5.2 Biological Resources

The purpose of this section is to describe sensitive biological resources in the Lodi Energy Center (LEC) project area, potential impacts to those resources associated with construction and operation of the project, and measures identified to mitigate these impacts to a level of less than significant. Section 5.2.1 discusses the affected environment, including a regional overview of biological resources, vegetation, sensitive plant communities, wetlands, wildlife, and special-status species. Section 5.2.1 also discusses methods and results of biological field surveys at the LEC. Section 5.2.2 discusses the environmental consequences the LEC project may have on special-status plant and animal species and sensitive habitats. Section 5.2.3 evaluates any potential cumulative effects to biological resources in the project vicinity, and Section 5.2.4 addresses proposed mitigation measures that would avoid, minimize, or compensate for adverse impacts. Section 5.2.5 presents applicable laws, ordinances, regulations and standards (LORS). Section 5.2.6 presents agency contacts and Section 5.2.7 presents permit requirements. Section 5.2.8 provides the references used to prepare this section.

5.2.1 Environmental Setting

Biological resources potentially affected by the proposed LEC project include vegetation communities and associated wildlife habitats of the northern San Joaquin Valley. The following sections provide a general overview of the region. Detailed information in the immediate vicinity of the proposed project is provided in Section 5.2.1.2.

5.2.1.1 Regional Overview

The proposed LEC project site is at the northern end of the San Joaquin Valley in the Delta Basins subsection of the Great Valley Ecoregion (Miles and Goudey, 1998). This region includes the nearly level basins and floodplains on late Quaternary alluvium derived predominantly from granitic rock sources associated with the Mokelumne, Calaveras and Cosumnes rivers. Topography throughout the region is nearly level with elevations ranging from sea level to 50 feet. The regional climate is characterized by cool, wet winters and hot, dry summers. Average annual temperatures range from a low of 36 degrees Fahrenheit (°F) in December to a high of 91°F in July. Average annual precipitation is 29 inches, with most of the rainfall occurring between November and March (National Resources Conservation Service [NRCS] Climate Analysis for Wetlands Database [WETS] 2008).

A regional overview of the area surrounding the site was conducted to describe the environmental features near the proposed project (see Figure 5.2-1). The study area is near the border of the Sacramento–San Joaquin Delta and the northern San Joaquin Valley. Land use throughout these areas is predominantly agriculture with urban areas concentrated around the communities of Lodi and Stockton. Major roadways through the area include Interstate 5, State Highway 12, and State Highway 4. The following sections describe the general regional setting.

5.2.1.1.1 Sacramento-San Joaquin Delta

The Sacramento-San Joaquin Delta is an expansive complex of river deltas and estuaries covering approximately 738,000 acres that formed at the confluence of the Sacramento and San Joaquin Rivers. Historically the Delta was a large tidally influenced marshland

intermixed with riparian habitats along natural levees. Large-scale reclamation of the Delta began in 1850 with the passage of the Arkansas Act (Swampland Act) which ceded nearly 500,000 acres of federal marshland to the state. By 1930, nearly 1,150 square miles of public and private lands consisting of 57 islands or tracts had been created through the construction of over 1,100 miles of levees. The majority of the land is in agricultural production. Principal crops grown in the Delta include corn, alfalfa, grain, hay, asparagus, sugar beets, safflower, and fruits. Much of the land not in active cultivation is used for irrigated pasture for cattle and sheep ranching. Incorporated cities in the Delta include Isleton, Antioch, Pittsburg, Brentwood, and Tracy. Approximately 136,000 acres of the Delta consist of undeveloped lands and open water.

5.2.1.1.2 San Joaquin Valley

The San Joaquin Valley extends from the Sacramento-San Joaquin Delta south to the Tehachapi Mountains. It is bordered to the west by the coast range and to the east by the Sierra Nevada foothills. Extensive areas of the valley have been converted to agriculture, including over 800,000 acres of San Joaquin County. Principal crops include fruit, nuts, grain crops, alfalfa, and hay. Land not in active cultivation is used for dairy farming, cattle ranches, and sheep ranches.

5.2.1.1.3 Wetlands and Water Resources

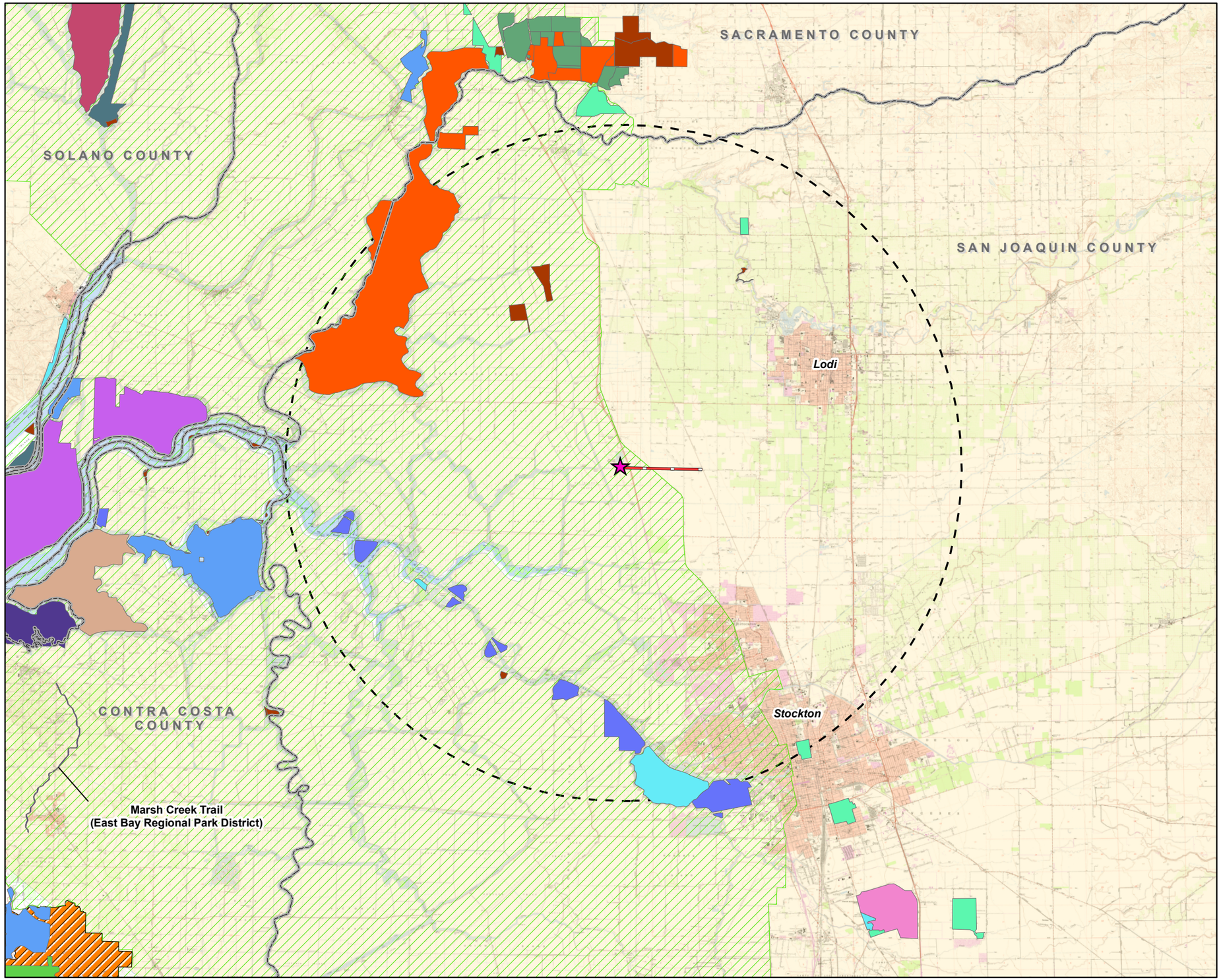
The LEC project area is on the northeast side of San Joaquin Delta Hydrologic Unit (Hydrologic Unit Code 18040003), which encompasses approximately 433,300 acres. Major waterways include the San Joaquin, Mokelumne, Old, and Middle rivers, as well as Bear Creek. Drainage is generally to the west from the Sierra Nevada Foothills and then to the north into the Sacramento-San Joaquin Delta.

5.2.1.1.4 Significant Biological Resources in the Project Vicinity

There are no significant biological resource areas in the immediate project vicinity. Regionally significant areas include the Cosumnes River Preserve located approximately 6.5 miles northwest of the site, the California Department of Fish and Game's (CDFG) White Slough and Lower Sherman Island Wildlife Areas located approximately 4 miles northwest and 22 miles west of the LEC project site, respectively, and the Woodbridge Ecological Reserve located approximately 5 miles to the north (Figure 5.2-2).

5.2.1.2 Habitats and Vegetation Communities

The LEC project site is within a 1,040-acre parcel owned by and incorporated into the City of Lodi. The LEC site would occupy approximately 4.4 acres and is adjacent to the City of Lodi's White Slough Water Pollution Control Facility (WPCF) to the east, treatment and holding ponds associated with the WPCF to the north, the existing Northern California Power Agency Combustion Turbine Project #2 (STIG plant) to the west, and the San Joaquin County Mosquito and Vector Control facility to the south. The majority of the proposed LEC site (approximately 3.4 acres) has previously been graded and is largely devoid of vegetation with the exception of scattered weedy species such as perennial pepperweed (*Lepidium latifolium*), Russian thistle (*Salsola tragus*), and yellow starthistle (*Centaurea solstitialis*). A paved access road for the STIG plant cuts across the south end of the site and a gravel access road is adjacent to the western side of the proposed LEC site. The area to the north of the paved access road is currently being used as a laydown and storage area for ongoing construction at the WPCF. The area south of the paved road



LEGEND

- Project Site
- Natural Gas Pipeline Route
- Ten Mile Buffer

Public and Conservation Lands

- Bureau Of Land Management
- CA Department Of Water Resources
- CA Department of Fish and Game
- CA Department of Parks and Recreation
- Central Coast Water District
- Contra Costa Water District
- Department of Defense
- East Bay Regional Park District
- Ironhouse Sanitary District
- Sacramento Municipal Utility District
- Sacramento Port Authority
- San Joaquin County
- State Lands Commission
- Stockton Port Authority
- The Nature Conservancy
- Trust For Public Lands
- US Fish and Wildlife Service

Critical Habitat

- California Red-Legged Frog
- Delta Smelt

Ecoregions

- Great Valley Section

Notes:
1. *1 mile around Project Site, 1/4 mile around NG Pipeline.
2. Data Source: California Resources Agency Legacy Project. Solano HCP EIS/EIR, 2007, Commission for Environmental Cooperation, 1997, U.S. Environmental Protection Agency, 2005.

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

N

0 1.5 3
Miles

FIGURE 5.2-1
REGIONAL BIOLOGICAL RESOURCES
LODI ENERGY CENTER
LODI, CALIFORNIA

CH2MHILL

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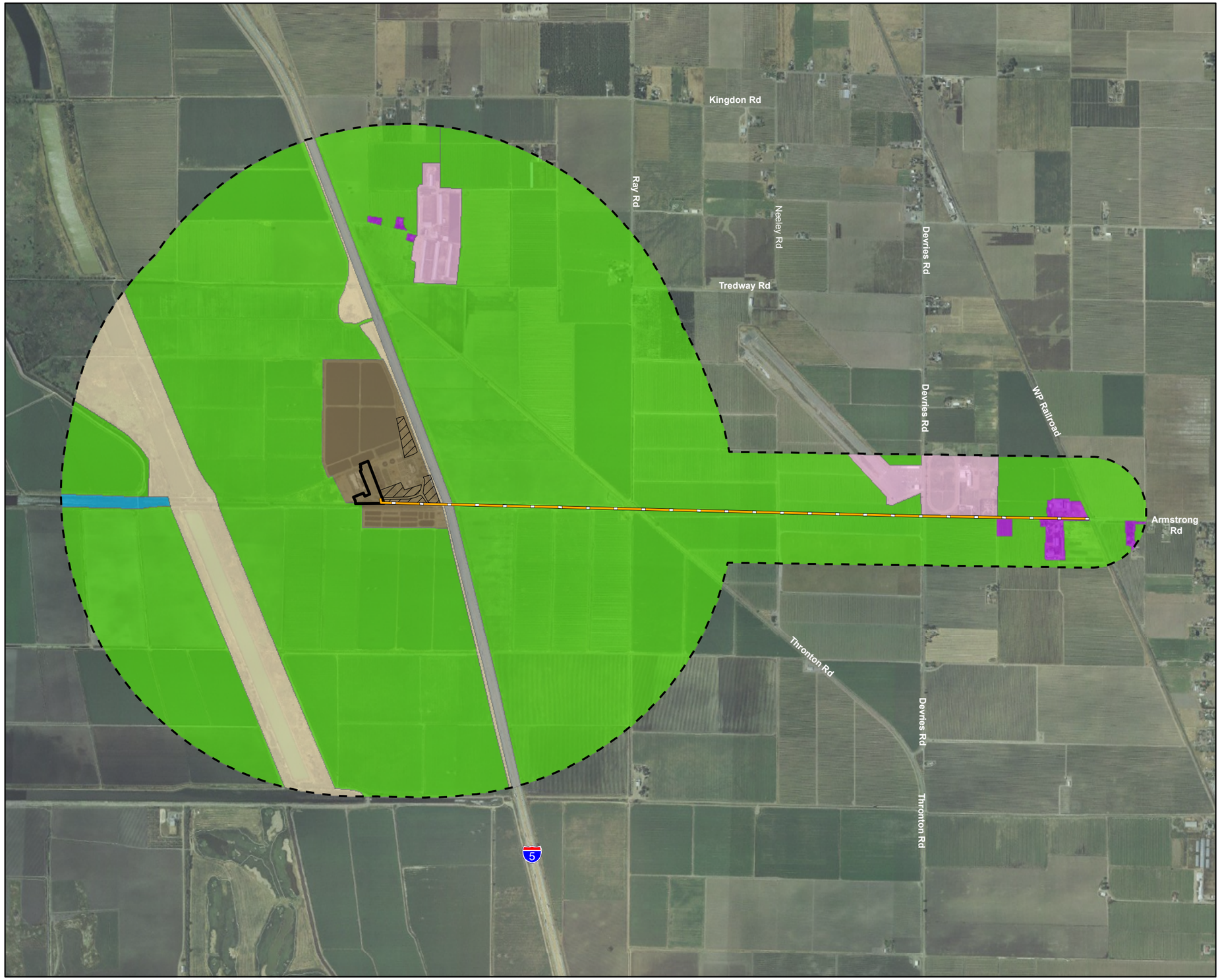

LEGEND

- Natural Gas Pipeline Route
- Proposed Lay Down and/or Parking
- Proposed Plant Site
- One Mile Buffer

Vegetation and Habitat Communities

- Agricultural
- Commerical
- Freeway
- Open Space
- Residential
- Wastewater Treatment Plant
- Water

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

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Feet

FIGURE 5.2-2
VEGETATION COMMUNITIES AND HABITAT TYPES WITHIN ONE MILE SURVEY AREA
LODI ENERGY CENTER
LODI, CALIFORNIA

CH2MHILL

SAC\\ZION\SACGIS\PROJ\LODIENERGYCENTER_371322\MAPFILES\VEGITATIONHABITATMAP.MXD MHASKELL 8/21/2008 11:00:56

(approximately 1 acre) is characterized by disturbed ruderal vegetation such as perennial pepperweed, foxtail barley (*Hordeum murinum* ssp. *leporinum*), rip-gut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian thistle (*Carduus pycnocephalus*), yellow starthistle, blackberry (*Rubus discolor*) and nettle (*Urtica dioica*). A few large arroyo willows (*Salix lasiolepis*) and Fremont's cottonwood (*Populus fremontii*) trees are present in the southwest corner of the proposed LEC site.

Four areas would be used for laydown and parking areas during construction (Figure 1.1-3). All of these areas would be located on the City-owned parcel adjacent to the WPCF. Laydown Area A includes 3.1 acres on the northeast side of the WPCF between a large water treatment pond and North Cord Road. The southern portion of this site includes a leveled gravel and landscaped area that is part of the current WPCF. Approximately two-thirds of the northern portion of the site is an open annual grassland characterized by dense rip-gut brome, with foxtail barley, yellow starthistle, wild radish (*Raphanus sativa*), black mustard (*Brassica nigra*), and fiddleneck (*Amsinckia menziesii*). A few small valley oaks (*Quercus lobata*) (6 to 8 inches in diameter at breast height) are present at the north end of the site. This grassland area appears to be routinely mowed as part of WPCF facility maintenance and fire prevention.

Laydown Area B includes 2.2 acres on the southeast side of the WPCF between the paved access road to the existing STIG plant and Interstate 5. The vegetation in this area is characterized by annual grassland similar to that observed in Laydown Area A, with several large landscape trees and a few smaller valley oaks scattered throughout the area. The majority of the landscape trees are Scotch pine (*Pinus sylvestris*) and Australian pine (*Casuarina equisetifolia*) with an occasional bluegum (*Eucalyptus globulus*).

The 1.6-acre Laydown Area C is south of the WPCF between the paved access road and an irrigation canal along the southern boundary of the City of Lodi property. This site is characterized by annual grassland species similar to those observed in Laydown Area A, but the habitat is more disturbed; some areas appear to have been used for temporary laydown and storage. There is a single large Fremont's cottonwood near the eastern part of the site and a row of small valley oak trees have been planted along the south side of the access road.

Laydown Area D is also on the south side of the WPCF, but is on the north side of the paved access road. The majority of the 2.9-acre site has been leveled and is highly disturbed. The east side of the site is currently a gravel parking area and most of the western side contains soil stockpiles and miscellaneous debris. A patch of weedy vegetation consisting of dense perennial pepperweed, rip-gut brome, wild radish, bur chervil (*Anthriscus caucalis*), and swinecress (*Coronopus didymus*) is present in the northwest corner of the site along the fence line of the WPCF.

The proposed natural gas pipeline would extend for 2.5 miles to the east of the LEC site. The pipeline route is almost entirely within agricultural areas consisting of irrigated hay and alfalfa crops, and a small area of vineyards. The alignment would also cross a few paved roads and be located near a few residential areas and farm structures. With the exception of a small area of annual grassland associated with an open farm area at the east end of the alignment, no natural habitats are present along the proposed natural gas line.

5.2.1.3 Special-status Species in the Region

This section presents a list of special-status species that could occur in the northern San Joaquin Valley region and a preliminary analysis of whether each could occur in the LEC project impact areas. The designation of special-status includes all federal- and state-listed species under the federal and California Endangered Species Acts; listed as candidates or proposed for those listings; species protected under the federal Migratory Bird Treaty Act; California Species of Special Concern; California Fully Protected Species under the Fish and Game Code; and plant species designated as Rare, Threatened, or Endangered by the California Native Plant Society (CNPS).

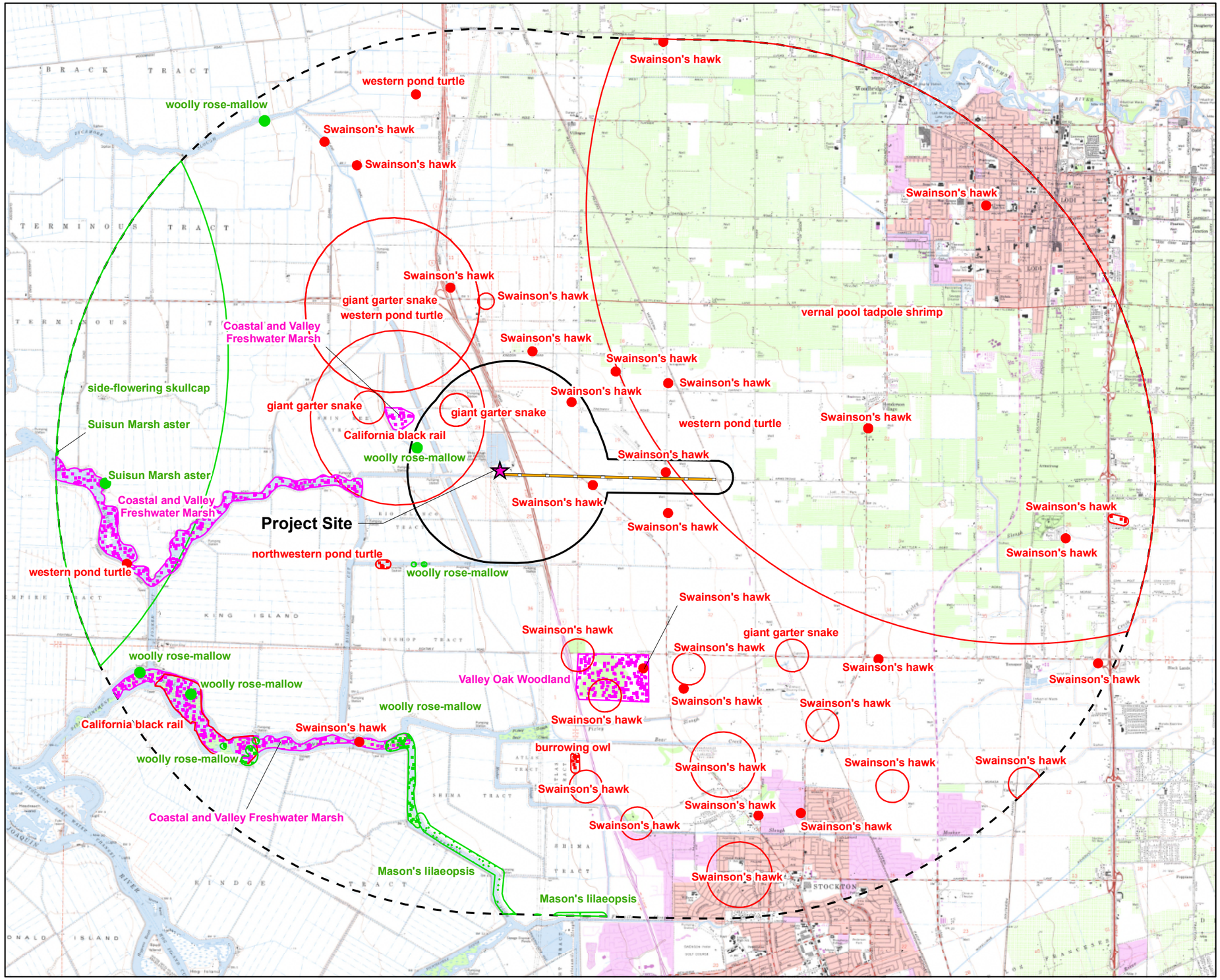
Special-status species that could occur in the region were identified from lists provided by the U.S. Fish and Wildlife Service (USFWS) (USFWS, 2008), (Appendix 5.2A), CDFG's California Natural Diversity Data Base (CNDDB) (CDFG, 2008), (Appendix 5.2B), and the CNPS electronic inventory (CNPS, 2008) (Appendix 5.2C). The special-status species database searches included the Terminous, Thornton, Lodi North, and Lodi South U.S. Geologic Survey (USGS) 7.5-minute topographic quadrangles. Reported CNDDB occurrences within one and five miles of the LEC project site are shown in Figure 5.2-3.

Table 5.2-1 presents a list of the special-status species identified as potentially occurring in the project area from the above sources as well as those observed during biological surveys conducted for the LEC. Table 5.2-1 also includes the habitat types that could support these species and the potential for occurrence in the project impact area. Any special-status species whose habitat(s) are present within the LEC project area were evaluated for potential impacts from construction and LEC operation. Other special-status species that were included on the USFWS, CDFG, and CNPS lists whose habitats or known distribution do not occur within the project area, were included in Table 5.2-1 but were not evaluated further.

The LEC is within a developed area surrounded by highly managed lands (agricultural fields) and would have minimal impacts to natural habitats and communities. Given the existing development and ongoing construction in the area the potential for special-status species to occur on site is considered relatively low; however, some species are more tolerant to human disturbance and others may incidentally occur in the area as a result of suitable habitat in adjacent areas. Special-status species that are considered to have some potential to occur in the LEC project area include: the western and northwestern pond turtle (*Clemmys marmorata marmorata* and *Clemmys marmorata pallida*), giant garter snake (*Thamnophis gigas*), western burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*). The project area is also located within designated critical habitat for the Delta smelt (*Hypomesus transpacificus*), but the project would not affect any creeks, drainages, wetlands or other aquatic resources. The following paragraphs describe the life histories of these species and their potential to occur in the project area.

5.2.1.3.1 Special-status Species Life Histories

The northwestern and Southwestern pond turtles are California Species of Special Concern. They are found in permanent or nearly permanent water, such as ponds, lakes, streams, or irrigation canals. They overwinter under water or on land when water temperatures are below 15°C (59°F), from October or November until spring. Mating begins in April or May, but can occur year-round. The northwestern and southwestern pond turtles are differentiated by the USFWS as subspecies of the western pond turtle. The nearest



LEGEND

- Project Site
- Natural Gas Pipeline Route

CNDDB July 2008

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (circular)
- Terrestrial Community (specific)
- One Mile Buffer
- Five Mile Buffer

Notes:
1. Source - California Dept. of Fish and Game, Califorina Natural Diversity Database (CNDDB) July, 2008, Solana HCP EIS/EIR, 2007, Commission for Environmental Cooperation, 1997, U.S. Environmental Protection Agency, 2005.

N

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Feet

FIGURE 5.2-3
SPECIAL-STATUS SPECIES
LODI ENERGY CENTER
LODI, CALIFORNIA

CH2MHILL

TABLE 5.2-1
Special-Status Species with the Potential to Occur in the Vicinity of the Lodi Energy Center

Common Name	Scientific Name	Status	Habitat	Potential to Occur
Plants				
Succulent (fleshy) owl's clover	*Castilleja campestris* ssp. *succulenta*	FT/CE/CNPS 1B	Vernal pools	None - no suitable habitat in the project area
Woolly rose-mallow	*Hibiscus lasiocarpus*	CNPS 2	Freshwater-soaked river banks and low peat islands in sloughs	None - no suitable habitat in the project area
Delta tule pea	*Lathyrus jepsonii* var. *jepsonii*	CNPS 1B	Freshwater-marsh, brackish-marsh habitats, sometime riparian areas, usually on marsh and slough edges	None - no suitable habitat in the project area
Mason's lilaeopsis	*Lilaeopsis masonii*	CNPS 1B	Freshwater-marsh, brackish-marsh habitats, sometime riparian areas	None - no suitable habitat in the project area
Legenere	*Legenere limosa*	CNPS 1B	Vernal pools	None - no suitable habitat in the project area
Delta mudwort	*Limosella subulata*	CNPS 2	Freshwater-marsh, brackish-marsh habitats, riparian scrub usually on mud banks.	None - no suitable habitat in the project area
Blue skullcap	*Scutellaria lateriflora*	CNPS 2	Wet meadows, seeps, and marshes	None - no suitable habitat in the project area
Suisun Marsh aster	*Symphyotrichum lentum*	CNPS 1B	Freshwater-marsh and brackish-marsh habitats	None - no suitable habitat in the project area
Invertebrates				
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	Vernal pools	None - no suitable habitat in the project area
Midvalley fairy shrimp	*Branchinecta mesovallensis*	CSC	Vernal pools	None - no suitable habitat in the project area

TABLE 5.2-1
Special-Status Species with the Potential to Occur in the Vicinity of the Lodi Energy Center

Common Name	Scientific Name	Status	Habitat	Potential to Occur
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	Occurs in central valley of California in association with blue elderberry (*Sambucus mexicana*) stems with diameters of 2-8 inches	None - no suitable habitat in the project area
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	Vernal pools and swales	None - no suitable habitat in the project area
Fish				
Green sturgeon	*Acipenser medirostris*	FT	Freshwater and saltwater habitats including deep pools in freshwater rivers, oceanic waters, bays, and estuaries	None - no suitable habitat in the project area
Delta smelt	*Hypomesus transpacificus*	FT/CT	The historic range of the delta smelt extended from Suisun Bay upstream to at least the City of Sacramento on the Sacramento River and Mossdale on the San Joaquin River	None - no suitable habitat in the project area
Central Valley steelhead	*Oncorhynchus mykiss*	FT	Occurs in perennial streams with clear, cool to cold, fast-flowing water with high dissolved oxygen content and abundant gravel and riffles	None - no suitable habitat in the project area
Central Valley spring-run chinook salmon	*Oncorhynchus tshwytscha*	FT	Occurs in Sacramento River and its tributaries, primarily Butte, Big Chico, Deer, and Mill creeks	None - no suitable habitat in the project area
Sacramento splittail	*Pogonichthys macrolepidotus*	CSC	Slow moving sections, dead end sloughs with flooded vegetation for spawning and foraging. Confined to delta, Suisun Bay, and associated marshes	None - no suitable habitat in the project area

TABLE 5.2-1
Special-Status Species with the Potential to Occur in the Vicinity of the Lodi Energy Center

Common Name	Scientific Name	Status	Habitat	Potential to Occur
Amphibians				
California tiger salamander	*Ambystoma californiense*	FT	Vernal pools, seasonal ponds in annual grasslands and foothill hardwoods	None - no suitable habitat in the project area
California red-legged frog	*Rana aurora draytonii*	FT	Marshes, slow moving water; prefers areas with good plant cover	None - no suitable habitat in the project area
Foothill yellow-legged frog	*Rana boylii*	CSC	Prefers partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats; need at least some cobble-sized substrate for egg-laying	None - no suitable habitat in the project area
Reptiles				
Western pond turtle	*Emys (=Clemmys) marmorata*	CSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation; need basking sites and suitable upland habitat (sandy banks or grassy open fields) for egg-laying	Low – limited upland habitat in the project area, irrigation channel immediately south of the site provides suitable aquatic habitat for this species
Northwestern pond turtle	*Emys (=Clemmys) marmorata marmorata*	CSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation; need basking sites and suitable upland habitat (sandy banks or grassy open fields) for egg-laying	Low – limited upland habitat in the project area, irrigation channel immediately south of the site provides suitable aquatic habitat for this species
Giant garter snake	*Thamnophis gigas*	FT	Low gradient streams, small ponds, and drainage canals to provide food and cover along with emergent, herbaceous wetland vegetation, such as cattails and bulrushes; grassy banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter; avoids large rivers	Low – limited upland habitat in the project area, irrigation channel immediately south of the site provides suitable aquatic habitat for this species

TABLE 5.2-1
Special-Status Species with the Potential to Occur in the Vicinity of the Lodi Energy Center

Common Name	Scientific Name	Status	Habitat	Potential to Occur
Birds				
Tricolored blackbird	*Agelaius tricolor*	CSC	Requires open water including freshwater-marsh and brackish water marsh habitats, sometimes riparian areas	Low – no suitable habitat in the project area, irrigation channel immediately south of the site may provide suitable habitat for this species
Burrowing owl	*Athene cunicularia*	CSC	Open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation; subterranean nester, depends on the California ground squirrel for burrows	Moderate - suitable habitat for foraging and nesting occurs in areas with annual grassland habitat.
Swainson's hawk	*Buteo swainsoni*	CT	grasslands, oak savannah, riparian areas, agricultural fields, breeds in stands with few trees	High – Suitable nest trees and foraging habitat present within 1/4 mile of the proposed site and adjacent to proposed lay down areas
California black rail	*Laterallus jamaicensis coturniculus*	CT	Mainly inhabits salt-marshes bordering larger bays	None - no suitable habitat in the project area
White-tailed kite	*Elanus leucurus*	FP	Nests in a variety of tree species associated with low grasslands, agricultural areas, oak savannas and other open areas suitable for foraging	Present – nest observed adjacent to proposed lay down area during surveys.

FT – Federally-listed Threatened Species
FE – Federally listed Endangered Species
CE – State listed Endangered Species
CT – State listed Threatened Species
CSC – Species of Special Concern
FP – California Department of Fish and Game Fully Protected Species

CNPS 1B – Plant species considered rare, threatened or endangered in California and elsewhere
CNPS 2 – Plant species considered rare, threatened or endangered in California, but more common elsewhere

reported occurrence of the northwestern pond turtle is approximately 1.7 miles to the southwest in Telephone Cut along the north side of Bishop Tract (Figure 5.2-2). The western pond turtle has also been reported approximately 1.3 miles to the northwest of the LEC project site in Coldani Marsh (Figure 5.2-2). There is no suitable aquatic habitat for this species in the project area; however; the large irrigation ditch immediately south of the project site provides suitable habitat for this species and they could occur incidentally in the adjacent upland areas of the project site.

The Giant Garter Snake is listed as a State and Federal Threatened species. Suitable habitat for the giant garter snake includes freshwater marshes, sloughs, ponds, and other aquatic habitats such as irrigation canals, drainages, and reservoirs and rice fields. General habitat features consist of permanent freshwater with vegetative cover, dense prey populations, and higher elevation uplands not subject to flooding for denning. The giant garter snake relies on prey such as tadpoles, frogs, small fish, and other small vertebrates including mice. The giant garter snake has been reported within 2 miles to the northwest of the LEC project site, including the Coldani Marsh (Figure 5.2-2). No suitable aquatic habitat is present in the project area, but the large irrigation ditch immediately south of the LEC project site provides suitable habitat for this species and the giant garter snake could occur incidentally in the adjacent uplands within the project site and associated laydown areas.

The Western burrowing owl is a California Species of Special Concern. Optimum burrowing owl habitat consists of open grassland or prairie with short vegetation and an abundance of mammal burrows. Burrowing owls prey on small mammals, insects, crayfish, and can feed on carrion. Short vegetation may increase prey availability, enhance predator detection by the owls, and attract burrowing mammals that provide nest sites for burrowing owls. The species is non-migratory over portions of Alameda, Contra Costa, and Santa Clara counties. The nearest reported occurrence is approximately 3.5 miles south of the project along a levee road south of Bear Creek and north of Mosher Slough (Figure 5.2-2). While no burrowing owls were observed during the wildlife surveys, open grassland areas and edges of agricultural fields provide suitable habitat for this species.

The Swainson's hawk is listed as a State Threatened Species. Suitable nesting habitat for the Swainson's hawk consists of scattered trees near or along riparian corridors adjacent to potential foraging habitat dominated by grasslands, meadows, or agricultural lands. Nesting begins in the summer with approximately 80 percent of breeding pairs observed in the southern Sacramento and northern San Joaquin Valleys. Swainson's hawks are mainly insectivorous predators selecting grasshoppers, crickets, and other insects found in open grasslands or agricultural fields. During the nesting period, breeding pairs bring small vertebrate prey to their nestlings including young ground squirrels, young cottontails, pocket gophers, and mice. The species is migratory, wintering in South America and nesting in northwestern Canada, western U.S., and Mexico, with a round trip that can exceed 14,000 miles. Swainson's hawk typically returns to California between late February and early April. Numerous Swainson's hawk nests have been reported in the agricultural areas west of the project area (Figure 5.2-2). While no nesting Swainson's hawks were observed, several were observed flying in the area during the wildlife surveys, and suitable nesting and foraging habitat is present in the immediate vicinity of the LEC project site and within several of the proposed staging and laydown areas.

The white-tailed kite is a California Fully Protected Species. It is a year-long resident of the Central Valley, coastal range, and foothills. Nesting habitat commonly consists of oak woodlands or trees along marsh edges, open grasslands and agricultural fields in areas with abundant small mammals and other prey species. Other suitable nesting sites include trees of moderate heights such as eucalyptus, cottonwood, toyon, and even coyote bush with the nests placed near the tops of these shrubs. The nesting period has been reported from February through August with the peak activity in March through May. White-tailed kites may rear two broods per season with each brood ranging from three to six eggs. Their preferred prey is almost always diurnal rodents found in open grasslands, meadows, or agricultural fields. A white-tailed kite nest was observed in a Scotch pine tree on the north side of Laydown Area D within the fence line of the WPCF during surveys conducted in 2008.

5.2.1.4 Methods of Analysis

Biological resources evaluated for project impacts include vegetation communities, wetlands, wildlife, and wildlife habitats within all the temporary and permanent impact locations associated with the proposed LEC project. The surveyed areas include the proposed 4.4-acre LEC plant site, four laydown and parking areas (9.8 acres) and along the 2.5-mile natural gas pipeline route. A more general analysis was conducted for the areas within a 1-mile radius of the site. The field surveys focused on the proposed project site, laydown areas and a 75-foot construction zone along either side of the natural gas pipeline route. The presence or potential presence of sensitive biological resources was determined from information gathered during field surveys conducted for the project, published and unpublished literature, and natural resource agency databases.

5.2.1.4.1 Field Surveys

Field surveys to identify biological resources within the LEC project area focused on special-status plant and animal species and their habitats. Field surveys of the LEC project site and associated laydown areas were conducted on April 30, 2008. The natural gas pipeline corridor was surveyed on May 14, 2008. CNDDB Survey Forms, including the California Native Species Field Survey Form describing sensitive biological resources in the project area have been submitted to the CDFG and copies are included in Appendix 5.2D. Qualifications of field surveyors are presented in Appendix 5.2E.

5.2.1.4.2 Wildlife Survey

Surveys for wildlife species and their habitats in the LEC project area were conducted during the early spring nesting period for species known to occur in San Joaquin County. Wildlife surveys were conducted by Daniel Williams, CH2M HILL wildlife biologist on April 30, 2008 (qualifications provided in Appendix 5.2E). Pedestrian surveys included the proposed LEC site, adjacent laydown areas, and the electric transmission line interconnection site. Surveys along the proposed natural gas line corridor were conducted by Mr. Williams on May 14, 2008 and included a combination of pedestrian and driving surveys. During the surveys, several Swainson's hawks were observed in the area soaring overhead, but did not appear to be nesting in the project study area. However, several large trees in the project area provide suitable Swainson's hawk nesting habitat. A white-tailed kite nest was found in a Scotch pine just north of Laydown Area D within the fenced area of the WPCF. Other nesting birds observed during the survey included a red-tailed hawk in a eucalyptus tree north of Laydown Area B, between the WPCF and Interstate 5, and a

killdeer nest alongside the access road into the STIG plant. Nest locations are shown in Figure 5.2-4 and a list of all wildlife species observed is provided in Table 5.2-2.

TABLE 5.2-2
Wildlife Species Observed during Field Surveys

Birds	
House finch	*Carpodacus mexicanus*
House sparrow	*Passer domesticus*
European starling	*Sturnus vulgaris*
Cliff Swallow	*Petrochelidon pyrrhonota*
Barn swallow	*Hirundo rustica*
Song sparrow	*Melospiza melodia*
Western kingbird	*Tyrannus verticalis*
Black Phoebe	*Sayornis nigricans*
Red-winged blackbird	*Agelaius phoeniceus*
Brewers blackbird	*Euphagus cyanocephalus*
Brown-headed cowbird	*Molothrus ater*
Killdeer	*Charadrius vociferus*
Bullock's oriole	*Icterus bullockii*
Rock Pigeon	*Columba livia*
Eurasian collared-dove	*Streptopelia decaocto*
Mourning dove	*Zenaida macroura*
American Robin	*Turdus migratorius*
Northern mockingbird	*Mimus polyglottos*
White-tailed kite	*Elanus leucurus*
Red-tailed hawk	*Buteo jamaicensis*
Swainson's hawk	*Buteo swainsoni*
Bushtit	*Psaltriparus minimus*
Western scrub-jay	*Aphelocoma californica*
American crow	*Corvus brachyrhynchos*
Wilson's warbler	*Wilsonia pusilla*
Mammals	
California ground squirrel	*Spermophilus beecheyi*
Audobon cottontail	*Sylvilagus audubonii*

5.2.1.4.3 Botanical Survey

Botanical surveys were conducted during the spring when special-status plant species with the potential to occur in the LEC project area would be most identifiable. Surveys were conducted by CH2M HILL botanist, Russell Huddleston, on April 30, 2008. Surveys were conducted by walking meandering transects throughout the proposed LEC project site, associated laydown areas, and electric transmission line interconnection site. Surveys were floristic in nature and followed the nomenclature of plant species from the Jepson Manual (Hickman, 1993) and updated taxonomy from the Jepson Interchange (UC Berkley, 2008). Floristic surveys along the proposed natural gas pipeline were conducted by Mr. Huddleston on May 14, 2008. Botanical surveys along the gas pipeline corridor focused on open areas along roadsides and edges of farm fields. Cultivated fields, developed areas and residential parcels within the proposed corridor were not included in the detailed survey. No special-status plants were observed during the botanical surveys. A list of all plant species observed during the surveys is provided in Table 5.2-3. Vegetation communities within a 1--mile radius of the LEC project site and 1,000 feet from the natural gas pipeline corridor were categorized and mapped during botanical surveys on April 30 and May 14, 2008 by Mr. Huddleston. The majority of the land use surrounding the project area and natural gas line is agriculture, with the exception of small areas of annual grassland. No natural habitats were identified in the project vicinity (Figure 5.2-3).

TABLE 5.2-3
Plant Species Observed During Field Surveys

Scientific Name	Common Name	LEC Site/ Laydown Areas	Natural Gas Pipeline
Apiaceae			
Anthriscus caucalis	Bur-chervil	X	
Conium maculatum	Poison-hemlock	X	
Asteraceae			
Carduus pycnocephalus	Italian thistle	X	X
Centaurea solstitialis	Yellow star-thistle	X	
Chamomilla suaveolens	Pineapple weed	X	
Hemizonia fitchii	Tarplant	X	
Picris echioides	Bristly ox-tongue	X	
Senecio vulgaris	Senecio	X	
Silybum marianum	Milk thistle	X	X
Sonchus asper ssp. *asper*	Prickly sow thistle	X	
Boraginaceae			
Amsinckia menziesii var. *intermedia*	Fiddleneck	X	X
Brassicaceae			
Capsella bursa-pastoris	Shepherd's purse	X	X
Coronopus didymous	Swine cress	X	
Hirschfeldia incana	Field mustard	X	X

TABLE 5.2-3
Plant Species Observed During Field Surveys

Scientific Name	Common Name	LEC Site/ Laydown Areas	Natural Gas Pipeline
Lepidium latifolium	Perennial pepperweed	X	X
Raphanus sativus	Wild radish	X	X
Caryophyllaceae			
Spergula arvensis ssp. *arvensis*	Starwort	X	
Chenopodiaceae			
Chenopodium album	Lamb's quarters	X	X
Salsola tragus	Russian thistle	X	X
Convolvulaceae			
Convolvulus arvensis	Field bindweed	X	X
Cyperaceae			
Cyperus eragrostis	Nutsedge		X
Euphorbiaceae			
Croton setigerus	Turkey mullein	X	X
Fabaceae			
Medicago polymorpha	California burclover	X	
Melilotus indica	Sourclover	X	
Fagaceae			
Quercus lobata	Valley oak	X	
Geraniaceae			
Erodium botrys	Broadleaf filaree	X	X
Erodium cicutarium	Red-stemmed filaree	X	
Geranium dissectum	Cranesbill	X	
Lamiaceae			
Urtica dioica	Stinging nettle	X	
Lythraceae			
Lythrum hyssopifolium	Hedge-hop loosestrife	X	
Malvaceae			
Malva neglecta	Common mallow, cheeses	X	X
Malva nicaeensis	Bull mallow	X	X
Myrtaceae			
Eucalyptus globulus	Blue gum	X	
Onagraceae			
Epilobium sp.	Fireweed		X
Pineaceae			
Pinus sylvestris	Scotch pine	X	

TABLE 5.2-3
Plant Species Observed During Field Surveys

Scientific Name	Common Name	LEC Site/ Laydown Areas	Natural Gas Pipeline
Poaceae			
Avena barbata	Slender wild oat	X	
Avena fatua	Wild oat	X	
Bromus diandrus	Ripgut brome	X	X
Bromus hordeaceus	Soft chess	X	X
Bromus madritensis ssp. *rubens*	Red brome		X
Cynodon dactylon	Bermuda grass		X
Distichlis spicata	Saltgrass	X	
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	X	
Hordeum murinum ssp. *leporinum*	Foxtail barley		X
Lolium multiflorum	Italian ryegrass	X	X
Phalaris aquatica	Harding grass		X
Poa annua	Annual bluegrass	X	
Polypogon monspeliensis	Annual beard grass	X	X
Sorghum halepense	Johnsongrass		X
Vulpia myuros	Rat-tail fescue	X	X
Polygonaceae			
Polygonum arenastrum	Common knotweed	X	
Polygonum aviculare	Knotweed	X	
Polygonum lapathifolium	Willow weed		X
Rumex crispus	Curly dock	X	X
Rumex pulcher	Fiddle dock	X	
Rubiaceae			
Galium aparine	Bed straw	X	
Salicaceae			
Populus fremontii ssp. *fremontii*	Fremont cottonwood	X	
Salix lasiolepis	Arroyo willow	X	
Typhaceae			
Typha sp.	Cattail		X

5.2.1.4.4 Wetland Survey

The determination of the presence and extent of wetlands and other waters within the LEC project site and natural gas pipeline corridor was based on the technical criteria and procedures described in the U.S. Army Corps of Engineers' (USACE) 1987 Wetland Delineation Manual (Environmental Laboratory, 1987) and the Arid West Regional

Notes:
1. Locations of the nesting birds observed during the April 20, 2008 Survey.

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

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FIGURE 5.2-4
WILDLIFE SURVEY
LODI ENERGY CENTER
LODI, CAIFORNIA

CH2MHILL

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Supplement (USACE, 2006). The USACE defines wetlands as areas that are "inundated by surface water or groundwater with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Title 40 Code of Federal Regulations [CFR] Section 230.3 and Title 33 CFR Section 238). The USACE and the state Regional Water Quality Control Board both use the three-parameter approach (wetland vegetation, hydric soils, and hydrology) to determine the presence of wetlands. As a general rule, under this method, evidence of a minimum of one positive indicator for each parameter must be found (under normal circumstances and in non-problem areas) in order to make a positive wetland determination.

An irrigation canal is present immediately south of the property that supports wetland characteristics, and a routinely maintained agricultural drainage ditch is present along a portion of the natural gas pipeline alignment. There are several constructed ponds in the project vicinity associated with the WPCF and the San Joaquin County Vector Control facility on the south side of the property. No natural wetlands or other special aquatic sites were observed in the LEC project site, any of the four laydown areas, or along the natural gas pipeline alignment.

5.2.2 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects resulting from the construction, operation, and maintenance of the proposed LEC project. The project would be within a disturbed industrial area between the STIG plant and the WPCF and would have minimal impacts to biological resources. A summary of potential project impacts is presented in Table 5.2-4.

5.2.2.1 Significance Criteria

Conditions that result in significant impacts to biological resources were evaluated based on the significance criteria described in the California Energy Commission (CEC) staff's paper on how the staff analyzes biological resources for energy facilities under CEC jurisdiction. The paper identifies the appendixes to the California Environmental Quality Act (CEQA) Guidelines, Title 14, California Code of Regulations, Section 15000 and the *Guidelines for Consulting With the Department of Fish and Game on Projects Subject to CEQA that may Affect Endangered and Threatened Species* as guidance on determining significant impacts to sensitive biological resources from projects.

The following are several conditions under CEQA Appendix G that normally result in significant impacts to the environment:

- Subsection (c); substantially affect a rare or endangered species of animal or plant or the habitat of the species,
- Subsection (d); interfere substantially with the movement of any resident or migratory fish or wildlife species, or
- Subsection (t); substantially diminish habitat for fish, wildlife, or plants.

TABLE 5.2-4
Summary of Potential LEC Impacts on Biological Resources during Demolition and Construction

Location	Project Work	Construction Zone Size	Habitat Type	Sensitive Biological Resources	Impacts to Biological Resources	
					Temporary	Permanent
LEC power plant site	Grading and leveling for construction	4.4 total acres	3.4 acres of disturbed, previously cleared and graded area and 1 acre of disturbed ruderal habitat with some cottonwood and willow trees	Potential nest trees within 1/4 mile of proposed site and adjacent to proposed laydown areas	None	None
Construction laydown areas	Grading, some gravel	9.8 acres	Disturbed, and some annual grassland with scattered trees native and landscape trees	Potential nest trees within 1/4 mile of proposed site and adjacent to proposed laydown areas	None	None
Natural gas pipeline	Tie-in to existing PG&E gas line #108	Onsite tie-in to existing gas line	Disturbed/Developed	None	None	None
Potable water supply well	Connection to onsite well	Construction of potable water well	Disturbed/Developed	None	None	None
Process Water	Connection to City of Lodi's WPCF	Onsite tie-in to existing water line	Disturbed/Developed	None	None	None
Sanitary Sewer Line	Connection to City of Lodi's WPCF	Onsite tie-in to existing sewer line	Disturbed/Developed	None	None	None
230-kV transmission system	Connection to existing PG& E transmission system	Onsite connection to existing transmission system	Disturbed/Developed	None	None	None

CEQA Appendix I is an environmental checklist that helps agencies determine if a project may have a significant impact on the environment. Under the heading "Biological Resources," the checklist poses questions as to whether a project will result in impacts to:

- Endangered, threatened, or rare species or their habitats
- Locally designated species (e.g., heritage trees)
- Locally designated natural communities
- Wetland habitat
- Wildlife dispersal or migration corridors

Under the heading "Mandatory Findings of Significance," Appendix I asks if a project has the potential to do the following:

- Degrade the quality of the environment that substantially reduces the habitat of a fish or wildlife species
- Cause a fish or wildlife population to drop below self-sustaining levels
- Threaten to eliminate a plant or animal community
- Reduce the number or restrict the range of a rare or endangered plant or animal

In the discussion of "Jeopardy" under the "Guidelines for Consulting with the Department of Fish and Game on Projects Subject to CEQA that may Affect Endangered and Threatened Species," the CDFG describes a "yes" answer to any of the following questions as a basis for an initial presumption that a threatened or endangered species would be jeopardized by a proposed project.

- Would a viable or recoverable population be eliminated, or would a significant proportion of a population be adversely affected by the project or the project effects?
- Would the range of the species be significantly diminished by the project?
- Would habitat used by the species be reduced in quantity or quality by either the immediate or future effects of the project?
- Would a species' access to its habitat be reduced or rendered more hazardous as a result of the project?
- Would the project adversely affect current or future efforts at providing protection for the species?
- Would plans for recovery and eventual delisting of the threatened or endangered species be adversely affected by the project?
- Would the project interfere with reproductive or other behavior of the endangered or threatened species?
- Would the project cause extinction of the species?

5.2.2.2 Potential Impacts of Construction and Operation

The LEC plant site would permanently occupy approximately 4.4 acres between the existing STIG plant and the WPCF. The majority of the proposed site (approximately 3.4 acres) has previously been graded and contains paved and gravel access roads or is currently being used as a laydown and storage area for ongoing construction at the WPCF. The southern portion of the site (approximately 1 acre) is characterized by disturbed ruderal vegetation with a few large arroyo willows and Fremont's cottonwood trees. Laydown and parking areas would result in additional impacts to 9.8 acres of disturbed areas and annual grassland habitat with scattered native and landscaped trees. Grading and clearing for construction of the LEC facility and associated laydown areas would result in the removal of some native trees including valley oak, arroyo willow, and Fremont's cottonwood as well as some landscape trees such as Scotch pine, Australian pine, and eucalyptus.

5.2.2.2.1 Special-status Species

Special-status species observed in the vicinity of the project area during the field surveys included a nesting white-tailed kite and several Swainson's hawks. Both native and non-native trees provide suitable nesting habitat for raptors and other migratory bird species. Suitable habitat is also present for ground-nesting birds, including the western burrowing owl. No aquatic habitat is present in the project area, but a large irrigation canal south of the property provides suitable habitat for species such as the western and northwestern pond turtle and the giant garter snake, and there is potential for these special-status species to occur within adjacent upland areas. Because of the current land use surrounding the proposed project, ongoing construction activities associated with the WPCF, and highly disturbed and degraded nature of the habitat, the project is not expected to result in direct or indirect impacts to special-status wildlife species. The Applicant will coordinate with the San Joaquin Council of Governments to ensure that the project complies with all of the necessary avoidance and mitigation measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (MSHCP).

5.2.2.2.2 Potential for Avian Collisions

Direct and indirect impacts to birds including potential for collision with structures (stacks and transmission lines) are expected to be minimal given the project location in an infill area between the existing STIG plant and WPCF. With the exception of a short transmission line that would be located immediately adjacent to the STIG plant no additional transmission lines would be constructed as part of the project. It is expected that resident and migrating wildlife in the area would be accustomed to maneuvering around such features and the potential for avian collisions is expected to be minimal.

5.2.2.2.3 Construction and Operation Noise

Noise impacts associated with the project are described in more detail in Section 5.7. The LEC site is surrounded by industrial land and other uses that generate existing ambient noise levels, including noise generated by the STIG plant, the WPCF, and traffic noise from Interstate 5. Therefore, existing conditions already include some noise associated with existing industrial uses and highway traffic. Generally, noise from construction and operations would not adversely impact wildlife, as wildlife usually become accustomed to routine background noise.

5.2.3 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code § 21083; California Code of Regulations, title 14, § 15064(h), 15065(c), 15130, and 15355).

In July 2008, 21 projects were in various stages of progress with the City of Lodi. Most of these projects are zoned residential, with a few office, mixed use, institutional, commercial, and industrial projects proposed. All of these projects are more than 4 miles from the proposed project, except for the improvements at the White Slough WPCF (Draft EIR issued March 28, 2008), which is adjacent to the project site (Bereket, 2008; City of Lodi, 2008).

In July 2008, 72 projects[1] were being processed with the San Joaquin County Building Department. These projects were located in Acampo, Escalon, Farmington, French Camp, Linden, Lodi, Lockeford, Manteca, Ripon, Stockton, and Tracy. The types of projects included residential projects such as new residences, additions and remodels to existing residences, mobile home renovations, and pool construction; commercial projects such as administration buildings, barns, and a riding arena; light industrial projects such as storage buildings, spray booths, and warehouses; office projects such as building conversions and tenant improvements; and institutional projects such as classroom relocation and facilities to house animals (Raborn, 2008).

As described above, the LEC will not cause any adverse impacts to biological resources, fill any wetlands, or affect biological resources habitat. The potential impact to nesting birds will be fully mitigated by pre-construction surveys. Existing projects have been considered as part of the project's ambient noise monitoring. New projects in this area are unlikely to be important sources of noise that could disturb wildlife. Any potentially significant adverse impacts to biological resources are considered and mitigated, if necessary. For these reasons, the LEC will not cause any adverse cumulative impacts to biological resources.

5.2.4 Mitigation and Monitoring

The construction and operation of the LEC is not expected to result in significant biological impacts. However, the following avoidance and mitigation measures will be incorporated to minimize impacts to special-status species.

5.2.4.1 Preconstruction Surveys

A preconstruction survey should be conducted prior to demolition and construction activities. The survey should be conducted no more than two weeks prior to construction activities and should be conducted by qualified biologists familiar with the identification of nesting bird species and special-status reptiles. The presence of any nesting birds in the vicinity of the site should be considered and addressed prior to the start of construction. The CDFG typically imposes a 300-foot radius for protection of nesting raptors. However, this can be addressed on a case-by-case basis as some raptors have been observed to nest much closer to human activities without exhibiting any stress, and raptors in this location may be habituated to human activity. In the event a raptor nest is observed within 300 feet of the

[1] For the purposes of this discussion, San Joaquin County sorted its projects by project cost, and provided a list of the projects costing $25,000 or more.

project site, a qualified biologist in coordination with the CDFG will determine whether construction activities could potentially disturb nesting raptors and implement appropriate measures as needed. Preconstruction surveys will also be conducted for ground-nesting species such as the western burrowing owl and other sensitive species such as western pond turtles and giant garter snake. In the event that a sensitive or listed species is found on site during the surveys, the wildlife agencies will be contacted and the appropriate measures will be taken to avoid or relocate the species as needed.

5.2.5 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 responsible for enforcing the regulations. A summary of the LORS is provided in Table 5.2-5, at the end of this section.

5.2.5.1 Federal LORS

Federal Endangered Species Act (16 United States Code [USC] 153 et seq.). Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS. Adverse impacts are defined as "take," which is prohibited except through authorization of a Section 7 or Section 10 consultation and Incidental Take Authorization. "Take" under federal definition includes "such act as may include significant habitat modification or degradation" (50 CFR 17.3). Species that are not listed are not protected by federal Endangered Species Act, even if they are candidates for listing; however, USFWS advises that a candidate species (as well as species of concern) could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

Migratory Bird Treaty Act (16 USC 703 to 711) protects all migratory birds, including nests and eggs.

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

5.2.5.2 State LORS

California Endangered Species Act (Fish and Game Code Section 2050 et seq.). Species listed under this act cannot be "taken" or harmed, except under specific permit. At present, "take" means to do or attempt to do the following: hunt, pursue, catch, capture, or kill.

Fish and Game 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 Game 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 Game Code Section 3503.5 protects all birds of prey and their eggs and nests.

Fish and Game 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 Game Code Sections 4700, 5050, and 5515 lists mammal, amphibian, and reptile species that are fully protected in California.

Fish and Game 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. CSC is a category conferred by CDFG 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 CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

California Fish and Game Code (Sections 1601 through 1607) prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. CDFG jurisdiction is limited to areas within the 100-year floodplain. Within this zone, CDFG 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, CDFG 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.) is a CEQA-equivalent process implemented by the CEC. Preparation of this application will result in an assessment prepared by the CEC staff to fulfill the requirements of CEQA.

5.2.5.3 Local and Other Jurisdictions' LORS

5.2.5.3.1 San Joaquin County Multi-Species Habitat Conservation and Open-Space Plan

The San Joaquin County Multi-Species Habitat Conservation and Open-Space Plan (Plan) allows Plan Permittees (such as San Joaquin County and the cities within the County) to issue Incidental Take Permits or allow project applicants to mitigate for impacts to Plan covered species resulting from projects that convert open space to urban development and other non-agricultural activities occurring on agriculturally-zoned properties. Participation in the Plan is voluntary for project applicants except when conditioned to participate by a Permittee. Project applicants that opt out of the Plan are required to satisfy applicable Endangered Species Act, California Endangered Species Act, National Environmental Policy Act, CEQA, and other applicable local, state, and federal laws and regulations through consultations with the appropriate parties.

5.2.5.3.2 Significant and Heritage Trees

Significant trees in San Joaquin County include native oak trees, heritage trees, and riparian habitats. Removal of significant trees requires an improvement plan and replacement plantings at specified ratios. Removal of native oak trees requires replacement plantings at a ratio of 3:1 followed by three years of maintenance. Soil compaction, grading, and altering the drainage near oak trees is prohibited and protective fencing is required during

construction. Heritage Trees are defined by San Joaquin County as "trees of a substantial size or age or having a significant history." Heritage Trees may only be removed in the public interest and must be replaced at a 5:1 ratio. Destruction or degradation of riparian habitat is prohibited unless the action is in the public interest. Impacts to riparian trees require preparation of a riparian habitat mitigation plan and replacement plantings at a 2:1 ratio. The City of Lodi Ordinance Number 1652 prohibits removal or damage to any City trees, shrubs and plants. The City of Lodi does not currently have a heritage tree ordinance.

5.2.6 Agencies and Agency Contacts

The project activities are covered under the MSHCP and the existing permit issued by the U.S. Fish and Wildlife Service. Any modifications or changes to the minimization and avoidance measures outlined in the plan will only be made with prior approval of the MSHCP committee, including representatives from the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

TABLE 5.2-6
Agency Contacts for Biological Resources

Issue	Agency	Contact
San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	San Joaquin Council of Governments	Anne-Marie Poggio-Castillou 555 E. Weber Ave. Stockton, CA 95202-2804 (209) 468-3913 acastillou@sjcog.org
Section 7 or Section 10 of ESA prohibiting "take" of Federally listed plants and/or wildlife; issuance of USFWS Biological Opinion, letter of concurrence, or "no effects" determination.	U.S. Fish and Wildlife Service	Susan Jones 2800 Cottage Way, W-2605 Sacramento, CA 95825 (916) 441-6655 Susan_Jones@fws.gov
Protection of state listed plants and/or wildlife: issuance of letter of concurrence or "take" authorization under CESA; authorization of lake or streambed alteration under 1602 of the Fish and Game Code.	California Department of Fish and Game	Eric Kleinfelter 1701 Nimbus Road, Suite A Rancho Cordova, CA 95670 (916) 358-2900 ekleinfelter@dfg.ca.gov

5.2.7 Permits and Permit Schedule

Because no streams will be crossed, and special-status species would be covered under the existing Section 10 Permit issued under the MSHCP, no additional federal, state, or local permits are required for Biological Resources.

5.2.8 References

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TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Federal		
Section 401 of Clean Water Act of 1977	Requires the applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	The LEC site does not include any federal jurisdictional wetlands or other waters of the U.S.
Federal Endangered Species Act (Federal ESA, 16 USC 153)	Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS.	The LEC site does not include habitat for federally listed species or species that may potentially be listed in the near future. Construction and operation will avoid significant impacts to federally listed species and their habitat.
Migratory Bird Treaty Act (16 USC 703 to 711)	Protects all migratory birds, including nests and eggs.	Nesting bird species have been observed in the project study area. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to migratory birds.
Bald and Golden Eagle Protection Act (16 USC 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	The LEC site does not include habitat or other features that would likely attract eagles. Stacks will be low in profile (80 ft) and are not likely to result in significant bird strikes. Transmission line will tie-in to the existing corridor.
State		
California Endangered Species Act (Fish and Game Code Section 2050 et seq.).	Species listed under this act cannot be “taken” or harmed, except under specific permit.	The site and vicinity was analyzed and it was determined that LEC construction or operation will not affect listed species and, therefore, not result in “take.”
Fish and Game 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.	Nesting raptors have been observed in the immediate vicinity of the LEC site. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to nesting raptors. In addition stacks will be low in profile (80 ft) and are not likely to result in significant bird strikes. Transmission line will tie-in to the existing corridor.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Fish and Game 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.	Nesting bird species have been observed in the project study area. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to nesting birds.
Fish and Game Code Sections 3503.5 as 3514	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.	Nesting raptors have been observed in the immediate vicinity of the LEC site. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to raptors and their nests.
Fish and Game Code Sections 4700, 5050, and 5515	Lists mammal, amphibian, and reptile species that are fully protected in California.	The LEC site was analyzed and does not include likely habitat for fully protected mammal, amphibian, or reptile species.
Fish and Game Code Sections 1900 et seq.,	The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.	The LEC site was analyzed and does not include likely habitat for protected plant species.
Title 14, California Code of Regulations, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California.	Numerous Swainson's hawks (State – Threatened) were observed in the LEC project site vicinity and suitable nest trees occur in the lay down and staging areas. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to the Swainson's hawk.
California Fish and Game Code (Sections 1601 through 1607)	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG.	The LEC site construction was analyzed and will not include alteration of any stream or channel.
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.	The AFC analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the CVEUP AFC.
Warren Alquist Act (Public Resources Code Section 25000, et seq.)	Warren-Alquist Act is a CEQA-equivalent process implemented by the CEC.	The AFC analysis and process is CEQA-equivalent. All requirements under the Warren-Alquist Act are met with the analysis in the CVEUP AFC.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Local and Other Jurisdictions		
San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	Outlines conservation measures for both federally listed and non-federally listed special-status species and significant natural community types in San Joaquin County.	Swainson's hawks have been observed in the project vicinity and suitable nesting habitat is present within the LEC project area. The project will comply with all survey and conservation measures for this species identified in the San Joaquin County Multi-Species Habitat Conservation Plan.
City of Lodi Ordinance 1652 - Protection of City Trees, Shrubs and Plants	The term "city tree, shrub or other plant" refers to those trees, shrubs and other plants which are located upon city property or within the public right of way. This ordinance prohibits the damage, transplant, or removal of any city tree, shrub or other plant without prior authorization.	Authorization from the City of Lodi will be obtained prior to the removal of any trees, shrubs or plants within the LEC project area.
San Joaquin County General Plan	Protects significant oak groves, heritage trees and riparian habitats and requires mitigation for impacts to these resources.	The LEC project would not affect any oak groves, heritage trees or riparian habitat.