

## DOCKETED

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<b>Project Title:</b>	Alamitos Energy Center
<b>TN #:</b>	201620-12
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## 5.2 Biological Resources

This section describes the potential effects of the construction and operation of the Alamitos Energy Center (AEC) on biological resources. Section 5.2.1 presents the project setting and Section 5.2.2 discusses the affected environment, including an overview of the region, habitats and vegetation communities, and special-status species. Section 5.2.3 presents an environmental analysis of the project, including standards of significance, potential impacts of construction and operation of the AEC facility, and impacts to special-status species. Section 5.2.6 describes the laws, ordinances, regulations and standards (LORS) that apply to the project. Section 5.2.7 presents agency contacts, Section 5.2.8 states that no additional permits are required, and Section 5.2.9 contains the references used to prepare this section.

### 5.2.1 Setting

AES Southland Development, LLC (AES-SLD) proposes to construct, own, and operate the AEC—a natural-gas-fired, air-cooled, combined-cycle, electrical generating facility in Long Beach, Los Angeles County, California. The proposed AEC will have a net generating capacity of 1,936 megawatts (MW) and gross generating capacity of 1,995 MW.<sup>1</sup> The AEC will replace and be constructed on the site of the existing Alamitos Generating Station.

The AEC will consist of four 3-on-1 combined-cycle gas turbine power blocks with twelve natural-gas-fired combustion turbine generators (CTG), twelve heat recovery steam generators (HRSG), four steam turbine generators (STG), four air-cooled condensers, and related ancillary equipment. The AEC will use air-cooled condensers for cooling, completely eliminating the existing ocean water once-through-cooling system. The AEC will use potable water provided by the City of Long Beach Water Department (LBWD) for construction, operational process, and sanitary uses but at substantially lower volumes than the existing Alamitos Generating Station has historically used. This water will be supplied through existing onsite potable water lines.

The AEC will interconnect to the existing Southern California Edison (SCE) 230-kilovolt (kV) switchyard adjacent to the north side of the property. Natural gas will be supplied to the AEC via the existing offsite 30-inch-diameter pipeline owned and operated by Southern California Gas Company that currently serves the Alamitos Generating Station. Existing water treatment facilities, emergency services, and administration and maintenance buildings will be reused for the AEC. The AEC will require relocation of the natural gas metering facilities and construction of a new natural gas compressor building within the existing Alamitos Generating Station site footprint. Stormwater will be discharged to two retention basins and then ultimately to the San Gabriel River via existing stormwater outfalls.

The AEC will include a new 1,000-foot process/sanitary wastewater pipeline to the first point of interconnection with the existing LBWD sewer system and will eliminate the current practice of treatment and discharge of process/sanitary wastewater to the San Gabriel River. The project may also require upgrading approximately 4,000 feet of the existing offsite LBWD sewer line downstream of the first point of interconnection, therefore, this possible offsite improvement to the LBWD system is also analyzed in this AFC. The total length of the new pipeline (1,000 feet) and the upgraded pipeline (4,000 feet) is approximately 5,000 feet.

To provide fast-starting and stopping, flexible generating resources, the AEC will be configured and deployed as a multi-stage generating (MSG) facility. The MSG configuration will allow the AEC to generate power across a wide and flexible operating range. The AEC can serve both peak and intermediate loads with the added capabilities of rapid startup, significant turndown capability (ability to turn down to a low load), and fast ramp rates (30 percent per minute when operating above minimum gas turbine turndown capacity). As

<sup>1</sup> Referenced to site ambient average temperature conditions of 65.3 degrees Fahrenheit (°F) dry bulb and 62.7°F wet bulb temperature without evaporative cooler operation.

California's intermittent renewable energy portfolio continues to grow, operating in either load following or partial shutdown mode will become necessary to maintain electrical grid reliability, thus placing an increased importance upon the rapid startup, high turndown, steep ramp rate, and superior heat rate of the MSG configuration employed at the AEC.

By using proven combined-cycle technology, the AEC can also run as a baseload facility, if needed, providing greater reliability to meet resource adequacy needs for the southern California electrical system. As an in-basin generating asset, the AEC will provide local generating capacity, voltage support, and reactive power that are essential for transmission system reliability. The AEC will be able to provide system stability by providing reactive power, voltage support, frequency stability, and rotating mass in the heart of the critical Western Los Angeles local reliability area. By being in the load center, the AEC also helps to avoid potential transmission line overloads and can provide reliable local energy supplies when electricity from more distant generating resources is unavailable.

The AEC's combustion turbines and associated equipment will include the use of best available control technology to limit emissions of criteria pollutants and hazardous air pollutants. By being able to deliver flexible operating characteristics across a wide range of generating capacity, at a relatively consistent and superior heat rate, the AEC will help lower the overall greenhouse gas emissions resulting from electrical generation in southern California and allow for smoother integration of intermittent renewable resources.

Existing Alamitos Generating Station Units 1–6 are currently in operation. All six operating units and retired Unit 7 will be demolished as part of the proposed project. Construction and demolition activities at the project site are anticipated to last 139 months, from first quarter 2016 until third quarter 2027. The project will commence with the demolition of retired Unit 7 and other ancillary structures to make room for the construction of AEC Blocks 1 and 2. The demolition of Unit 7 will commence in the first quarter of 2016. The construction of Block 1 is scheduled to commence in the third quarter of 2016 and construction of Block 2 is scheduled to commence in the fourth quarter of 2016. The demolition of existing Units 5 and 6 will make space for the construction of AEC Block 3. AEC Block 3 construction is scheduled to commence in the first quarter of 2020 and will be completed in the second quarter of 2022. The demolition of existing Units 3 and 4 will make space for the construction of AEC Block 4. AEC Block 4 construction is scheduled to commence in the second quarter of 2023 and will be completed in the fourth quarter of 2025. The demolition of remaining existing units is scheduled to commence in the third quarter of 2025.

Construction of the AEC will require the use of onsite laydown areas (approximately 8 acres dispersed throughout the existing site) and an approximately 10-acre laydown area located adjacent to the existing site. The adjacent 10-acre laydown area will be shared with another project being developed by the Applicant (Huntington Beach Energy Project [HBEP] 12-AFC-02). Due to the timing for commencement of construction for these two projects, the adjacent laydown area will already be in use for equipment storage before AEC construction begins.

### 5.2.2 Affected Environment

This section provides an overview of the region including discussions of wetlands and other natural resource areas, habitats, designated critical habitat, and special-status plants and animals.<sup>2</sup> For the purposes of this document, the site includes the entire Alamitos Generating Station site. The regional overview of the project area includes, but is not limited to, the area within 10 miles of the AEC site.

The project site is approximately 10 to 15 feet above mean sea level and can be found on the U.S. Geological Survey (USGS) Los Alamitos, California 7.5-minute series topographic quadrangle within Section 02, Township 05 north, Range 12 west (San Bernardino Meridian). The AEC site is located 0.25 mile south of

<sup>2</sup> As used in this AFC, the term "special-status" species does not mean listed as threatened, endangered or candidate species under the federal Endangered Species Act or the California Endangered Species Act. Instead, the term "special-status" species is a more expansive term, employed by many agencies. The term special-status has no relationship to the legal status of any particular species.

State Route (SR) 22 and north of Westminster Avenue. Land use in the region primarily includes urban development, industrial areas, undeveloped land, parklands, open space, and wetlands preserves.

A description of regional biogeography, wetlands and other sensitive natural resources was obtained from reference sources including, but not limited to, the *Ecological Subregions of California* (United States Department of Agriculture [USDA], 1997), the California Department of Fish and Wildlife (CDFW) *Biological Information and Observation System* (BIOS, 2013), and the *California Wetlands Information System* (DWR, 2007). The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) was also queried to determine the location of reported wetlands in proximity to the site (USFWS, 2013). These sources, as well as aerial photographs and USGS topographical maps, were consulted to determine the terrestrial and aquatic biological resources with potential to occur within 10 miles of the AEC site.

A list of sensitive biological resources for the region including natural communities and special-status plant and wildlife species was compiled for the project using the CDFW California Natural Diversity Database (CNDDDB) RareFind database (CDFW, 2013b) as well as other publically available studies, information and resources. A list of potentially occurring sensitive biological resources was generated for the region based on the combined results of these reference sources. Appendix 5.2A includes tables listing regional special-status plant and wildlife species, Appendix 5.2B provides a CNDDDB RareFind checklist and Appendix 5.2C is a list of observed species during the site reconnaissance survey.

### **5.2.2.1 Threatened, Endangered, Candidate or Special-Status Species Onsite**

#### **5.2.2.1.1 Threatened, Endangered, Candidate or Special-status - Plant Species**

Based on the previously developed nature of the existing Alamitos Generating Station, there are no significant biological resources on the AEC site. No federal or state threatened, endangered or candidate plant species occur on the AEC site. No natural habitats or wetlands are present on the existing site. No special-status plant species occur on the AEC site.

#### **5.2.2.1.2 Threatened, Endangered, Candidate, or Special-Status - Wildlife Species**

No federal or state listed threatened, endangered or candidate wildlife species occur on the AEC site. No special-status wildlife species occur on the AEC site. No natural habitats or wetlands are present on the existing site.

### **5.2.2.2 Threatened, Endangered, Candidate, or Special-Status Species within a 1-Mile Radius**

#### **5.2.2.2.1 Threatened, Endangered, Candidate, or Special-status Plant Species**

The AEC is located entirely within existing developed areas dominated by landscaping plants and sparse patches of ruderal vegetation. There is no natural habitat; therefore, the project site will not affect any special-status plant species.

Five special-status plant species have been documented within a 1-mile radius of the AEC site. A historical occurrence of Salt Spring checkerbloom (*Sidalcea neomexicana*) was documented (1936) approximately 2,370 feet/0.45 mile north of the project site (CDFW, 2013b). This species is a California Native Plant Society (CNPS) List 2.2 species that typically occurs in wetlands but also can be found in non-wetland habitats including creosote bush scrub, chaparral, and coastal sage scrub (Calflora, 2013). Three occurrence records documented southern tarplant (*Centromadia parryi* ssp. *australis*) ranging approximately 1,650 to 5,260 feet/0.30 to 1 mile south and west of the project area (CDFW, 2013b). This species is a CNPS List 1B.1 species that typically occurs in seasonally moist (saline) grasslands and in lowlands near the coast (Calflora, 2013). The most recent observation for the southern tarplant was in 2004 on both sides and near the mouth San Gabriel Channel (CDFW, 2013b). A historical record (1932) documented San Bernardino aster (*Symphyotrichum defoliatum*) along the west side of the San Gabriel River flood control channel but this species, which can be found in grasslands (Calflora, 2013), is assumed to be extirpated from the area (CDFW, 2013b). A historical record (1951) documented coast woolly-heads (*Nemacaulis denudata* var.



*denudata*) approximately 5,260 feet/1 mile south of the project area; however, the exact location of this occurrence record is unknown and has been mapped in the general vicinity of the cities of Seal Beach, Alamitos, and Long Beach (CDFW, 2013b). This species occurs in dunes and coastal habitats (Calflora, 2013). A historical record (1930) documented estuary seablite (*Suaeda esteroa*) approximately 5,260 feet/1 mile south of the project area; however, the exact location of this occurrence record is unknown and has been mapped in the general vicinity of Seal Beach (CDFW, 2013b). This species occurs in coastal salt marshes (Calflora, 2013).

#### 5.2.2.2.2 Threatened, Endangered, Candidate, or Special-Status Wildlife Species

Within a 1-mile radius of the AEC site, one federally and state-listed endangered bird species (California least tern [*Sterna antillarum browni*]), one federally threatened reptile species (green sea turtle [*Chelonia mydas*]), and one state-listed endangered bird species (Belding's savannah sparrow [*Passerculus sandwichensis beldingi*]) have been documented. No state fully protected species have been observed within 1 mile of the AEC site. Two state species of special concern, including one reptile (coast horned lizard [*Phrynosoma blainvillii*]) and one bird species (burrowing owl [*Athene cunicularia*]) included on the CDFW Special Animals list were reported. Five invertebrate species (western tidal-flat tiger beetle [*Cicindela gabbii*], sandy beach tiger beetle [*Cicindela hirticollis gravid*], western beach tiger beetle [*Cicindela latesignata latesignata*], senile tiger beetle [*Cicindela senilis frosti*], and monarch butterfly [*Danaus plexippus*]) that are included on the CDFW Special Animals list were documented. Of these five invertebrate species, the monarch butterfly is also a species of common conservation concern by the United Nations Environment Programme (UNEP) and U.S. Forest Service (USFS) species of special concern. Descriptions of these species are provided in the following sections.

#### 5.2.2.2.3 Federal Endangered Species Act Species

One federally listed bird species and one federally listed reptile species have been documented within 1 mile of the AEC site. There is no suitable forage or nesting habitat for these species on the AEC site.

- California Least Tern** – California least tern is a federally and state-listed endangered species. This species has long narrow wings and a broad forked tail. The body is white with pale gray and it has black tipped wings. The head is black capped with a white streak across the forehead and the bill is yellow with a black tip. This species forages for fish in open water habitats including near-shore ocean waters, tidal channels, and estuaries. This species breeds along the California coast from the San Francisco Bay into Northern Baja California. Nest sites include open sandy areas, dirt, and dry mud near suitable foraging habitat. Two acres have been established at the Los Cerritos Wetlands as a California least tern nesting site (City of Long Beach, 2006), but nesting has not been observed at this location (CDFW, 2013b).
- Green Sea Turtle** – Green sea turtle is a federally threatened species throughout its Pacific range. The geographic range of the green sea turtle population in the Pacific Ocean is hard to define because this species is highly migratory; therefore, the western coasts of the United States, Canada, and Mexico constitute shared habitat for Pacific green sea turtles (National Marine Fisheries Service and USFWS, 1998). This species is the largest of the cheloniids and adults can exceed 1-meter carapace length and 100 kg in weight. They are common as far north as San Quintin Bay in Baja California, but uncommon along the California coast (CaliforniaHerps, 2013). No nesting habitat has been identified within the west coast of the United States. This species has been documented regularly in San Diego Bay because of warm water effluent from a power generating station (National Marine Fisheries Service and USFWS, 1998). Another small colony has taken up residence where warm water is discharged into the brackish mouth of the San Gabriel River from the existing Long Beach power plant (the Los Angeles Department of Water and Power's Haynes Generating Station) (CaliforniaHerps, 2013). A green sea turtle was observed in the area within the San Gabriel River Channel in 2010 between East 2nd Street and East 7th Street (CDFW, 2013b).

#### 5.2.2.4 California Endangered Species Act Species

One bird species listed under the California Endangered Species Act (CESA) has been observed west of the AEC site, within the same general area as the Los Cerritos Wetlands.

- **Belding's Savannah Sparrow** – Belding's savanna sparrow is a state-listed endangered species. This subspecies is distinguished from the more common northern subspecies by a longer and thicker bill, darker and thicker streaks on the underside, darker and coarser streaks on the upper side, and darker marks on the face. Belding's savanna sparrows occur in coastal salt marshes from Santa Barbara south to San Diego. This species forages on the ground for insects, snails and other invertebrates, and seeds. Breeding appears to begin in early March. Nests are constructed on the ground in areas of dense vegetation including pickleweed and salt grass. Belding's savannah sparrows have been documented in the Bolsa Chica wetlands and the Seal Beach National Wildlife Refuge and in the same general area as the Los Cerritos Wetlands (CDFW, 2013b).

#### 5.2.2.5 State Fully Protected Species

No state fully protected species have been observed within 1 mile of the AEC site.

#### 5.2.2.6 CDFW Species of Concern

Two CDFW species of special concern, coast horned lizard and burrowing owl, have been reported within 1 mile of the AEC site (CDFW, 2013b). Coast horned lizard occurs in valley-foothill hardwood, conifer and riparian habitats, pine-cypress, juniper, and annual grassland habitats throughout the central and southern California coast. They inhabit open country, especially sandy areas, washes, flood plains, and wind-blown deposits (Zeiner et al., 1990). Two historical occurrences of this species were documented (1952 and 1961) in the project vicinity, but both are assumed to be extirpated because of development (CDFW, 2013). Burrowing owl was documented in 1980–1981 in the general vicinity of Seal Beach (CDFW, 2013b). This species occurs in annual and perennial grasslands, deserts, and shrublands with low-growing vegetation (Zarn, 1974). The project area lacks suitable habitat for these species and they are not expected to occur within the project area.

#### 5.2.2.7 CDFW Special Animals

Five invertebrate species included on the CDFW Special Animals list were documented within 1 mile of the project site: western tidal-flat tiger beetle, sandy beach tiger beetle, western beach tiger beetle, senile tiger beetle, and monarch butterfly (CDFW, 2013b). According to CDFW (2013b), western tidal-flat tiger beetle inhabits estuaries and mudflats along the southern California coast and this species was last observed in 1998. Sandy beach tiger beetle inhabits areas adjacent to non-brackish water along the California coastline and this species is presumed to be extirpated from the historical location sampled in Naples in 1979 (CDFW, 2013b). Western beach tiger beetle is also presumed to be extirpated from its historical occurrence recorded from 1945; this species has similar habitat requirements as the sandy beach tiger beetle (CDFW, 2013b). Senile tiger beetle occurs in mudflats and beaches of coastal southern California; it is presumed to be extirpated from its recorded occurrence location (CDFW, 2013b). Monarch butterfly is a USFS species of special concern and a UNEP species of common conservation concern (USFS, 2012; UNEP, 2004). Because suitable habitat does not exist in the project vicinity and most of the recorded occurrences are presumed to be extirpated, these species are not expected to occur within the project area.

#### 5.2.2.3 Regional Overview

The AEC site lies within the Los Angeles Plain subsection of the Southern California Coast Section (USDA, 1997). This subsection is characterized by flat floodplains and terraces and very gently sloped alluvial fans with small areas of marine terraces. Steep hills and mountains including parts of the Santa Monica and San Gabriel mountains are found in the northern part of this subsection; parts of the San Jose and Puente hills are found along the eastern edge of the subsection. Historically, the predominant natural plant communities in the Los Angeles Plain included grasslands, shrub lands, salt marshes, dunes, and woodlands

(USDA, 1997). Extensive urban development throughout the region has replaced most of the natural communities with urban development, and natural areas are restricted to scattered open space preserves and other protected areas. Current land use within the region is predominantly urban development including the communities of Long Beach, Seal Beach, Los Alamitos, Westminster, Cypress, Hawaiian Gardens, La Palma, Lockwood, and Bellflower. These areas are characterized by a mixture of commercial, industrial, and residential development interspersed with landscaped parks (Figure 5.2-1).

The regional climate is moderated by marine influences with a mean annual temperatures ranging from about 53 to 72°F. The mean annual precipitation is about 13 inches, with most of the rainfall occurring between November and March.

The AEC site is approximately 1.9 miles inland from the Pacific Ocean. The San Gabriel River is located immediately along the eastern boundary of the AEC site. In this area, the river has been channelized between levees that are maintained by the Los Angeles Department of Power and Water. The Los Cerritos Channel is located immediately along the west side of the site. Two side channels from the Los Cerritos Channel are used as cooling water intakes for the Alamitos Generating Station; these channels will not be used for the AEC because the AEC design eliminates the need for once-through cooling. The AEC site is located within the San Gabriel Watershed in the South Coast Hydrologic Region (BIOS, 2013).

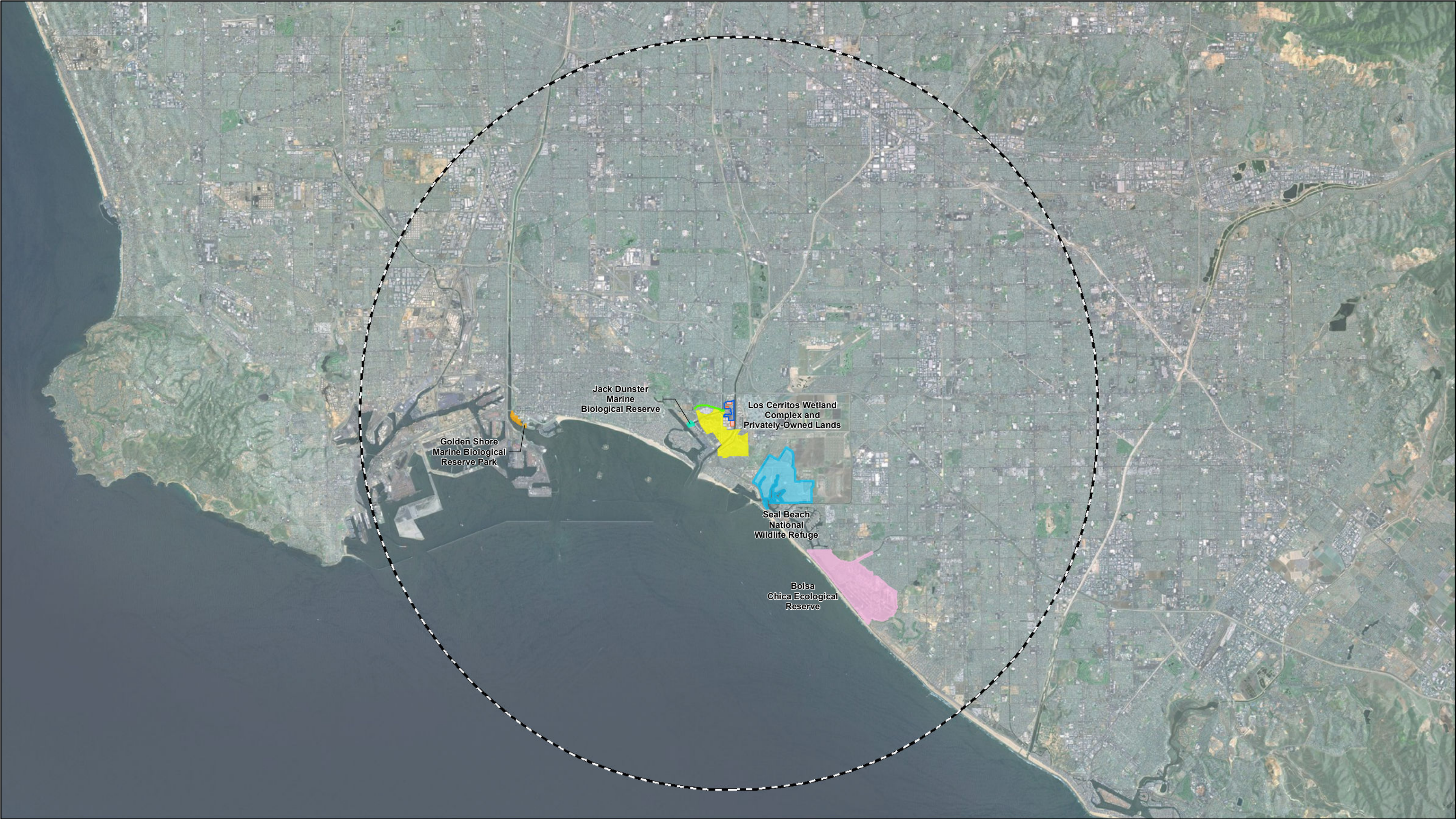
#### 5.2.2.4 Regional Wetlands and Other Resource Areas within a 10-Mile Radius

Several ecological reserves, wetland preservation sites, and designated open spaces occur in the regional vicinity. These areas provide important habitat for migratory birds along the Pacific Flyway as well as habitat for several special-status plants and animals. The locations of these areas in relation to the AEC as shown in Figure 5.2-1. NWI-listed aquatic and wetland habitats in the project area, including any potential jurisdictional and non-jurisdictional wetlands, are shown in Figures 5.2-2a-d. For purposes of these figures, wetlands as defined by the Coastal Act are included, which include “lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens” (Coastal Act Section 30121).



The closest offsite habitat, the Los Cerritos Wetlands, is approximately 2,400 feet west of the AEC. Other habitats within a 10-mile radius of the AEC site are approximately 1 to 6 miles away from the site. Each of these areas is briefly described below.

- **Los Cerritos Wetlands** – The Los Cerritos Wetlands complex is an approximately 500-acre site that is approximately 2,400 feet west of the AEC site. Approximately 2 acres of this site have been established as a California least tern nesting site (City of Long Beach, 2006). This site also has the potential to support other wildlife species.
- **Jack Dunster Marine Biological Reserve** – The Jack Dunster Marine Biological Reserve, located approximately 1 mile west of the AEC site, is a 2.7-acre site that contains 1.5 acres of land and 1.2 acres of shallow water that was been constructed on the northwestern side of the Los Cerritos Channel. Habitats that are represented in this small reserve include coastal sage scrub, coastal marsh, intertidal mudflats, and rocky intertidal (City of Long Beach, 2012a). The reserve provides habitat for waterfowl and fish.
- **Seal Beach National Wildlife Refuge** – The Seal Beach National Wildlife Refuge is located approximately 1.8 miles south of the AEC site within the boundaries of the Seal Beach Naval Weapons Station. The refuge includes 911 acres of remnant saltwater marsh in the Anaheim Bay estuary. The refuge provides important habitat for a number of migratory birds as well as three endangered species including the light-footed clapper rail (*Rallus longirostris levipes*), California least tern, and Belding’s savanna sparrow.

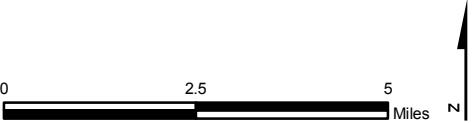




Legend

- |  |   |  |
|--|---|--|
|  Project Boundary                     |  Bolsa Chica Ecological Reserve              |  Los Cerritos Wetland Complex and Privately-Owned Lands |
|  Parking/Laydown Construction Area    |  Golden Shore Marine Biological Reserve Park |  Seal Beach National Wildlife Refuge                    |
|  Process/Sanitary Wastewater Pipeline |  Jack Dunster Marine Biological Reserve      |  |
|  10 Mile Project Buffer               |  Seal Beach holding 1                        |  |

Source: California Protected Areas Database (CPAD) – [www.calands.org](http://www.calands.org) (March 2013), Los Cerritos Wetlands Authority (June 2010), U.S. Fish and Wildlife Service (June 2013).



**FIGURE 5.2-1**  
**Significant Regional Wetlands and Protected Areas**  
Alamitos Energy Center  
Long Beach, California





Legend

- Project Boundary
- Parking/Laydown Construction Area
- Process/Sanitary Wastewater Pipeline
- 250 Feet Buffer
- 1 Mile Project Buffer/0.5 Mile Sewer Line Buffer

National Wetlands Inventory

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Note:  
NWI data is accurate to produce medium  
resolution information at a scale of 1:12,000.  
Larger scales will not contain the same level of accuracy.

Source:  
National Wetlands Inventory, U.S. Fish and Wildlife Service (2013).

0 2,000 4,000  
Feet












**FIGURE 5.2-2a**  
**National Wetland Inventory**  
Alamos Energy Center  
Long Beach, California



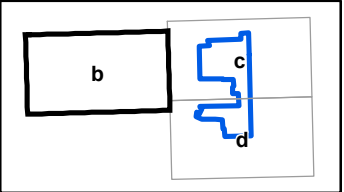


Legend

- |   |  |   |
|---|--|---|
|  Project Boundary                     | <b>National Wetlands Inventory</b>   |  Freshwater Emergent Wetland       |
|  Parking/Laydown Construction Area    |  Estuarine and Marine Deepwater |  Freshwater Forested/Shrub Wetland |
|  Process/Sanitary Wastewater Pipeline |  Estuarine and Marine Wetland   |  Freshwater Pond                   |
|  250 Feet Buffer                      |  |   |

Note:  
NWI data is accurate to produce medium  
resolution information at a scale of 1:12,000.  
Larger scales will not contain the same level of accuracy.

Source:  
National Wetlands Inventory, U.S. Fish and Wildlife Service (2013).












**FIGURE 5.2-2b**  
**National Wetland Inventory**  
**(within 250 feet)**  
Alamos Energy Center  
Long Beach, California



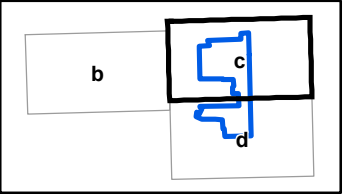


**Legend**

- |   |  |   |
|---|--|---|
|  Project Boundary                     | <b>National Wetlands Inventory</b>   |  Freshwater Emergent Wetland       |
|  Parking/Laydown Construction Area    |  Estuarine and Marine Deepwater |  Freshwater Forested/Shrub Wetland |
|  Process/Sanitary Wastewater Pipeline |  Estuarine and Marine Wetland   |  Freshwater Pond                   |
|  250 Feet Buffer                      |  |   |

Note:  
NWI data is accurate to produce medium  
resolution information at a scale of 1:12,000.  
Larger scales will not contain the same level of accuracy.

Source:  
National Wetlands Inventory, U.S. Fish and Wildlife Service (2013).












**FIGURE 5.2-2c**  
**National Wetland Inventory**  
**(within 250 feet)**  
Alamitos Energy Center  
Long Beach, California



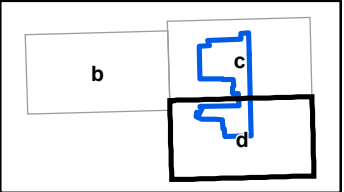


**Legend**

- |   |  |   |
|---|--|---|
|  Project Boundary                     | <b>National Wetlands Inventory</b>   |  Freshwater Emergent Wetland       |
|  Parking/Laydown Construction Area    |  Estuarine and Marine Deepwater |  Freshwater Forested/Shrub Wetland |
|  Process/Sanitary Wastewater Pipeline |  Estuarine and Marine Wetland   |  Freshwater Pond                   |
|  250 Feet Buffer                      |  |   |

Note:  
NWI data is accurate to produce medium  
resolution information at a scale of 1:12,000.  
Larger scales will not contain the same level of accuracy.

Source:  
National Wetlands Inventory, U.S. Fish and Wildlife Service (2013).



**FIGURE 5.2-2d**  
**National Wetland Inventory**  
**(within 250 feet)**  
Alamitos Energy Center  
Long Beach, California  
**CH2MHILL**



- Bolsa Chica Wetlands** – The Bolsa Chica wetlands are located approximately 4.7 miles southeast of the AEC site. These wetlands encompass approximately 900 acres, approximately one-third of which is owned by the State and managed as the Bolsa Chica Ecological Reserve. Approximately 80 percent of the wetland is composed of a mixture of salt marsh and open mudflats with the remaining 20 percent consisting of open water. The Huntington Harbor is the only area fully open to tidal flows. Tidal flows to the inner parts of Bolsa Bay, including the ecological reserve, are controlled by flood gates operated by the CDFW. Over 300 species of birds have been observed at these wetlands including 32 special-status birds such as the California least tern, western snowy plover (*Charadrius alexandrinus nivosus*), Belding's savanna sparrow, and light-footed clapper rail. Several special-status plants, amphibians, reptiles, and mammals are also known to occur in this area including southern tarplant, Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), San Diego horned lizard (*Phrynosoma coronatum blainvillii*), western pond turtle (*Emys marmorata*), silvery legless lizard (*Anniella pulchra*), and the southern California salt marsh shrew (*Sorex ornatus salicornicus*).
- Golden Shore Marine Biological Reserve Park** – In 1997, the City of Long Beach's Golden Shore Marine Biological Reserve Park, located approximately 5.9 miles west of the AEC site, was originally a launch ramp and parking lot that was converted into 6.4 acres of intertidal and subtidal wetlands habitat as mitigation for the conversion of 20 acres of Shoreline Park into the Aquarium of the Pacific and the Rainbow Harbor commercial/recreation attraction (City of Long Beach, 2012b). This reserve park has salt marsh vegetation, which provides habitat for waterfowl and fish.

#### 5.2.2.5 Regional Sensitive Habitat Types Identified in the CNDDDB and Critical Habitat within a 10-Mile Radius

Habitats types identified within 10 miles of the AEC site include natural communities identified by the CNDDDB, including southern coastal salt marsh, southern foredunes, and southern dune scrub. Critical habitat for western snowy plover is also present in the project region. Regional habitat types and critical habitat areas within 10 miles of the AEC site are shown in Figure 5.2-3. Descriptions of these areas are provided below.

##### 5.2.2.5.1 Regional Habitat Types within a 10-Mile Radius

- Southern Coastal Salt Marsh** – Southern coastal salt marsh habitat occurs approximately 1.6 miles from the AEC site. This habitat type occurs in areas subject to regular tidal flooding by salt water such as sheltered inland bays, estuaries, and lagoons. The distribution of plant species within the salt marsh is often in distinct zones based on the frequency and duration of tidal flooding. Typically, California cordgrass (*Spartina foliosa*) occurs at the lowest elevations adjacent to open water that are subject to regular, prolonged tidal inundation. The mid-elevation areas of the marsh are typically characterized by pickleweed (*Salicornia virginica*) and are generally subject to cyclical inundation during high tides and drying during low tides. The upper marsh zone is generally subject to flooding for short durations and only during higher high tides. It supports a more diverse mixture of plant species including pickleweed, saltgrass (*Distichlis spicata*), alkali heath (*Frankenia salina*), alkali weed (*Cressa truxillensis*), California seablite (*Suaeda californica*), and marsh jaumea (*Jaumea carnosa*).

The historical extent of salt marsh habitat throughout the south coast region has been dramatically reduced as a result of urban coastal development. Today, this community is restricted to isolated patches surrounded by development or in designated protected areas. In the regional vicinity of the AEC site, southern coastal salt marsh habitat is found in the Jack Dunster Marine Biological Reserve located approximately 1 mile from the AEC site, Seal Beach National Wildlife Refuge located approximately 1.8 miles from the AEC site, Bolsa Chica Ecological Reserve located approximately 4.7 miles from the AEC site, and the Golden Shore Marine Biological Reserve Park located approximately 5.9 miles from the AEC site (Figure 5.2-3).

- **Southern Foredunes** – Southern foredunes habitat is similar to active sand dunes but is subject to less wind, has more stable sand, and greater availability to groundwater; therefore, the area supports the establishment of plant species that further stabilize the dunes. As with other natural habitats, the historical extent of foredunes in southern California has been dramatically reduced as a result of urban coastal development. Native plant species commonly found in this habitat include beach morning glory (*Calystegia soldanella*), beach bur (*Ambrosia chamissonis*), and common eucrypta (*Eucrypta chrysanthemifolia*). Southern foredune habitat has been mapped approximately 4.7 miles southeast of the AEC site within the Bolsa Chica Ecological Reserve (Figure 5.2-3).
- **Southern Dune Scrub** – Southern dune scrub is characterized as a dense coastal scrub community of scattered shrubs, subshrubs, and herbs that are typically less than 1 meter tall, often associated with a high percentage of cover. This habitat type is drier, fairly warmer, and experiences less onshore wind compared to central and northern dune scrub habitats. Native plants commonly found in this habitat include beach saltbush (*Atriplex leucophylla*), California croton (*Croton californicus*), California ephedra (*Ephedra californica*), mock heather (*Ericameria ericoides*), dune lupine (*Lupinus chamissonis*), desert thorn (*Lycium brevipes*), prickly pear (*Opuntia* sp.), lemonade berry (*Rhus integrifolia*), and jojoba (*Simmondsia chinensis*) (Holland, 1986). This habitat type occurs approximately 5 miles southeast of the AEC (Figure 5.2-3).

#### 5.2.2.5.2 Critical Habitat within a 10-Mile Radius

- **Western Snowy Plover** – Critical habitat for the federally listed snowy plover occurs approximately 4.7 miles from the AEC site in the Bolsa Chica Ecological Reserve (Figure 5.2-3) (USFWS, 2012).

#### 5.2.2.6 Regional Threatened, Endangered, or Candidate Species; Regional Special-status Species

Regional and local species information was compiled from a variety of sources and is provided in Appendix 5.2A. The appendix lists all species historically found or with the potential to occur in the project region as well as regional species listed as threatened, endangered or candidate species under the federal Endangered Species Act (ESA) and the CESA (Fish and Wildlife Code, Sections 2050 et seq.).

Appendix 5.2A also includes data on other special-status species including CNPS List 1-4 species, CDFW Species of Special Concern, CDFW Fully Protected Species, and other CDFW Special Animals and bird species. A CNDDDB RareFind Checklist is provided in Appendix 5.2B. Appendix 5.2A includes the status designation for each species, habitat types that may support these species in the project region, a determination of potential for these species to occur within the AEC 1-mile survey area, and a rationale for the occurrence determination. Species that were observed during the site visit are discussed in subsequent subsections, and photographs of the AEC site are provided in Appendix 5.2D. A copy of biological resources staff resumes is provided in Appendix 5.2E. In addition, agency consultation correspondence is included in Appendix 5.2F. The known locations of special-status species identified in the CNDDDB records within a 10-mile range of the AEC site are shown in Figure 5.2-4a, and special-status species that occur within 1-mile of the AEC site are provided in Figure 5.2-4b.

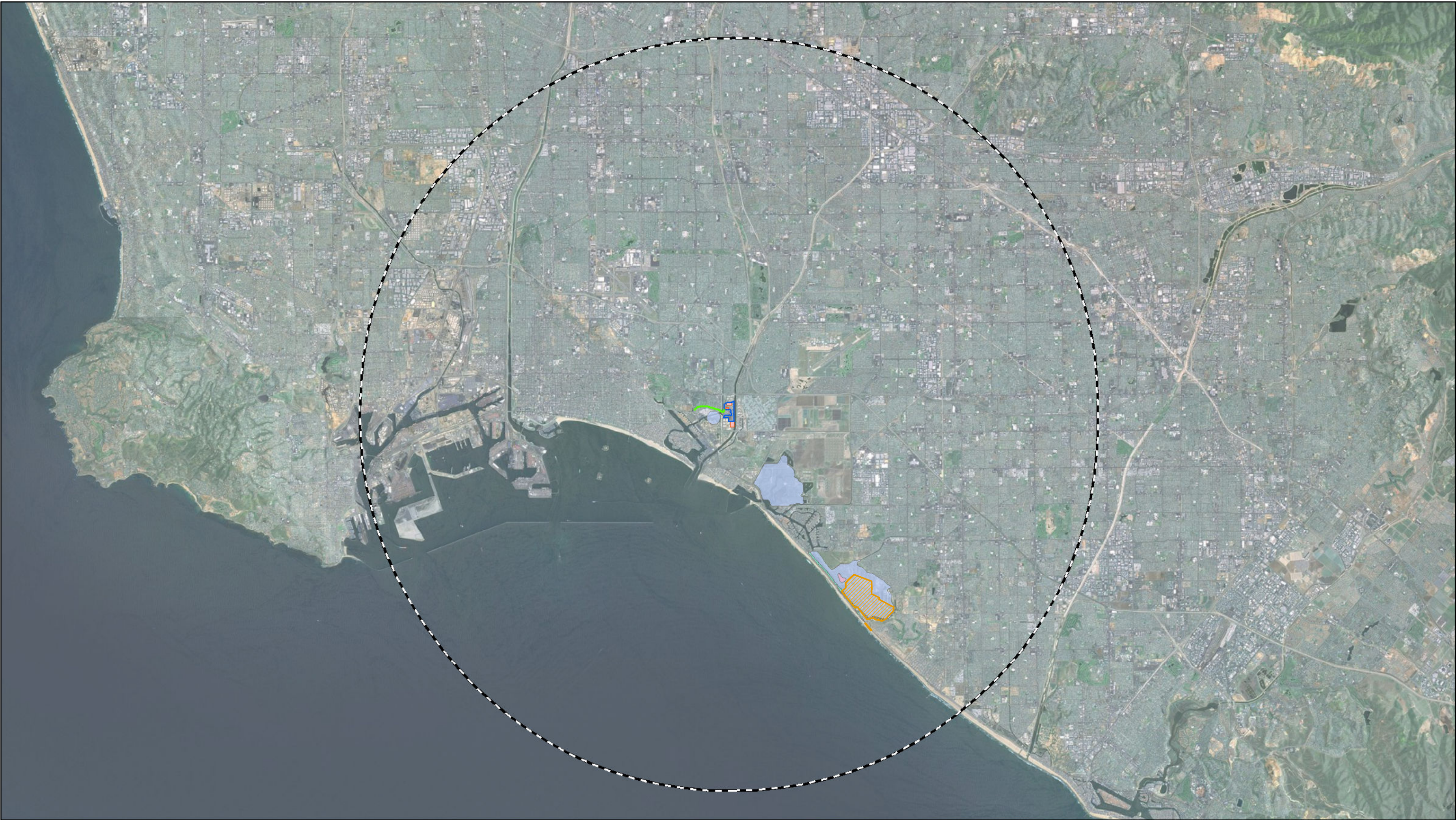
Plants were considered to be special-status if one or more of the following criteria were met:

- State Special Plant as defined by the Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2013c)
- Designated by the CNPS in its Inventory of Rare and Endangered Plants of California (CNPS, 2013)









Animals were considered to be special-status if one or more of the following criteria were met:

- California State Species of Concern as defined by the CNDDDB (CDFW, 2013b)
- California State Fully Protected Species (CDFW, 2013a)
- State Special Animal as defined by the CNDDDB (CDFW, 2013b)

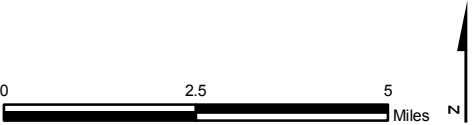




**Legend**

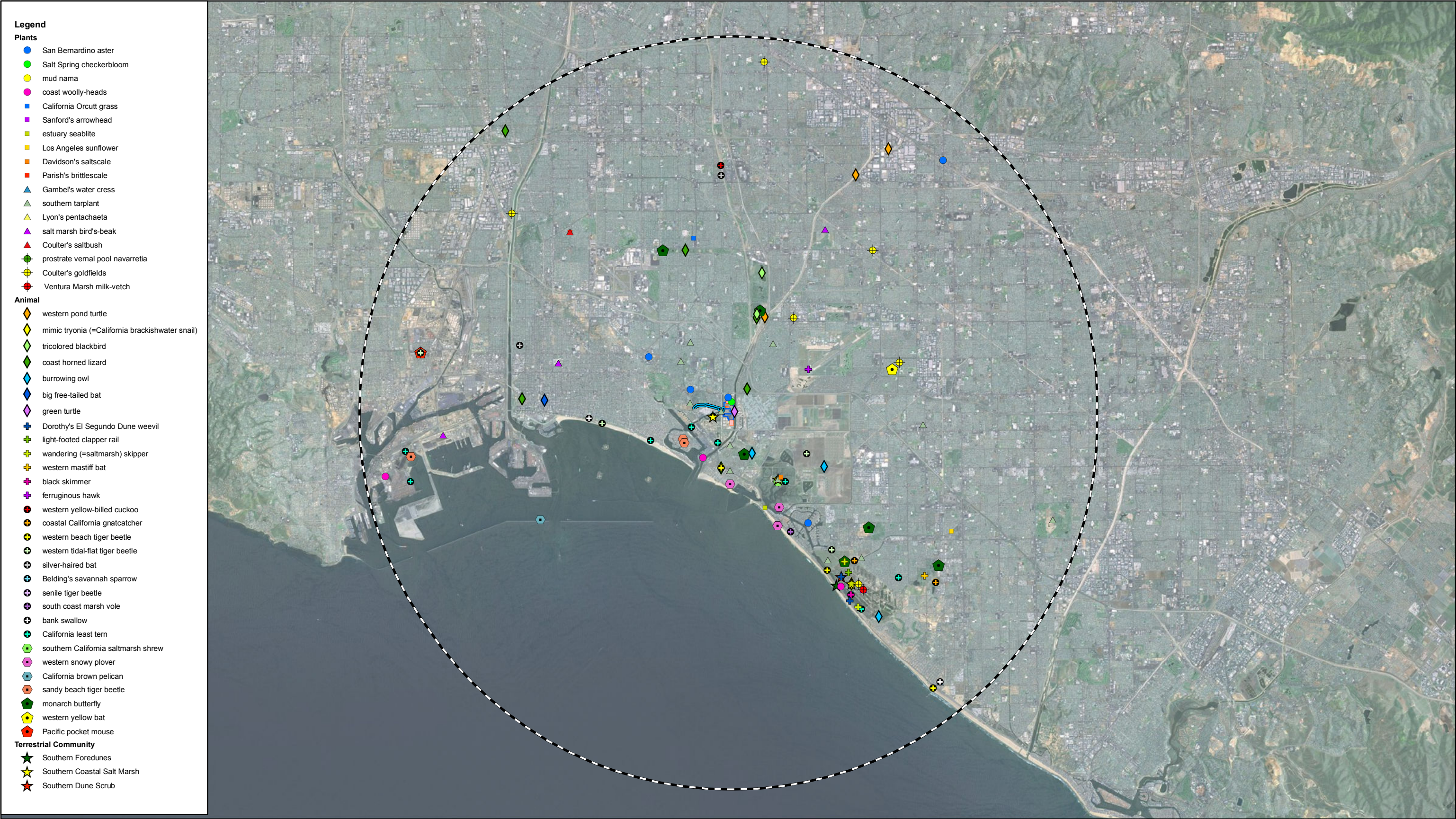
- |  |   |  |
|--|---|--|
|  Project Boundary                     | <b>Sensitive Communities</b>  | <b>Critical Habitat</b>  |
|  Parking/Laydown Construction Area    |  Southern Coastal Salt Marsh |  Western snowy plover |
|  Process/Sanitary Wastewater Pipeline |  Southern Dune Scrub         |  |
|  10 Mile Project Buffer               |  Southern Foredunes          |  |

Source: CNDDB (July 2013), USFWS (2012).



**FIGURE 5.2-3**  
**Sensitive Natural Communities and**  
**Critical Habitat**  
Alamitos Energy Center  
Long Beach, California





Legend

□

 Project Boundary

□

 Parking/Laydown Construction Area

□

 Process/Sanitary Wastewater Pipeline

□

 10 Mile Project Buffer

Note:

The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.

0

2.5

5

Miles

FIGURE 5.2-4a

Special-Status Species

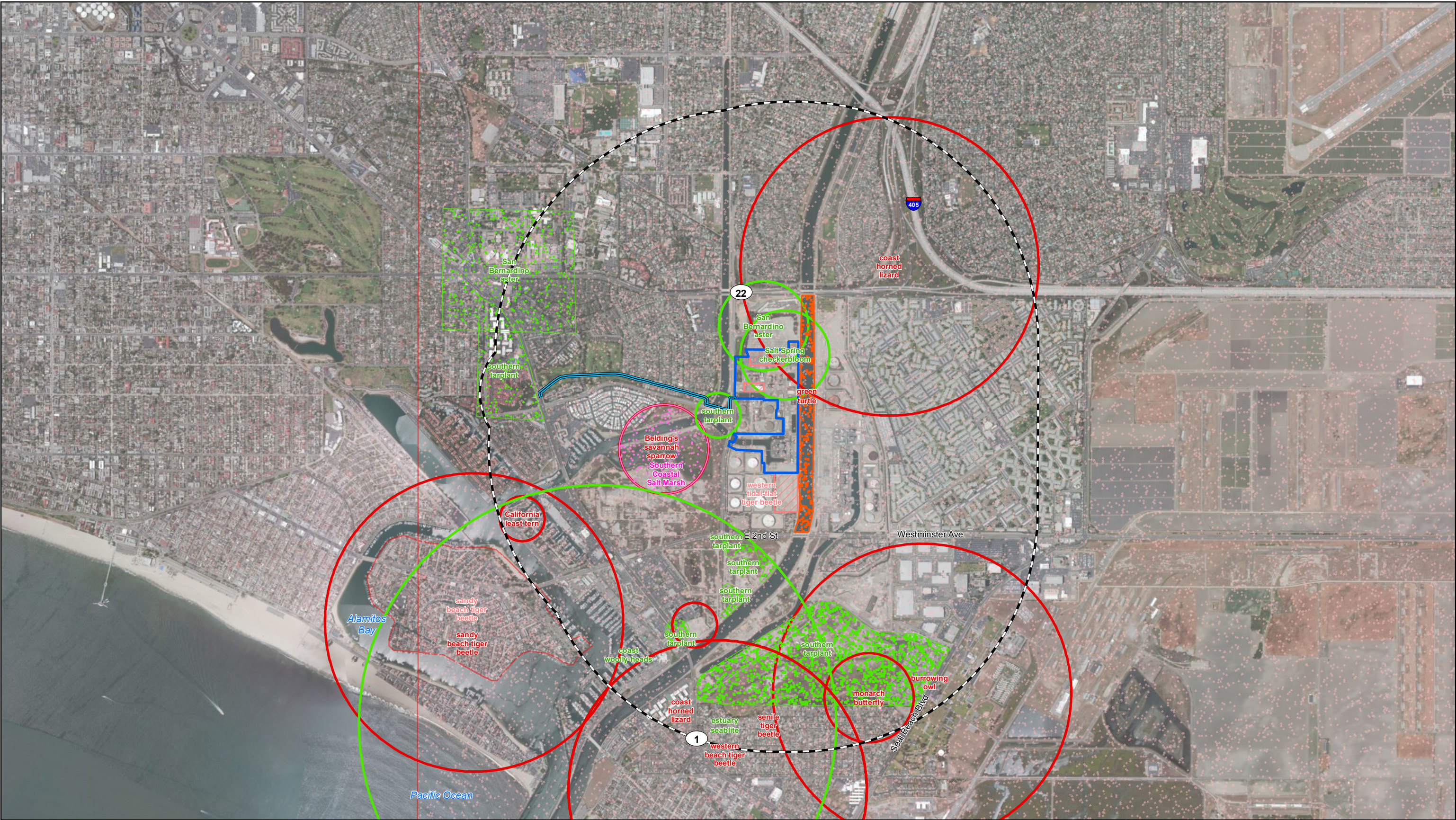
(within 10 miles)

Alamitos Energy Center

Long Beach, California

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**Legend**

Project Boundary

Parking/Laydown Construction Area

Process/Sanitary Wastewater Pipeline

1 Mile Project Buffer/0.5 Mile Sewer Line Buffer

Animal (1,000m)

Animal (specific area)

Animal (nonspecific area)

Plant (1,000m)

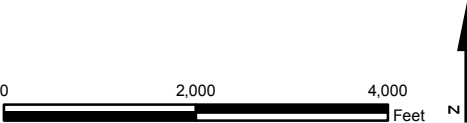
Plant (specific area)

Plant (nonspecific area)

Terr. Comm. (300m)

Source: CNDDDB, July 2013.

Note:  
1. The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used  
2. CNDDDB databases are updated every 6 months, therefore locations identified are approximations, and may be updated and/or relocated in future versions.



**FIGURE 5.2-4b**  
**Special-Status Species**  
**(within 1 mile)**  
Alamos Energy Center  
Long Beach, California  
**CH2MHILL**



Special-status species with habitat(s) and/or known distribution within the AEC 1-mile survey area were evaluated for potential impacts from project construction, demolition and operation. The results of the evaluation are discussed in Sections 5.2.3.2 and 5.2.3.3. Special-status species with habitats or known distribution that do not occur within 1 mile of the project site were not evaluated beyond the information listed in Appendix 5.2A.

#### 5.2.2.6.1 Observed Plant Species

The site and the proposed wastewater pipeline alignment are entirely developed and no natural habitats are present. Vegetation observed during the September 2011 site reconnaissance survey was limited to landscaping trees and shrubs and a few scattered weedy plants. Protocol rare plant surveys following *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2009) were not indicated for this site because the reconnaissance surveys confirmed that no natural habitats are present within the AEC site and the proposed wastewater pipeline alignment.

#### 5.2.2.6.2 Observed Wildlife Species

Species observed within 1 mile the site included great egret (*Ardea alba*), cormorant (*Phalacrocorax* spp.), western gull (*Larus occidentalis*), great blue heron (*Ardea erodias*), killdeer (*Charadrius vociferous*), green heron (*Butorides virescens*), red-tailed hawk (*Buteo jamaicensis*), black phoebe (*Sayornis nigricans*), and western fence lizard (*Sceloporus occidentalis*). Because there is no natural habitat on the site or along the proposed wastewater pipeline alignment, special-status wildlife species are unlikely to be found onsite. Some wildlife species may use areas along the wastewater pipeline because some ruderal vegetation and a golf course with manmade water features occur within the proposed alignment. According to an article in the September 3, 2008, *Long Beach Press-Telegram*, several federally listed green sea turtles have been observed in the Los Cerritos Channel. No nesting habitat has been identified within the west coast of the United States; however, this species has been documented regularly in San Diego Bay because of warm water effluent from a power generating station (National Marine Fisheries Service and USFWS, 1998), but not further up the coastline likely because of declining water temperatures. Because a green sea turtle was observed in the area (CDFW, 2013b) and a small colony is believed to reside in the brackish mouth of the San Gabriel River (CaliforniaHerps, 2013), this species is expected to be a visitor near the project area. Wetland habitats approximately 1,570 feet/0.30 mile to the southwest and approximately 5,000 feet/1 mile southeast of the project site have the potential to support special-status wildlife species.

#### 5.2.2.7 Land Uses and Vegetation Communities within a 1-Mile Radius of the AEC

Land use and vegetation communities identified within a 1-mile radius of the AEC site are shown in Figures 5.2-5a through 5.2-5h (provided at the end of this section). Urban development collectively represents the largest land uses in the survey area. Other land uses and natural vegetation communities identified include industrial areas, parks and open space, and a wetland preserve. The Pacific Ocean is approximately 1.9 miles southwest of the AEC site.

- **Urban Development** – Urban developed areas include residential, commercial, and light industrial uses, as well as public schools and other municipal facilities. The majority of the land uses to the north, northeast, southwest, south, and northwest of the AEC site consist of urban development.
- **Industrial** – Industrial areas include the existing Alamitos Generating Station, SCE 230-kV switchyard, and former fuel oil tank farm. Additional industrial areas are located across the San Gabriel River flood control channel to the east and include the Los Angeles Department of Water and Power Haynes Generating Station.
- **Parks and Open Space** – Parks and open space include natural and landscaped areas that have been designated for recreational uses or provide undeveloped green space. Parks and open space are located west and south of the AEC site and along a portion of the proposed wastewater pipeline alignment.

- **Wetland Preserve** – The Los Cerritos Wetlands are located approximately 2,400 feet west of the AEC site (Figure 5.2-1). Vegetation in this area is characterized by pickleweed with other salt-tolerant species such as salt grass, alkali heath, and saltwort (*Batis maritima*). Open unvegetated salt pannes and tidal channels are also present in some areas (some photographs are provided in Appendix 5.2D).

### 5.2.3 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the potential permanent and temporary effects of AEC construction, demolition, and operation. Results from the field surveys, habitat evaluations, literature review, and aerial imagery interpretation were used to evaluate the potential for presence of biological resources in the immediate vicinity of the AEC site. There is no suitable habitat for threatened, endangered, candidate and special-status species that can potentially occur within the project area due to the industrial nature of the AEC site.

No natural vegetation or habitat is present on the AEC site or within the wastewater pipeline alignment. There are no project features that would support special-status plants, and the project site does not provide suitable habitat for any potentially occurring special-status wildlife species.

This section identifies biological resources that may be affected either directly or indirectly by the project. Direct and indirect impacts may be either permanent or temporary. These impact categories are defined below and are applied as part of the environmental analysis.

- **Direct** – The California Environmental Quality Act (CEQA) defines direct or primary impacts as those which are caused by the project and occur at the same time and place (14 California Code of Regulations [CCR] Section 15358(a)). Examples include loss of habitat resulting from clearing vegetation, encroaching into wetlands, diverting natural surface water flows, and the loss of individual species.
- **Indirect** – CEQA defines indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems (14 CCR Section 15358(a)).
- The CEQA Guidelines further provide that “Effects analyzed under CEQA must be related to a physical change.” (14 CCR Section 15358(b)). Cumulative impacts are discussed in Section 5.2.4.

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of AEC construction and associated demolition activities, operation, and maintenance of the AEC project.

#### 5.2.3.1 Significance Criteria

Appendix G of CEQA is a screening tool, not a method for setting thresholds of significance. Appendix G is typically used in the Initial Study phase of the CEQA process, asking a series of questions. The purpose of these questions is to make a determination as to whether a project requires an Environmental Impact Report, a Mitigated Negative Declaration or a Negative Declaration. As the Governor’s Office of Planning and Research stated, “Appendix G of the Guidelines lists a variety of potentially significant effects, but does not provide a means of judging whether they are indeed significant in a given set of circumstances.” The answers to the Appendix G questions are not determinative of whether an impact is significant or less than significant. Nevertheless, the questions presented in CEQA Appendix G are instructive.

In terms of Biological Resources, Appendix G, asks, in part, whether the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, threatened, candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by CDFW or USFWS. (CEQA Guidelines, Appendix G, Section IV(a))

- Have a substantial adverse effect on any wetland, riparian habitat or other sensitive natural community or critical habitat identified in local or regional plans, policies, or regulations, or by CDFW or USFWS. (CEQA Guidelines, Appendix G, Section IV(b))
- 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? (CEQA Guidelines, Appendix G, Section IV(c))
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory native wildlife corridors, or impede the use of wildlife nursery sites. (CEQA Guidelines, Appendix G, Section IV(d))
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (CEQA Guidelines, Appendix G, Section IV(e))
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (CEQA Guidelines, Appendix G, Section IV(f))

### 5.2.3.2 Potential Impacts of Construction and Demolition

As discussed above, AEC construction will require the removal of existing Alamitos Generating Station Units 1–7 during the construction process. The demolition of Unit 7 is scheduled to commence the third quarter of 2015. The construction of Block 1 is scheduled for the third quarter of 2016 and Block 2 is scheduled to commence in the fourth quarter of 2016. The demolition of Units 5 and 6 is scheduled to commence in the fourth quarter of 2018. The demolition of Units 5 and 6 will make space for the construction of AEC Block 3. AEC Block 3 construction is scheduled to commence in the first quarter of 2020. The demolition of Units 3 and 4 is scheduled to commence in the first quarter of 2022. The demolition of Units 3 and 4 will make space for the construction of AEC Block 4. AEC Block 4 construction is scheduled to commence in the second quarter of 2023. The demolition of Units 1 and 2 is scheduled to commence in the third quarter of 2025. Actual onsite physical construction and demolition from site preparation to completion of all mechanical, electrical and balance of plant equipment and demolition of Units 1–7 is expected to take approximately 139 months.

All of the project activities will be located within the project boundary or along the proposed wastewater pipeline alignment (Figure 1.1-3) in existing developed areas where no additional clearing or grading of natural vegetation will be required. If the existing LBWD sewer system is upgraded, then a golf course and manmade water features have the potential to be affected. No other offsite linear features are needed for the project; therefore, there will be no construction- or demolition-related disturbances to the offsite natural vegetation or habitats. Furthermore, the AEC will eliminate the use of ocean water by the Alamitos Generating Station by eliminating once-through cooling, avoiding the impingement and entrainment impacts of the existing facility. As a modern, combined-cycle facility, the AEC will also have lower emissions, especially on a kilowatt-hour production basis, with greater thermal efficiency, lower greenhouse gas emissions, and lower criteria pollutant emissions. The AEC will also operate more quietly, reducing potential noise impacts. In general, as a brownfield site devoid of significant biological resources, the AEC avoids and minimizes a host of potential environmental impacts in nearly every discipline analyzed in this AFC.

#### 5.2.3.2.1 AEC Facility

Activities related to AEC construction will require site preparation, including demolition and removal of the existing power generation equipment and facilities at the site. All demolition and construction activities will be confined to the existing developed Alamitos Generating Station site. AEC construction will not result in permanent loss of any natural vegetation or habitats that could be used by special-status species. AEC demolition and construction activities will result in temporary noise impacts that may potentially affect wildlife species offsite. With the implementation of mitigation measures proposed by the Project Owner,



any potentially significant impacts to biological resources resulting from AEC construction and demolition activities will be reduced to less-than-significant levels.

#### **5.2.3.2.2 Laydown and Parking Areas**

Construction of the AEC will require the use of onsite laydown areas (approximately 8 acres dispersed throughout the existing site) and an approximately 10-acre laydown area located adjacent to the existing site. The adjacent 10-acre laydown area will be shared with another project being developed by the Applicant (Huntington Beach Energy Project [HBEP] 12-AFC-02). Due to the timing for commencement of construction for these two projects, the adjacent laydown area will already be in use for equipment storage before AEC construction begins. Because the project will be constructed entirely within the existing approximately 63-acre Alamitos Generating Station site and along the proposed wastewater pipeline alignment, no loss of natural vegetation or significant habitats will occur. In addition, the 10-acre offsite laydown area is located entirely within an existing developed area with no natural habitat; therefore, the project will not affect any special-status plant species.

#### **5.2.3.2.3 Proposed Wastewater Pipeline**

The AEC will include a new 1,000-foot-long process/sanitary wastewater pipeline to the first point of interconnection with the existing LBWD sewer system. Because the project may also require upgrading of approximately 4,000 feet of the existing offsite LBWD sewer line downstream of the first point of interconnection, this possible offsite improvement to the LBWD system is also analyzed in this AFC. The total length of the new pipeline (1,000 feet) and the upgraded pipeline (4,000 feet) is approximately 5,000 feet.

Process/sanitary wastewater will be conveyed to the Los Angeles County Sanitation District via a new proposed wastewater pipeline interconnection to the Long Beach Water District. The new, off-site pipeline will commence at the west side of the site near the intersection of Studebaker Road and the northern intake channel. The pipeline will cross under Studebaker Road then turn south to the intersection with Loynes Drive. The line will then turn west and will cross over the Los Cerritos Channel and will be affixed to the bridge. After crossing the channel, the pipeline will turn north on East Vista Street to connect into the existing LBWD sanitary system in the residential subdivision. The wastewater pipeline alignment will avoid wetland habitats, but some ruderal vegetation will be temporarily disturbed by construction. If the existing LBWD sewer system is upgraded, then a golf course and some manmade water features, which have the potential to support protected wildlife species, might be affected. For example, there are numerous birds species protected under the Migratory Bird Treaty Act (MBTA) that use golf courses and manmade water sources. Site photographs are provided in Appendix 5.2D.

#### **5.2.3.2.4 Construction and Demolition Impacts to Special-Status Plant Species**

There are no sensitive or special-status plants with potential to occur within the AEC site and proposed wastewater pipeline alignment; therefore, the project will not result in significant impacts to sensitive or special-status plant species.

#### **5.2.3.2.5 Construction and Demolition Impacts to Threatened, Endangered, Candidate and Special-Status Wildlife Species**

There are no threatened, endangered, candidate or special-status animals with potential to occur within the AEC site; therefore, construction and demolition activities will not result in any potentially significant impacts to such species. The AEC will not result in the removal of any natural vegetation or sensitive wildlife habitat and will not result in any additional regional habitat fragmentation. With respect to potential offsite impacts, construction and demolition activities may result in temporary noise and increased traffic.

Potential effects on special-status species from construction, demolition, and operation of the AEC are discussed in the following sections.

- **Foraging Habitat** – The AEC site does not provide foraging habitat for sensitive and special-status species. Offsite, approximately 2,400 feet west of the AEC site, the Los Cerritos Wetlands provide potential nesting and foraging habitat for California least tern. Special-status bat species including western mastiff bat (*Eumops perotis*) and big free-tailed bat (*Nyctinomops macrotis*) may also use these areas for foraging. The project will not result in the loss of any potential foraging habitat. Potential temporary impacts from construction and demolition activities on foraging birds could primarily occur due to noise generated by these activities. Mitigation measures described in Section 5.7, Noise; Section 5.13, Visual Resources; and below will reduce potential impacts to foraging birds and bats to a less-than-significant level.
- **Nesting Birds** – With the exception of onsite landscaping (trees and shrubs) located away from power generating equipment and activities, there is no suitable nesting habitat on the AEC site. Offsite, the salt marsh wetlands, pannes, and beaches located within a 10-mile radius of AEC provide suitable nesting habitat for special-status birds including, Belding's savanna sparrow and California least tern as well as a number of other bird species. Any potential impact to nesting habitat resulting from AEC construction and demolition activities would be reduced to less-than-significant levels with implementation of mitigation measures described in Section 5.7, Noise; Section 5.13, Visual Resources; and below.

The project will not result in the permanent loss of nesting habitat for any migratory or resident birds. Temporary impacts to nesting birds could occur as a result of increased noise and construction and demolition activities. Noise and activity associated with project construction and demolition has the potential to disturb nesting birds, causing them to locate outside the vicinity of the construction area. Certain bird species could abandon nesting attempts close to the project site if disturbed during the breeding season during construction and demolition. This could be a significant impact, without mitigation; however, prior to construction and demolition, a preconstruction survey will be conducted to identify any active nests within 100 feet of the AEC site. Monitoring of active nests during construction and demolition activities will be performed if it is determined that active nests will be significantly disturbed by AEC activities. These measures will reduce potentially significant impacts to nesting birds to less-than-significant levels.

- **Wildlife Corridors** – The project is within the Pacific Flyway, a common route of bird migration that extends along the west coast of North America that spans an area from the pelagic regions of the Eastern Pacific to the Great Basin. No terrestrial wildlife corridors are currently present in the project area. Construction and demolition activities are not expected to impede migration along the flyway. Terrestrial wildlife habitat in the project area, as well as along the offsite pipeline alignment, has been significantly fragmented by urban development. In addition, the project site is located in developed areas; therefore, there would be no significant impacts resulting from habitat loss and fragmentation.
- **Pacific Green Sea Turtles** – The small colony of Pacific green sea turtles that are found in the San Gabriel River would not be affected by the project activity because no activity will be conducted in the San Gabriel River or the Alamitos Channels and erosion control and sediment control best management practices (BMP) will be implemented to protect surrounding water quality.

#### 5.2.3.2.6 Wetlands and Waters of the United States

Based on the previously developed nature of the existing Alamitos Generating Station, no significant biological resources or wetlands exist on the AEC site. Therefore, AEC construction and demolition and the installation of the proposed wastewater pipeline would not cause loss or fill of any wetlands or waters of the United States.

Offsite, although the manmade water features within the golf course are labeled as freshwater emergent wetlands and freshwater pond, these are artificial features that were constructed for the golf course and have no apparent connection to a traditional navigable water. These golf course water features are not expected to be considered jurisdictional waters. The AEC site is located approximately 2,400 feet west of the Los Cerritos Wetlands, which provide estuarine habitat; however, this wetland will not be directly affected by the AEC (Figures 5.2-2a and 5.2-2b). Erosion and sediment control BMPs will be implemented during construction and demolition in accordance with the Stormwater Pollution Prevention Plan (SWPPP) required by the State's General Construction Permit for construction projects over 1 acre in size. Additionally, the California Energy Commission (CEC) requires that project owners develop and implement a Drainage, Erosion and Sedimentation Control Plan to reduce the impact of runoff from the construction site.

Appropriate BMPs and existing onsite stormwater pollution prevention controls will be used to avoid any adverse effects to the Los Cerritos Wetlands. Thus, AEC construction and demolition or the installation of the proposed wastewater pipeline would not adversely affect these offsite wetlands or waters of the United States.

### 5.2.3.3 Potential Impacts of Operation

During operation, the AEC will produce combustion turbine emissions, water discharged to the existing sewer system, noise, and light. The potential for AEC operation to adversely affect sensitive biological resources at the AEC site is discussed in the following sections.

#### 5.2.3.3.1 Combustion Turbine Emissions

Air emissions from the combustion turbine exhaust stacks include, but are not limited to, nitrogen oxides ( $\text{NO}_x$ ) and particulates ( $\text{PM}_{10}$ ). Nitrogen oxide gases ( $\text{NO}$  and  $\text{NO}_2$ ) convert to nitrate particulates in a form that is suitable for uptake by most plants and could promote plant growth and primary productivity. Coastal salt marshes are the most common natural habitats in the vicinity of the AEC where nitrogen deposition may occur. The critical load for atmospheric nitrogen deposition into coastal wetlands is difficult to establish because wetlands subject to tidal exchange have open nutrient cycles. In addition, nitrogen loading in wetlands is often affected by sources other than atmospheric deposition (Morris, 1991). Various studies that have examined nitrogen loading in intertidal salt marsh wetlands have found critical loads to range from between 63 and 400 kg N  $\text{ha}^{-1} \text{yr}^{-1}$  (Caffrey et al., 2007; Wingand et al., 2003). The AEC nitrogen deposition impacts are not expected to significantly contribute to nitrogen loading on coastal salt marshes because of several factors, including the high level of  $\text{NO}_x$  emission controls, air quality mitigation regulations that require offsets (in the form of RECLAIM Trading Credits) to be surrendered for actual  $\text{NO}_x$  emissions, and the fact that elevated stack release heights, the time required for the chemical reaction required for secondary nitrogen formation, and the predominate wind patterns (west to east), among other factors, will result in a majority of the potential air quality impacts occurring away from the AEC site where time and distance will reduce ground-level concentrations.

Particulate emissions will be controlled by inlet air filtration of the turbine air intakes and the exclusive use of low sulfur natural gas. The deposition of  $\text{PM}_{10}$  can affect vegetation through either physical or chemical mechanisms. Physical mechanisms include the blocking of stomata so that normal gas exchange is impaired, as well as potential effects on leaf adsorption and reflectance of solar radiation. Information on physical effects is limited, presumably in part because such effects are slight or not obvious except under extreme situations (Lodge et al., 1981).

Therefore, given the emission controls and monitoring incorporated into the AEC design and the requirement to offset emissions of nitrogen oxides, sulfur oxides, and particulate matter emissions, no additional mitigation measures are required.

### 5.2.3.3.2 Stormwater and Process Water Discharge

During construction, demolition, and operations the existing stormwater collection system will still be used, which includes two recontoured retention basins and the existing San Gabriel River outfalls. Stormwater collected onsite with the potential to contain oils or lubricants will be routed to one of three oil/water separators before being sent to the retention ponds and discharged via an existing NPDES-permitted outfall. The Project Owner will prepare a SWPPP for AEC operations that specifies BMPs to be implemented during all project activities to avoid stormwater discharges that would cause water quality degradation. Process wastewater will be conveyed to the LA County Sanitation District via a new proposed wastewater pipeline interconnection to the LBWD.

Because the AEC will draw process water from an existing water supply system and then discharge wastewater to the LBWD's sanitary system, there will be no mechanism for entrainment or impingement of aquatic species during plant operation. There will be a significant decrease in outfall discharge from current use levels. The discharge of stormwater via the existing permitted outfall will not result in a significant effect to aquatic resources and species during AEC operations.

### 5.2.3.3.3 Noise and Light from Plant Operations

The AEC site is designated in the City of Long Beach General Plan for industrial land uses. The site is adjacent to other industrial land uses and major transportation corridors including the Pacific Coast Highway. Coastal salt marsh habitats occur in the project vicinity. The existing Alamitos Generating Station, urban development, and roadways in the area result in several sources of lighting and noise emissions. Noise associated with AEC operation is described in more detail in Section 5.7, Noise. Noise from site preparation, construction, and demolition could temporarily affect wildlife foraging and nesting in the coastal wetland habitat approximately 2,400 feet west of the AEC site; however, the existing conditions already include noise associated with existing industrial uses, including the existing Alamitos Generating Station operation and highway traffic. It is expected that noise from AEC construction, demolition and operation would not adversely affect wildlife, as wildlife usually become accustomed to routine background noise.

It is difficult to determine potential noise impacts to wildlife, especially for temporary noise impacts. Although birds primarily communicate with one another through vocalizations and auditory cues, some species adjust their vocalizations to prevent masking by low frequency noise in an urban setting (Slabbekoorn and Peet, 2003). In addition, waterfowl behaviors are associated with and occur within shoreline development in urban habitats and interspecific variation exists in how species respond to urbanization (Donaldson et al., 2007 and references therein). Many species habituate to urban noise, while other species will move out of an area or avoid otherwise suitable nesting habitat. High levels of background or intermittent noise may potentially interfere with reproduction, warning and distress calls, feeding behavior, or protection of offspring, which can result in energy loss and physiological stress. However, there are differences among species with how they respond to different levels of ambient noise and noise disturbances. Dooling and Proper (2007) proposed to the California Department of Transportation some interim guidelines for different noise sources, which are provided in Table 5.2-1.

TABLE 5.2-1

**Dooling and Popper (2007) Recommended Interim Guidelines for Potential Effects from Different Noise Sources**

Noise Source Type	Hearing Damage	Temporary Threshold Shift (TTS)	Masking	Potential Behavioral/Physiological Effects
Single Impulse (i.e. blast)	140 dB(A) <sup>a</sup>	N/A <sup>c</sup>	N/A <sup>g</sup>	Any audible component of highway noise has the potential of causing behavioral and/or physiological effects independent of any direct effects on the auditory system of permanent threshold shift (PTS), TTS, or masking.
Multiple Impulse (i.e. jackhammer, pile driver)	125 dB(A) <sup>a</sup>	N/A <sup>c</sup>	ambient dB(A) <sup>e</sup>	
Non-Strike Continuous (i.e. construction noise)	None <sup>b</sup>	93 dB(A) <sup>d</sup>	ambient dB(A) <sup>e</sup>	
Highway Noise	None <sup>b</sup>	93 dB(A) <sup>d</sup>	ambient dB(A) <sup>e</sup>	
Alarms (97 dB/100 ft)	None <sup>b</sup>	N/A <sup>b</sup>	N/A <sup>f</sup>	

<sup>a</sup>Estimates based on bird data from Hashino et al., 1988 and other impulse noise exposure studies in small mammals

<sup>b</sup>Noise levels from these sources do not reach levels capable of causing auditory damage and/or permanent threshold shift based on empirical data on hearing loss in birds from the laboratory.

<sup>c</sup>No data available on TTS in birds caused by impulse noises.

<sup>d</sup>Estimates based on study of TTS by continuous noise in the budgerigar and similar studies in small mammals.

<sup>e</sup>Conservative estimate based on addition of two uncorrelated noises. Above ambient noise levels, critical ratio data from 14 bird species, well documented short term behavioral adaptation strategies, and a background of ambient noise typical of a quiet suburban area would suggest noise guidelines in the range of 50–60 dB(A). For a typical bird, a 3Khz tonal vocalization must be at approximately 27dB (±3dB) above the spectrum level of noise to be heard. However, it should be noted that critical ratios vary for bird species from 21 dB to 32 dB (in those species tested).

<sup>f</sup>Alarms are non-continuous and therefore unlikely to cause masking effects.

<sup>g</sup>Cannot have masking to a single impulse.

Source: Dooling and Popper, 2007.

A typical noise threshold of 60 dBA is broadly applied to many bird species in various environmental settings. This commonly used threshold was developed in a laboratory setting that specifically analyzed the effects of highway noise on vocal communications of avian species (see Dooling and Popper, 2007, for a critique). Dooling and Popper (2007) state the 60 dBA threshold is outdated and higher levels may be readily acceptable in noisy urban areas where ambient noise levels can reach 70 dBA. Furthermore, the 60 dBA noise guideline does not consider strategies that a bird may use in its natural environment, such as scanning, changing their height or position in a landscape, increasing and/or adjusting the timing of vocalization. Utilizing any one of these strategies can enhance communication in urban environments by 10 to 15 dB, which equals over a hundred meters in transmission distance of the bird's song or call (Dooling and Popper, 2007). Furthermore Dooling and Popper (2007) explain that the 60 dBA threshold is "quite conservative since it is based on continuous noise in a controlled, artificial (i.e., laboratory) setting—a situation that is unlikely to occur in the "real world" and conclude that higher sound levels may be readily accommodated. The expected loudest composite noise levels from the AEC are approximately 70 dBA<sup>3</sup> at the AEC eastern fenceline, which will result in a noise level of 60 dBA at 400 feet from the eastern fenceline and 57 dBA at the Los Cerritos Wetlands approximately 2,400 feet west of the AEC site. Considering the distance from the AEC power blocks to any potentially sensitive receptors, noise impacts will not be significant.

Bright night lighting could disturb wildlife that occurs adjacent to the project site (such as nesting birds and foraging mammals). Night lighting is also suspected to attract migratory birds to the area; lights on tall towers or structures could result in collisions. The AEC lighting will meet the requirements for security,

<sup>3</sup> Noise estimates are conservative and do not take into account the effect of blocking from structures and assumes a non-sound absorbing ground surface.

operations and maintenance, and safety, and will be shielded and pointed downward to minimize potential impacts and to reduce the potential for avian and bat attraction and collision. Also, night lighting will have switches to allow them to be turned off when not in use consistent with plant safety operations.

#### 5.2.3.3.4 Potential for Avian Collisions

Direct and indirect impacts to birds including potential for collision with structures are expected to be less than significant given the project location and existing tall structures and facilities on the site. The AEC will be electrically interconnected to the existing SCE switchyard via short onsite transmission lines. These transmission lines will be onsite among the existing onsite electrical lines that connect into the SCE switchyard. It is expected that resident and migrating wildlife in the area would be accustomed to maneuvering around structures and other features and the potential for avian collisions is expected to be less than significant.

#### 5.2.3.3.5 Effects of Operation on Threatened, Endangered, Candidate and Special-status Species

**Threatened, Endangered, Candidate and Special-status Plants.** No federal or state listed threatened, endangered, or candidate plant species occur at the AEC site or along the offsite pipeline alignment. No suitable habitat for special-status plants exists at the AEC site or along the offsite pipeline alignment. Potential indirect impacts from facility operation on coastal saltmarsh wetland habitats, the closest being approximately 2,400 feet west of the AEC site, will be less than significant.

**Threatened, Endangered, Candidate and Special-status Wildlife Species.** No federal or state listed threatened, endangered, or candidate wildlife species occur at the AEC site or along the offsite pipeline alignment. No sensitive or special status wildlife have been observed within the AEC site. The project is not expected to result in significant impacts on sensitive and special-status wildlife species.

**Foraging Birds and Bats.** No potential impacts from operational activities on foraging birds and bats are expected to occur because suitable foraging habitat does not exist within the AEC site. The AEC would operate within the existing Alamitos Generating Station site, and operations and maintenance activities would be similar. Operation-related impacts are not expected to be significant.

**Nesting Birds.** Limited nesting habitat for bird species is available at the AEC site or along the proposed wastewater pipeline alignment. Trees that could be planted as visual screening around the site have the potential to attract raptors, such as barn owls and American kestrels, which could increase predation on shorebirds in the wetlands areas offsite. Bird species that would use the landscaping trees would build nests while the AEC is operating and would not be disturbed by facility operations.

#### 5.2.3.3.6 Operation Phase Impacts to Wetlands and Waters of the United States

The Los Cerritos Wetlands are approximately 2,400 feet west of the AEC site. There will be no direct impacts on the Los Cerritos Wetlands. There is a minimal potential for indirect effects. As stated in Section 2.0, Project Description, and in this section, the AEC nitrogen deposition impacts are not expected to significantly contribute to nitrogen loading on coastal salt marshes due to several factors, including the high level of NO<sub>x</sub> emission controls; air quality mitigation regulations that require offsets (in the form of RECLAIM Trading Credits) to be surrendered for actual NO<sub>x</sub> emissions; and the fact that elevated stack release heights, the time required for the chemical reaction required for secondary nitrogen formation, and the predominate wind patterns (west to east), among other factors, will result in a majority of the potential air quality impacts occurring away from the AEC site where time and distance will reduce ground-level concentrations. With appropriate design and monitoring measures, there will be no direct impacts and the potential indirect impacts will be less than significant.

### 5.2.4 Cumulative Effects

Section 15355 of the CEQA Guidelines defines “cumulative impacts” as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Subsection b of Section 15355 states, in part, that “The cumulative impact *from several projects* is the change in the environment which results from *the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.*” (Emphasis added.) Thus, cumulative impacts under CEQA involve the potential interrelationships of two or more projects, not the impacts from a single project. Specifically, under Section 15130 of the CEQA Guidelines, an Environmental Impact Report is required to discuss cumulative impacts when the project’s incremental effect is “cumulatively considerable.” Section 15065(a)(3) then defines “cumulatively considerable” as meaning “that the incremental effects of an individual project are significant when viewed in connection with the effects of *other* closely related past projects, the effects of *other* current projects and the effects of probable *future* projects.” (Emphasis added.)

Potential cumulative impacts to biological resources from construction, demolition, and operation of the AEC project are not expected. The project will have a less-than-significant impact on biological resources in the immediate vicinity of the project site. Projects that could result in a cumulative impact would also be required to comply with applicable federal, state, and local LORS. The proposed project is unlikely, therefore, to result in cumulative impacts to biological resources in combination with other closely related past, present, and reasonably foreseeable future projects.

### 5.2.5 Mitigation Measures

Mitigation measures are intended to avoid or minimize potentially significant effects of a project on biological resources. Potential significant effects that may result from AEC include disturbance to nesting and foraging bird species in habitats adjacent to the AEC, the closest of which is the Los Cerritos Wetlands complex, an approximately 500-acre site that is approximately 2,400 feet west of the AEC site. Potentially significant effects are unlikely given that there are no onsite resources and given the distance to any off-site resources. The project owner will conduct a preconstruction active nest survey within 100 feet of the AEC site, and, if determined necessary, monitor active nests during construction/demolition activities.

### 5.2.6 Laws, Ordinances, Regulations, and Standards

The following sections describe the primary LORS that apply to potential impacts on biological resources in the project area, and list the agencies that would be responsible for enforcing the regulations but for the CEC’s exclusive jurisdiction. A summary of the LORS is provided in Table 5.2-2.

#### 5.2.6.1 Federal LORS

**Federal Endangered Species Act (16 United States Code [USC] Section 153 et seq.).** The ESA defines endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range,” and threatened species as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” The ESA prohibits the “take” of endangered fish and wildlife and prohibits the removal or destruction of endangered plants on federal lands. “Take” is defined in the ESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The ESA allows an agency to authorize a taking that is incidental to an otherwise lawful activity if certain conditions are met and impacts are mitigated. The federal ESA provides two processes that may authorize an incidental take, known commonly as the Section 7 and Section 10 processes. Under the Section 7 process, any agency responsible for approving a project must consult with USFWS or the National Marine Fisheries Service on the potential impacts to endangered or threatened species. The Services may then issue an Incidental Take Statement (ITS) authorizing the take with conditions. An ITS authorizes the taking subject to the Service’s terms and conditions. The reasonable and prudent measures must actually minimize the amount or extent of the anticipated take but cannot alter the basic design, location, scope, duration or timing of the action and can only make minor changes.

**Migratory Bird Treaty Act (16 USC Sections 703 to 711).** Protects all migratory birds, including nests and eggs. In terms of species not covered by the MBTA, the USFWS states: “The MBTA does not apply to species that fall into any of the following categories: (1) Nonnative species introduced into the United States or its territories by means of intentional or unintentional human assistance. See 70 FR 12710 (March 15, 2005) for a partial list of nonnative human-introduced bird species in this category. (2) Species that are native and belong to families not covered by any of the conventions implemented by the MBTA. These species are managed by the states within which they reside.”<sup>4</sup> CEC Staff also opined that “While the [solar thermal] project would kill birds, such kill is incidental to a legal commercial activity, and would not likely be considered a violation of the Act if unintentional and consistent with all agency mitigation requirements and recommendations.”<sup>5</sup>

**Bald and Golden Eagle Protection Act (16 USC Section 668).** Specifically protects bald and golden eagles from harm or trade in parts of these species.

### 5.2.6.2 State LORS

**California Endangered Species Act (Fish and Wildlife Code Section 2050 et seq.).** While there are some differences in terminology, there are few substantive differences between the federal ESA and the CESA. The CESA contains similar definitions of endangered species, threatened species, and take. Under the CESA, a native species is considered endangered when it “is in serious danger of becoming extinct throughout all, or a significant portion, of its range, due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease,” and threatened when it “is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by the CESA.” “Take” is defined in the CESA as to “hunt, pursue, catch, capture, or kill, or attempt” to do any of these activities. Similar to the ESA, the CESA allows an agency to authorize an incidental taking provided impacts are mitigated. CESA prohibits the take of listed threatened and endangered species except if authorized pursuant to an incidental take permit (ITP) so long as the take is “incidental” to an otherwise lawful activity.

**Fish and Wildlife Code Section 3511.** Describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.

**Fish and Wildlife Code Section 3503.** States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

**Fish and Wildlife Code Section 3503.5.** Protects all birds of prey and their eggs and nests.

**Fish and Wildlife Code Section 3513.** Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

**Fish and Wildlife Code Sections 4700, 5050, and 5515.** Lists mammal, amphibian, and reptile species that are fully protected in California.

**Fish and Wildlife Code Sections 1900 et seq.** The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.

**Title 14, California Code of Regulations, Sections 670.2 and 670.5.** Lists animals designated as threatened or endangered in California. Species of Special Concern (CSC) is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. CSC do not have any special legal status, but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

<sup>4</sup> USFWS “Migratory Bird Management Information: List of Protected Birds (10.13) Questions and Answers,” available at: <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/43603%20QA%201013%20rule.pdf>.

<sup>5</sup> Hidden Hills Final Staff Assessment, December 2012, p. 4.2-215.



**California Fish and Wildlife Code (Sections 1601 through 1607).** Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFW. CDFW jurisdiction is limited to areas within the 100-year floodplain. Within this zone, CDFW jurisdiction is subject to the judgment of the department. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of a project.

**California Environmental Quality Act (Public Resources Code Section 15380).** Defines “rare” in a broader sense than the definitions of threatened, endangered, or species of special concern. Under this definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.

**Warren Alquist Act (Public Resources Code Section 25000, et seq.).** The legislation that created and gives statutory authority to the CEC. The issuance of a certificate by the CEC shall be in lieu of any permit, certificate or similar document required by any state, local or regional agency. Accordingly, local permits that would be required but for the CEC’s jurisdiction are not required for the project.

#### 5.2.6.3 Local and Other Jurisdictions’ LORS

**City of Long Beach – General Plan/Southeast Area Development and Improvement Plan (SEADIP); Local Coastal Program (LCP).** The City of Long Beach regulates new development through design review and permit issuance to ensure consistency with Coastal Act requirements and minimize adverse impacts to identified environmentally sensitive habitats and wetland areas. New development projects that are contiguous to wetlands or environmentally sensitive habitat areas must include a buffer from the edge of the wetland.

TABLE 5.2-2

**Laws, Ordinances, Regulations, and Standards for Biological Resources**

<b>LORS</b>	<b>Requirements/Applicability</b>	<b>Administering Agency</b>	<b>AFC Section Explaining Conformance</b>
<b>Federal</b>			
Federal Endangered Species Act (Federal ESA, 16 USC Section 1531 et seq.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat. The ESA allows an agency to authorize a taking that is incidental to an otherwise lawful activity if certain conditions are met and impacts are mitigated.	USFWS	No such species occur on the AEC site. The AEC is not likely to adversely affect the federally endangered California least tern. Informal discussions and coordination with USFWS will determine measures the AEC will undertake to avoid adverse effects to nesting habitat for these species in the vicinity of the project habitat, the closest of which is approximately 2,400 feet west of the AEC Project area.
Migratory Bird Treaty Act (16 USC Sections 703 to 711)	Protects native migratory birds, including nests and eggs, with certain limited exceptions.	USFWS	The AEC will include mitigation measures to reduce potential impacts to resident and migratory birds to a less-than-significant level (Section 5.2.5).
Bald and Golden Eagle Protection Act (16 USC Section 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	USFWS	No such species occur on the AEC site. Bald and golden eagles were not found in the project area. The AEC is not likely to adversely affect eagles.
<b>State</b>			
California Endangered Species Act (Fish and Wildlife Code Section 2050 et seq.).	Species listed under this act cannot be “taken” or harmed, except under specific permit.	CEC	No such species occur on the AEC site. The AEC will include mitigation measures to reduce impacts to State listed species including the California least tern and Belding’s savannah sparrow to a less-than-significant level, given that the closest offsite habitat is approximately 2,400 feet west of the AEC site (Section 5.2.5).
Fish and Wildlife Code Section 3511	Describes species, primarily birds, which are “fully protected.” Fully protected species may not be taken or possessed, except under specific permit requirements.	CDFW	No such species occur on the AEC site. The AEC will include mitigation measures to reduce impacts to fully protected species to a less-than-significant level (Section 5.2.5).
Fish and Wildlife Code Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	CDFW	The AEC will include mitigation measures to reduce impacts to bird nests and eggs to a less-than-significant level (Section 5.2.5).
Fish and Wildlife Code Section 3503.5	Protects all birds of prey and their eggs and nests.	CDFW	The AEC will include mitigation measures to reduce impacts to bird nests and eggs to a less-than-significant level (Section 5.2.5).

TABLE 5.2-2

**Laws, Ordinances, Regulations, and Standards for Biological Resources**

<b>LORS</b>	<b>Requirements/Applicability</b>	<b>Administering Agency</b>	<b>AFC Section Explaining Conformance</b>
Fish and Wildlife Code Section 3513	Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.	CDFW	The AEC will include mitigation measures to reduce impacts to birds of prey to a less-than-significant level (Section 5.2.5).
Fish and Wildlife Code Sections 4700, 5050, and 5515	Lists mammal, amphibian, and reptile species that are fully protected in California.	CDFW	No such species occur on the AEC site. The AEC will include mitigation measures to reduce impacts to fully protected mammal, amphibian, or reptile species to a less-than-significant level (Section 5.2.5).
Fish and Wildlife Code Sections 1900 et seq.,	The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the State.	CDFW	No such species occur on the AEC site. No state threatened, endangered or rare plants will be affected by the AEC (Section 5.2.5).
Title 14, California Code of Regulations, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California.	CDFW	No such species occur on the AEC site. The AEC will include mitigation measures to reduce impacts to threatened and endangered animals to a less-than-significant level (Section 5.2.5).
California Fish and Wildlife Code (Sections 1601 through 1607)	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFW.	CDFW	No streams, including intermittent and seasonal channels will be affected by the AEC (Section 5.2.5).
CEQA (Public Resources Code Section 15380)	CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.	CEC	The AFC analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the AEC AFC (Section 5.2.6.2).
Warren Alquist Act (Public Resources Code Section 25000, et seq.)	Warren-Alquist Act provides for the CEQA-equivalent process implemented by the CEC.	CEC	The CEC certification process is a certified regulatory program under CEQA and is thus CEQA equivalent. (Section 5.2.6.2)
<b>Local</b>			
City of Long Beach – General Plan/Southeast Area Development and Improvement Plan (SEADIP), Local Coastal Program	But for the CEC’s exclusive jurisdiction over State law matters, the City would regulate new development through design review and permit issuance to ensure consistency with Coastal Act requirements and minimize adverse impacts to identified environmentally sensitive habitats and wetland areas.	City of Long Beach	The AEC, located entirely within an existing developed area that has been designated for industrial uses in the Long Beach General Plan/Southeast Area Development and Improvement Plan (SEADIP), will be consistent with the SEADIP.

## 5.2.7 Agencies and Agency Contacts

Involved agencies and agency contacts are listed in Table 5.2-3.

TABLE 5.2-3

**Agency Contacts for Biological Resources**

Issue	Agency	Contact
State listed species	California Department of Fish and Wildlife	<p>Terri Dickerson Senior Environmental Scientist 4949 Viewridge Avenue San Diego, CA 92123 (949) 363-7538 tdickerson@dfg.ca.gov</p> <p>Kelly Schmoker Staff Environmental Scientist 25164 Via Terracina Laguna Niguel, CA 92677 (626) 792-1680 kschmoker@dfg.ca.gov</p>
Federally listed species	United States Fish and Wildlife Service	<p>Jonathan Snyder 6010 Hidden Valley Road, Suite 101 Carlsbad, CA 92011 (760) 431-9440 x307 jonathan_d_snyder@fws.gov</p> <p>Christine Medak, Biologist 6010 Hidden Valley Road, Suite 101 Carlsbad, CA 92011 (760) 431-9440 x298 Christine_Medak@fws.gov</p>
City of Long Beach General Plan – General Plan/Southeast Area Development and Improvement Plan (SEADIP), Local Coastal Program	City of Long Beach	<p>Jeff Winklepleck, Senior Planner 333 West Ocean Blvd. Long Beach, CA 90802 (562) 570-6607 Jeffrey.Winklepleck@longbeach.gov</p>

## 5.2.8 Permits and Permit Schedule

No federal or state listed or other special-status species will be significantly affected by AEC construction or operation. No additional permits are required. Accordingly, a schedule indicating when permits outside the authority of the CEC will be obtained and the steps the Project Owner has taken or plans to take to obtain such permits is not applicable in this case.

## 5.2.9 References

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
**Legend**

 Project Boundary


 Parking/Laydown Construction Area


 Process/Sanitary Wastewater Pipeline

 250 Feet Buffer

 1 Mile Project Buffer/0.5 Mile Sewer Line Buffer

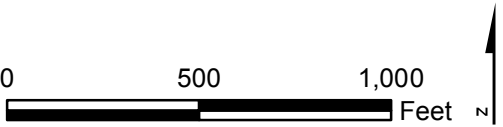
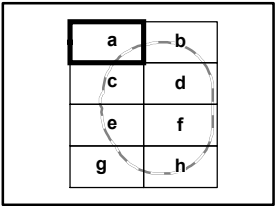
 Urban Development

 Industrial

 Parks and Open Space

 Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.



**FIGURE 5.2-5a**  
**Land Cover and Natural Community Types**  
Alamitos Energy Center  
Long Beach, California

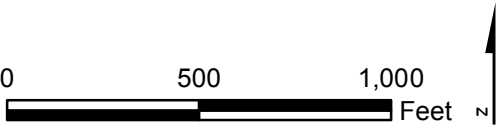
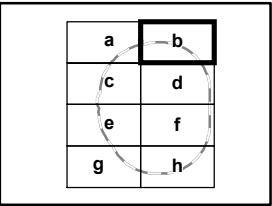




Legend

- Project Boundary
- Parking/Laydown Construction Area
- Process/Sanitary Wastewater Pipeline
- 250 Feet Buffer
- 1 Mile Project Buffer/0.5 Mile Sewer Line Buffer
- Urban Development
- Industrial
- Parks and Open Space
- Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.



**FIGURE 5.2-5b**  
**Land Cover and Natural Community Types**  
Alamitos Energy Center  
Long Beach, California





**Legend**

Project Boundary

Parking/Laydown Construction Area

Process/Sanitary Wastewater Pipeline

250 Feet Buffer

1 Mile Project Buffer/0.5 Mile Sewer Line Buffer

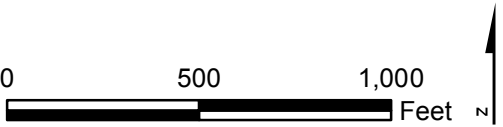
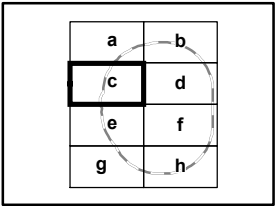
Urban Development

Parks and Open Space

Industrial

Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.




**FIGURE 5.2-5c**  
**Land Cover and Natural Community Types**  
Alamitos Energy Center  
Long Beach, California

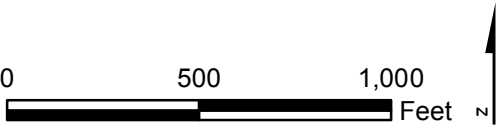
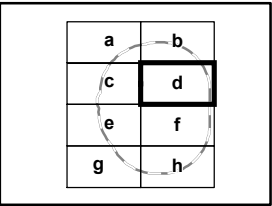




Legend

-  Project Boundary
-  Parking/Laydown Construction Area
-  Process/Sanitary Wastewater Pipeline
-  250 Feet Buffer
-  1 Mile Project Buffer/0.5 Mile Sewer Line Buffer
-  Urban Development
-  Industrial
-  Parks and Open Space
-  Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.



**FIGURE 5.2-5d**  
**Land Cover and Natural Community Types**  
Alamitos Energy Center  
Long Beach, California

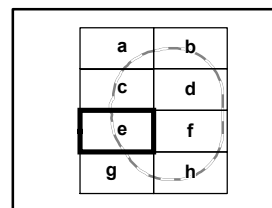




#### Legend

- Project Boundary
- Parking/Laydown Construction Area
- Process/Sanitary Wastewater Pipeline
- 250 Feet Buffer
- 1 Mile Project Buffer/0.5 Mile Sewer Line Buffer
- Urban Development
- Industrial
- Parks and Open Space
- Privately-Owned Land/Los Cerritos Wetlands Area

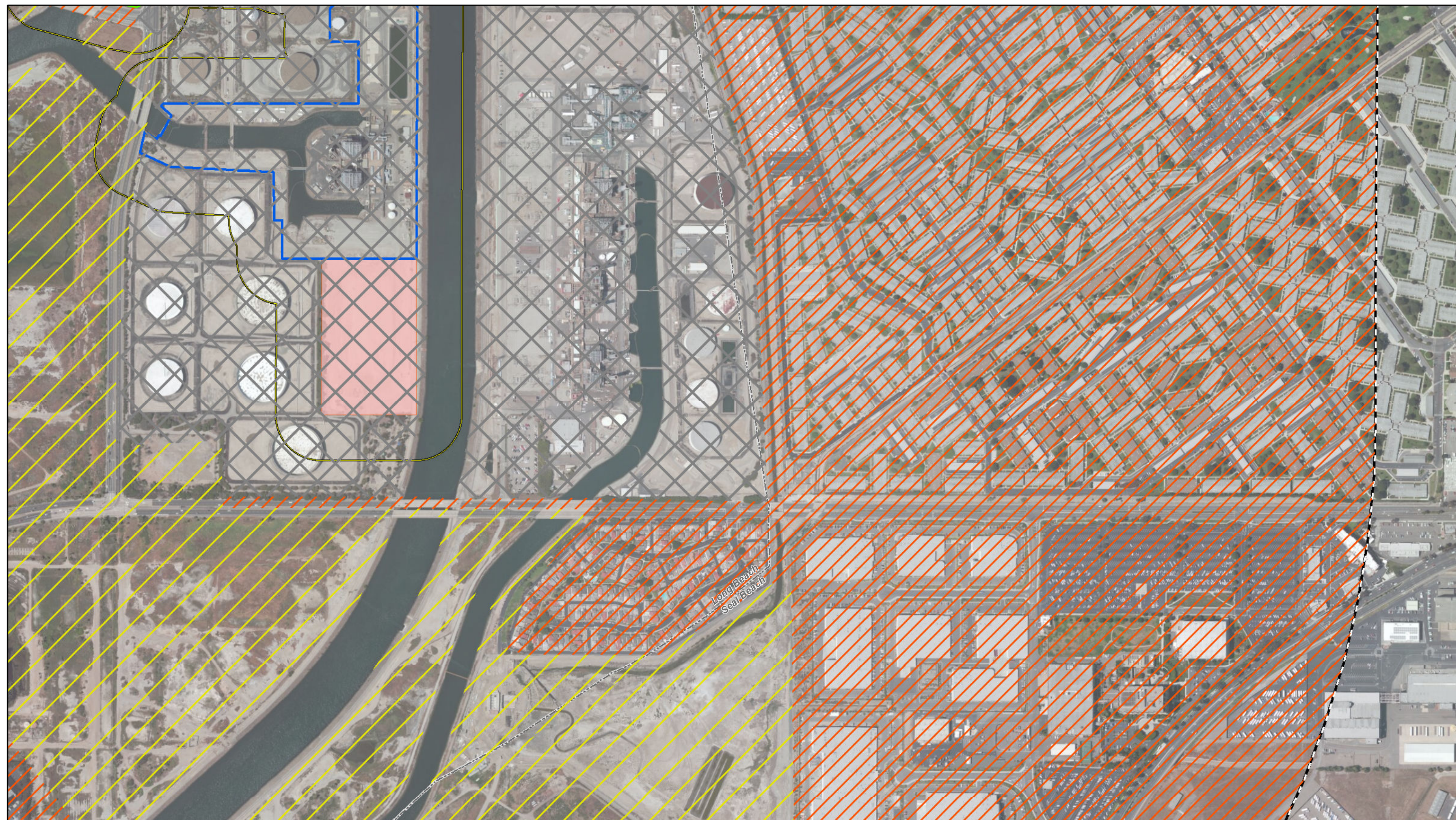
Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.



0 500 1,000 Feet

**FIGURE 5.2-5e**  
**Land Cover and Natural Community Types**  
 Alamos Energy Center  
 Long Beach, California

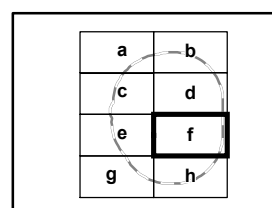




# Legend

- Project Boundary
- Parking/Laydown Construction Area
- Process/Sanitary Wastewater Pipeline
- 250 Feet Buffer
- 1 Mile Project Buffer/0.5 Mile Sewer Line Buffer
- Urban Development
- Industrial
- Parks and Open Space
- Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.



0 500 1,000 Feet

**FIGURE 5.2-5f**  
**Land Cover and Natural Community Types**  
 Alamitos Energy Center  
 Long Beach, California





**Legend**

Project Boundary

Parking/Laydown Construction Area

Process/Sanitary Wastewater Pipeline

250 Feet Buffer

1 Mile Project Buffer/0.5 Mile Sewer Line Buffer

Urban Development

Industrial

Parks and Open Space

Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.

**FIGURE 5.2-5g**  
**Land Cover and Natural Community Types**  
Alamitos Energy Center  
Long Beach, California










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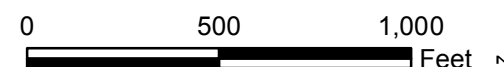
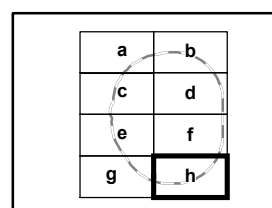




# Legend

-  Project Boundary
-  Parking/Laydown Construction Area
-  Process/Sanitary Wastewater Pipeline
-  250 Feet Buffer
-  1 Mile Project Buffer/0.5 Mile Sewer Line Buffer
-  Urban Development
-  Parks and Open Space
-  Industrial
-  Privately-Owned Land/Los Cerritos Wetlands Area

Note: Urban Development also includes roads, landscaping and ruderal vegetation areas.



**FIGURE 5.2-5h**  
**Land Cover and Natural Community Types**  
 Alamitos Energy Center  
 Long Beach, California