-11; see Figure 4.3-8). Mitigation for the FPP includes seasonal restrictions, habitat restoration, and the funding of mitigation credits for CTS mitigation bank, and impacts for the FPP were determined to be less than significant with implementation of mitigation (Class II). The cumulative projects involving oil field expansions are currently early in their environmental reviews, and specific impacts and mitigation are not known at this time. Although the proposed Project's impacts to CTS would be mitigated to less than significant (Class II), it would contribute incrementally to cumulative impacts to CTS from oil field developments and the FPP.

Although the proposed Project would contribute to adverse cumulative effects to wildlife movement in conjunction with other nearby projects, these impacts are not expected to lead to the loss of an entire species or an entire population of any sensitive species from the area.

Mitigation measures recommended for the proposed Project would minimize the proposed Project's incremental contribution to cumulative effects on biological resources. This mitigation includes implementing an Emergency Response Action Plan in the event of a spill or seep (MM BIO-1); implementing general biological resource protection measures (MM BIO-2); implementing a Weed Control Plan (MM BIO-5); habitat restoration and compensation for permanent habitat impacts (MM BIO-7); and implementing avoidance measures for nesting birds (MM BIO-13). With these mitigation measures, the potentially significant proposed Project-related impacts to sensitive species and habitats would be reduced to less than significant with mitigation (Class II). Therefore, the proposed Project's contribution to most cumulative biological impacts would not be considerable. However, the potential impacts from an oil spill, either from the proposed Project itself or the Foxen Petroleum Pipeline, if it were carrying oil from the proposed Project, would be substantial and are not mitigable to less than significant. If a spill were to occur, the proposed Project's contribution to adverse impacts to sensitive plants and wildlife, native habitats, and jurisdictional waters would be substantial.

The proposed removal of coast live oak trees and oak woodlands would result in significant oak tree and oak woodland habitat loss, even after incorporating available feasible mitigation identified in MMs BIO-16a through BIO-16d, the temporal habitat loss would remain significant (Class I). Additional past, present, and reasonably foreseeable future projects could also remove oak trees and oak woodlands. **Therefore, the proposed Project, in combination with other projects, would result in a significant cumulative impact to oak trees and oak woodlands, and the proposed Project would contribute considerably to this impact, even with implementation of feasible mitigation (Class I cumulative impact).**

4.3.6 Mitigation Monitoring Program

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-1	Emergency Response Action Plan	Submittal and implementation of Action Plan Report implementation of emergency measures to P&D in the event of a spill	Prior to County issuance of Zoning Clearance and during construction and operations	County to review Action Plan County to verify Action Plan implementation	Prepare an Emergency Response Action Plan that addresses protection of sensitive biological and hydrological resources, restoration of any areas disturbed during a spill and associated clean-up activities, and other required components.

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-2: General Biological Resources Protection Measures					
BIO-2(a)	Delineate Work Areas	All work areas are clearly delineated in the field. General biological resource protection measures are met.	During construction	County to verify compliance	Clearly delineate work areas in the field. All work areas will be approved by the Project engineer in consultation with an approved biologist. Staking to be completed under the supervision of a qualified biologist.
BIO-2(b) and BIO-2(c)	Site Pipeline Routes to Avoid Sensitive Habitats	Pipeline routes microsited to avoid sensitive vegetation and oak trees and clearly delineated in the field. Natural gas pipeline construction only within compacted roadbeds in existing roadways.	During construction	County to verify compliance	Clearly delineate work areas in the field. All work areas will be approved by the Project engineer in consultation with an approved biologist. Staking to be completed under the supervision of a qualified biologist. All new pipeline construction shall be monitored by a qualified biologist.
BIO-2(d)	No New Disturbance for Support Areas	Lay down areas, parking, staging, stockpiling, and other support areas only on previously disturbed areas with compacted soils. Provide concurrence from USFWS for any staging areas in designated critical habitat.	During construction, prior to ground disturbance (USFWS concurrence)	County to verify compliance	Clearly delineate support areas in the field. Only establish support areas on previously disturbed and compacted soils. Provide USFWS concurrence as applicable.
BIO-2(e)	Trash	Trash is eliminated on site.	During construction	County to verify compliance	Store all trash in animal proof containers or remove from site each day. No deliberate feeding of wildlife.
BIO-2(f)	Waste recycling	Remove concrete and asphalt waste from site for recycling or proper disposal.	During construction	County to verify compliance	Do not place materials outside of work zone. Place stockpiled material within work zone in areas previously disturbed and free of small mammal burrows.
BIO-2(g)	Equipment washing	Polluted water and materials are contained and removed from the site, and sensitive resources are avoided.	During construction	County to verify compliance	Conduct washing of concrete trucks, paint, equipment, or similar activities in areas where polluted water and materials can be contained for subsequent removal from the site. Designate wash areas at least 100 feet from any storm drain, waterbody, or sensitive biological resource.

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-2(h)	Weeds	Avoid the introduction of weeds.	During construction	County to verify compliance	Ensure that tracked vehicles and other construction equipment are weed-free prior to entering and working within undeveloped areas.
BIO-2(i)	SWPPP	Submittal and compliance with SWPPP.	Prior to and during construction	County to verify compliance	Prepare and include best available erosion and sediment control measures into the SWPPP.
BIO-2(j)	Hazardous Materials	Use of chemicals, fuels, lubricants, or biocides will be in compliance with all local, State, and federal regulations.	During construction	County to verify compliance	Uses of such compounds shall observe label and other restrictions mandated by State and federal regulations.
BIO-2(k)	Lighting	Lighting is minimized and downcasted.	During construction	County to verify compliance	Minimize new light sources and downcast lighting to limit the lighted areas.
BIO-2(l)	Wildlife Protection	Mortality on roads is minimized.	During construction and operations	County to verify compliance County to review requests for planned nighttime work	Routine construction and O&M activities shall be conducted during daylight hours only.
BIO-2(m)	Implement APLIC guidelines	Bird collision and electrocution is minimized	During operation	County to verify compliance	Design 115-kV power line to APLIC standards to minimize collision and electrocution risk.
BIO-2(n)	Prevent wildlife entrapment	Minimize potential for wildlife to fall into open excavations, including trenches along natural gas pipeline, during construction.	During construction	County to verify compliance	Securely cover all excavations at the end of each work day or provide escape ramps.
BIO-3	Implement Best Management Practices to Minimize Impacts to Riparian and Wetland Areas during Construction and Operation	Provide County with copies of the CDFW Streambed Alteration Agreement and Clean Water Act Section 301 and 404 permits (if required for the project), or a written determination from the applicable regulatory agencies that such permit(s) are not necessary.	Prior to County issuance of Zoning Clearance	County to verify permit submittal and compliance during implementation	Provide CDFW and USACE permits to County. Implement all mitigation measures and conditions contained within the Streambed Alteration Agreement, requirements of the Regional Water Quality Control Board or the U.S. Army Corps of Engineers for impacts to Waters of the State or U.S. Implement all identified BMPs during construction and operation activities in or near ephemeral drainages, Cat Canyon Creek, Long Canyon Creek, or aquatic features (including man-made ponds).

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-4	Environmental Training Program	Provide the County with evidence that all personnel have completed the training (monthly during construction and annually during operation and maintenance).	Prior to the start of construction and prior to new personnel beginning work on the proposed Project; throughout construction and operations phases. Training outline submitted to County prior to issuance of Zoning Clearance. During operations, the training program shall be reviewed and updated annually.	County reviews and approves the training and annual updates. County approves biologist who develops and conducts environmental training.	Develop and conduct environmental training program for all proposed Project personnel. Provide the County with evidence that all personnel have completed the training. Document compliance in a written report on a monthly basis during construction and an annual basis during operations. Update training program annually during operations.
BIO-5	Weed Control Plan (WCP)	Preparation and implementation of WCP. Submit pre-disturbance survey report and annual WCP summary reports.	Prior to County issuance of Zoning Clearance	County to review and approve WCP County to approve restoration ecologist County to verify compliance County to review pre-disturbance survey reports and annual WCP reports.	Retain a County-approved, qualified restoration ecologist or biologist to prepare a comprehensive adaptive WCP which includes all required elements. Implement WCP throughout construction and operations. Document compliance in annual summary reports throughout the life of the proposed Project.
BIO-6a	Conservation Easement	Recordation of conservation easement, identification of easement holder	Prior to approval of initial Notice to Proceed	County to provide easement language; County to approve easement holder	Identify proposed easement holder; record conservation easement
BIO-6b	Conservation Habitat Management and Monitoring Plan	Prepare a Habitat Management and Monitoring Plan for the conservation area	Prior to issuance of the Zoning Clearance	County to conduct periodic site inspections to validate restoration efforts and shall review any required reporting	Implement Habitat Management and Monitoring Plan and submit required reporting
BIO-7	Habitat Restoration Plan	Submittal and implementation of Habitat Restoration Plan.	Prior to County issuance of Zoning Clearance. Maintain the restoration areas until they have met the established success criteria, or for a period of not less than five years following planting, whichever is longer.	County to review and approve Habitat Restoration Plan County to verify Plan implementation Release performance securities upon successful installation and maintenance	Prepare and implement a Habitat Restoration Plan to ensure that habitats temporarily disturbed during construction are restored to the pre-Project character and functional value and that permanent impacts are compensated at a 3:1 ratio. Post a performance security to ensure installation and a maintenance security for five years of maintenance. Document compliance in a written report on an annual basis

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-8	Environmental Quality Assurance Program Monitor	Biological monitoring and reporting	Prior to vegetation removal or ground-disturbing activities, and during construction and restoration	County to contract with EQAP monitor to verify mitigation compliance EQAP monitor and P&D permit compliance staff perform site inspections throughout the construction phase and review required Applicant reports	Fund EQAP monitor position through restoration phase.
BIO-9	Biological Construction Monitoring	Biological monitoring and reporting	Prior to vegetation removal or ground-disturbing activities, and during construction (minimum weekly)	County to approve biologist(s) and verify compliance County, CDFW & USFWS (as applicable) review report of injured or dead special-status wildlife	Retain a County-approved, qualified biologist(s) to monitor all vegetation removal and initial ground disturbance in all vegetated habitats (except for agriculture and disturbed habitats.) Submit report documenting any dead or injured listed or special-status wildlife within 5 calendar days.
BIO-10	Special-Status Plant Surveys and Impact Mitigation	Special-status plant survey, avoidance, and salvage. Monthly (for pre-construction surveys), and annually (for Special-Status Plant Salvage and Transplant Plan) compliance reports	Prior to and during construction	County to review survey reports and special-status plant inventories County to approve plant ecologist or botanist County to review and approve Special-Status Plant Salvage and Relocation Plan	Conduct surveys for special-status plants in all areas subject to ground-disturbance or vegetation removal and a 50-ft buffer. Submit and implement Special-Status Plant Salvage and Relocation Plan 30 days prior to salvage. If impacts to listed plants cannot be avoided, the USFWS and/or CDFW shall be consulted. Document compliance in monthly (for pre-construction surveys), and annual (for Special-Status Plant Salvage and Transplant Plan) reports to the County.

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-11	Pre-Construction Surveys and Avoidance Measures for Special-Status Reptiles and Amphibians including California Tiger Salamander (CTS) and California Red-Legged Frog (CRLF)	Pre-construction surveys and avoidance measures. Monthly monitoring reports.	Prior to County issuance of Zoning Clearance and after rain events of 0.5" over 24 hours	County to review surveys and verify compliance. County reviews monthly compliance reports. County EQAP monitor to conduct periodic site inspections. County to approve biologist, including USFWS & CDFW permit authority	Conduct pre-construction surveys for CTS and CRLF, and implement avoidance measures. Additional measures to be implemented if construction occurs during the wet season Exclusion fencing at all active work areas within 1.4 miles of Ponds SISQ-9w and SISQ-9e. Cease work and notify USFWS, CDFW and County if CTS or CRLF are found onsite. Document compliance in monthly monitoring reports
BIO-12	Pre-construction Surveys and Avoidance Measures for Monarch Butterflies	Submittal of focused surveys, and monthly and final reports.	Prior to County issuance of Zoning Clearance and during construction	County approves biologist County to verify monarch roosts are avoided during use County reviews monthly and final reports	Conduct pre-construction surveys during monarch roosting season, and monitor active roosts during construction. Flag active roosts and establish a disturbance-free buffer. Prepare a site-specific roost avoidance strategy if additional protection measures are determined necessary by the monitoring biologist. Prepare and submit monthly and final monitoring reports.
BIO-13	Pre-Construction Surveys and Impact Avoidance Measures for Migratory and Nesting Birds	Submittal of surveys, plans, and reports	Prior to County issuance of Zoning Clearance and during construction	County to approve biologist(s) County to review survey reports County to review site-specific nest protection plans County to review monthly and final reports	Conduct pre-construction surveys during bird breeding season, and monitor active nests during construction. Flag active nests and establish a disturbance-free buffer. Prepare a site-specific nest avoidance strategy if additional protection measures are determined necessary by the monitoring biologist. Prepare and submit monthly and final monitoring reports.

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-14	Maternity Colony or Hibernaculum Surveys and Avoidance Measures for Sensitive Bats	Submittal of surveys and implementation of avoidance measures.	Prior to and during construction	County reviews surveys County to approve biologist	Conduct maternity colony or hibernaculum surveys no more than 15 days prior to vegetation removal or initial site disturbance in previously undisturbed areas. Notify County and follow protocols for the removal of potential roosting habitat and safe eviction of non-breeding bats. Monitor and report the results of such evictions to County. Cease work within 100 ft of hibernation and maternity roosts.
BIO-15	Focused Surveys and Avoidance Measures for American Badger and San Diego Woodrat	Submittal of surveys and report and implementation of avoidance measures.	Prior to and during construction	County reviews surveys County to approve biologist CDFW to review buffer modifications and relocations County & CDFW to review final report.	Conduct focused surveys for American badger and San Diego woodrat and implement avoidance measures no more than 30 days prior to vegetation clearing or grading and implement avoidance measures. Coordinate with CDFW on buffer modifications and relocations. Prepare a final report documenting all badger and woodrat activities.
BIO-16(a)	Oak Tree Protection Plan (OTPP)	Submittal and compliance with the OTTP.	Prior to County issuance of Zoning Clearance	County reviews OTTP Plan County approves biologist to prepare OTTP County documents that trees identified for protection were not damaged or removed or, if damage or removal occurred, that correction is completed as required by the OTTP.	Prepare, submit, and (upon final revisions and approval) implement an Oak Tree Protection Plan (OTTP).

Table 4.3-10. Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
BIO-16(b)	Oak Tree Replacement Plan (OTRP) – Planned Removal and Unexpected Damage	Submittal and compliance with the OTRP.	Prior to County issuance of Zoning Clearance Minimum 7-year maintenance period for replacement trees	County reviews OTRP County conducts periodic site inspections to monitor installation and maintenance of replacement trees. Release performance security upon successful Plan implementation.	Prepare, submit, and implement (upon final review and approval) an OTRP. Post a performance security to ensure installation and a minimum 7-year maintenance period for replacement trees prior to initial brushing or grading.
BIO-16(c)	Onsite Arborist/Biologist	Designate an arborist/biologist to be onsite throughout all grading and construction activities which may impact native trees to ensure all aspects of the approved Oak Tree Protection & Oak Tree Replacement Plans are implemented.	Prior to the initial onsite pre-construction meeting	County approves arborist/biologist to prepare Oak Tree Protection and Oak Tree Replacement Plans. County coordinates with the arborist/biologist and conducts site inspections.	Submit name and contact information for the arborist/biologist to P&D
BIO-16(d)	Invasive Plant Pathogen Abatement (SOD Prevention).	Designate a P&D-approved biologist to minimize the unintended movement of host material, soil, and water from areas infested with <i>Phytophthora</i> spp.	Prior to County issuance of Zoning Clearance Continues throughout soil disturbing activities, including restoration, oak protection, and oak replacement activities.	County approves biologist to monitor activities and implement prevention if needed. County coordinates with the biologist and conducts site inspections.	Submit name and contact information for the biologist to P&D
BIO-17	HDD Fluid Management Plan for the Natural Gas Pipeline	Submittal of draft Plan and SAA, and implementation of Plan and permit requirements	During HDD operations along natural gas pipeline	County to review and approve Plan. P&D shall conduct periodic site inspection(s) during HDD activity and periodically thereafter until site restoration is completed	Prepare and submit draft Plan to County. Submit to County executed SAA. Notify P&D permit compliance staff in advance of the schedule for conducting HDD activities Implement Plan and SAA.