

Lodi Energy Center - Proposed Mitigation Measures for Special-Status Species and Variance Request for Giant Garter Snake Upland Habitat through the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

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Introduction

The Northern California Power Agency (NCPA or project proponent) proposes to construct, own, and operate an electrical generating plant in the City of Lodi, San Joaquin County, California. The Lodi Energy Center (LEC) will be a natural gas-fired, combined-cycle electrical generating facility rated at a nominal generating capacity of 296 megawatts. The LEC will provide needed electric generation capacity with improved efficiency and operational flexibility to help meet the project participants' long-term electricity needs. NCPA would like to conduct formal consultation for special-status species under the San Joaquin County Multi-Species Habitat Conservation Plan (MSHCP). The purpose of this memorandum is to provide information for discussion with the San Joaquin Council of Governments (SJCOG) and the MSHCP Habitat Technical Advisory Committee (HTAC) related to proposed avoidance and mitigation measures and a request for a variance from the usual 200-foot giant garter snake upland setback.

The LEC project site is situated on the southeastern portion of a 1,040-acre parcel owned and incorporated by the City of Lodi. The site is approximately 6 miles southwest of the Lodi city center and approximately 2 miles north of Stockton, immediately west of Interstate 5 (Figure 1). The LEC would be constructed on approximately 4.4 acres of land between the existing 49-megawatt NCPA Combustion Turbine Project #2 (STIG plant) and the City of Lodi's White Slough Water Pollution Control Facility (WPCF) (Figure 2). Water treatment and holding ponds associated with the WPCF are located immediately to the north, and the San Joaquin County Mosquito and Vector Control facility is located to the south of the proposed site. The project site is undeveloped and is currently used for equipment and

material storage for the ongoing construction and upgrades to the WPCF. The proposed project includes grading the existing area and construction of the new facility. Construction laydown and parking areas will be within existing site boundaries of the WPCF on City-owned property. Four parcels totaling 9.8 acres will be used for both construction and laydown areas (Figure 5). Area A is approximately 3.1 acres, Area B is approximately 2.2 acres, Area C is approximately 1.6 acres, and Area D is approximately 2.9 acres.

Although the plant's overall footprint and location have not changed appreciably from that provided in the Application for Certification, further discussions with the City of Lodi and the SJCOG have resulted in a slight modification to the project fence line. The eastern boundary of the plant will be moved approximately 30 feet closer to the base of the City of Lodi's White Slough WPCF wastewater pond. The eastern boundary is being moved to accommodate an access road along the eastern border of the LEC as requested by the City of Lodi's Building Department. Additionally, the southern boundary of the plant has been adjusted slightly, and has been moved north to accommodate a required 30-foot buffer from the drainage canal located to the south of the proposed LEC. Based on conversations with the SJCOG staff, the 30-foot buffer is required because the southern portion of the project site is located in the upland habitat of the giant garter snake (*Thamnophis gigas*), a California and federal Threatened species.

Project Objectives

The primary objective of the LEC is to provide cost-effective and efficient electric generation capacity to NCPA member utilities and the other project participants in the California market. The LEC will provide needed electric generation capacity to respond to the demand for electricity by NCPA's project participants. Of equal or greater importance would be the LEC's ability to produce electricity more efficiently than other out-dated power plants currently operating, thereby furthering the statewide goals of limiting the environmental effects of power generation.

To respond to the need for electric generation capacity by the project participants, NCPA considered several key factors in siting the proposed LEC facility:

- Located within an NCPA project participant's jurisdiction
- Adjacent to or near high-pressure natural gas pipelines
- Adjacent to or near water supply for cooling purposes to maximize efficiency
- Located near electrical transmission facilities
- Industrial land use designation with consistent zoning
- Site control readily available
- Large enough to accommodate the site including construction laydown
- Located more than 2,500 feet from the nearest residential area
- Potential environmental impacts can be mitigated and minimized

In selecting a site for the new power plant, NCPA also sought to minimize or eliminate the length of any project linears, including water supply lines, discharge lines, and transmission interconnections in order to minimize potential offsite environmental impacts and cost of construction. The proposed LEC site meets all of these siting objectives.

Site Description

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-star thistle (*Centaurea solstitialis*). A paved access road for the existing STIG plant cuts across the southern end of the site and a gravel access road runs along 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 (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 star thistle, blackberry (*Rubus discolor*) and nettle (*Urtica dioica*). Several large cottonwood (*Populus fremontii*) trees and a few small black locust trees (*Robinia pseudoacacia*) are present in the southwestern corner of the proposed LEC site. Several of these trees will be removed prior to construction. Representative photographs of the site are provided in Attachment A.

Four areas would be used for laydown and parking areas during construction (Figure 2). All of these areas would be located on the City-owned parcel adjacent to the WPCF. Representative photographs of the laydown areas are provided in Attachment A.

Laydown Area A includes 3.1 acres on the northeastern 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 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 star thistle, 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. No trees would be removed from this area and the area would be restored to pre-disturbance conditions following construction. 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 southeastern 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*). No trees would be removed from this area and the area would be restored to pre-disturbance conditions following construction.

Laydown Area C includes 1.6 acres 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 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. No

trees would be removed from this area and the area would be restored to pre-disturbance conditions following construction.

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 eastern 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 northwestern corner of the site along the fence line of the WPCF. Several small valley oak trees, planted along the existing access road, are present just outside the southern boundary of this area.

The proposed natural gas pipeline would extend for 2.7 miles to the east of the LEC site (Figure 3). The pipeline route is almost entirely within existing graveled/paved farm access roads and paved county roads (North Thornton Road and West Armstrong Road), approximately 1.5 miles. The remaining 0.9 mile is within agricultural areas consisting of irrigated hay and alfalfa crops. The actual area of disturbance will be 35 feet wide, and following construction all areas of temporary disturbance will be restored to preconstruction conditions.

Special-status Species in the Region

The LEC site is located in a developed area surrounded by existing industrial development and highly managed lands (agricultural fields) and would have minimal impacts on 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 considered to have potential to occur in the LEC project area include: giant garter snake (*Thamnophis gigas*), western pond turtle (*Clemmys marmorata*), Swainson's hawk (*Buteo swainsoni*), western burrowing owl (*Athene cunicularia*), and white-tailed kite (*Elanus leucurus*). The project area is also located within designated critical habitat for the Delta smelt (*Hypomesus transpacificus*); however, the project would not affect any creeks, wetlands or other special aquatic resources. Stormwater for the LEC project area will be directed to onsite drains on the LEC site, which then lead to the WPCF. Therefore, Delta smelt is not addressed further in this memorandum. The following paragraphs describe the life histories of the special-status species considered potentially present in the project area.

Giant Garter Snake

The giant garter snake was first listed as a threatened species under the California Endangered Species Act in 1971, and was listed as a federal Threatened species in 1993. Giant garter snakes are brown to olive with a cream, yellow, or orange dorsal stripe and two light colored lateral stripes. Black spots may occur on some individuals between the dorsal and lateral stripes. Mature adults range in size from 32 to 64 inches; the males are smaller than the females. Giant garter snakes are distinguished from the common garter snake and western terrestrial garter snake based on differences in coloration, number of scale rows (21 to 23), and distinctive head shape (elongated with a more pointed snout).

Suitable habitat for the giant garter snake includes freshwater marshes, sloughs, ponds, and other aquatic habitats such as irrigation canals, drainages, reservoirs and rice fields, as well as the adjacent uplands. General habitat features consist of permanent freshwater with vegetative cover, dense prey populations, and higher elevation uplands not subject to flooding for denning and refuge. Primary prey items include tadpoles, frogs, small fish, and small terrestrial mammals such as mice and voles.

Giant garter snakes reach sexual maturity in 3 to 5 years for males and females, respectively. The primary breeding season extends from March through May, although breeding may extend into September. Females give birth to live young typically from July through September with brood sizes ranging from 10 to 46. They are most active from early spring to mid fall with most snakes seeking winter retreats in October. Home range estimates range from as little as 50 acres up to 640 acres, with the average presumably around 130 to 200 acres. While they are usually found near water, snakes have been reported to move up to a half mile between small lateral irrigation ditches and larger canals.

The giant garter snake is endemic to the California's Central Valley. Historically this species ranged from Butte County south to Kern County. Loss of habitat due to reclamation, flood control, upstream water diversions, and land conversion to agriculture has resulted in significant population declines. Presently there are 13 recognized populations, mostly in the Sacramento Valley and in a few isolated areas in the San Joaquin Valley. Of the 222 reported occurrences in the California Natural Diversity Database (CNDDDB), 173 of the records are from the Sacramento Valley and only 49 are reported from San Joaquin Valley, half of which are in Merced County (California Department of Fish and Game [CDFG] 2008). There are seven reported occurrence in San Joaquin County, including a record within 1 mile of the LEC project site near Coldani Marsh (Figure 4). No suitable aquatic habitat is present in the direct project footprint; however, the large irrigation canal immediately south of the LEC project site provides suitable habitat for this species. Therefore the giant garter snake may occur in the adjacent uplands within the project site and associated laydown areas.

The proposed project site and laydown areas would affect approximately 5.90 acres of upland habitat for the giant garter snake because it is within 200 feet of the irrigation canal that borders the southern portion of the project site. A total of 1.18 acres of open grassland with scattered trees would be permanently affected by the proposed project. An additional 3.32 acres of grassland habitat would be temporarily affected during construction, but would be restored to pre-disturbance conditions following construction (Figure 5). The remaining 1.40 acres consists of paved or gravel roads, developed areas or existing laydown and storage areas (Figure 5).

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) was listed as a California Threatened species in April 1983. Swainson's hawk is superficially similar in appearance to the more common red-tailed hawk (*Buteo jamaicensis*) but is more slender, has a longer tail and noticeably tapered wings. The tail is grayish with narrow, dark bands. This species may be light or dark colored. When seen from below, pale morphs have darker flight feathers than wing-linings and a dark (often reddish) breast band or bib. Dark morphs appear to be uniformly colored underneath, except for the lighter-colored tail.

Nesting habitat for the Swainson's hawk consists of scattered trees and open woodlands, often near or along riparian corridors or other water sources. Nest sites are located adjacent to foraging areas such as grasslands, meadows, pastures and agricultural fields (grain crops and alfalfa). Cottonwood, willows, oaks, sycamore and walnut are most often used as nest trees with species of pine, redwood, and eucalyptus trees only occasionally used.

Swainson's hawks are mainly insectivorous predators selecting grasshoppers, crickets, and other insects found in open grasslands or agricultural fields. However; during the nesting period, breeding pairs bring small vertebrate prey to their nestlings including mice, voles, young ground squirrels, young cottontails, and pocket gophers.

Swainson's Hawks have one of the longest migrations for raptors and may travel over 6,000 miles every spring and fall between its breeding grounds in North America and its wintering grounds in South America. The breeding season extends from March through August, with the peak period occurring between May and July. The average clutch size is between 2 and 4 eggs requiring 25 to 28 days of incubation before hatching, and 38 to 46 days for the young to fledge. The home range is generally between 10 and 15 miles from the nest site.

Historically, breeding Swainson's hawks occurred throughout most of California, but their current range is now largely restricted to the Central Valley and portions of the Modoc Plateau. Habitat loss, including significant declines in riparian habitat, in combination with pesticide use in South America has resulted in a declining population. The largest concentration of breeding pairs is found between Sacramento and Modesto. A total of 276 nest locations have been reported in the CNDDDB for San Joaquin County, including over 70 nest locations within 10 miles of the LEC site, including 3 locations within one mile of the site (Figure 4).

A nesting Swainson's hawk survey was conducted in 2009, and five nest sites were observed within 0.5 mile of the project site and pipeline route (Figure 6). Of these five nests, four were believed to have successfully fledged young during the 2009 nesting period. Construction of the facility will result in the loss of several large cottonwood trees and the permanent loss of approximately 1.18 acres of suitable foraging habitat. All other areas of disturbance will be restored to pre-disturbance conditions. Based on the numerous nest sites within the project area, pre-disturbance surveys will be conducted for all aspects of the project prior to initial ground disturbance.

Western Pond Turtle

There are currently two subspecies of the western pond turtle recognized in California; the northwestern pond turtle (*Actinemys marmorata marmorata*) and the southwestern pond turtle (*Actinemys marmorata pallida*). Both subspecies are California Species of Special Concern. Western pond turtles have a low, wide, dark brown to olive carapace with blackish markings and a yellowish breast plate. Limbs and head are yellowish orange with dark lines, flecks, and spots. Shells of adult turtles are generally between 4.5 and 7.5 inches long.

Western pond turtles are found in permanent or nearly permanent water, such as marshes, sloughs, ponds, lakes, streams, and irrigation canals. They prefer areas with relatively deep, slow-moving water with underwater refugia and basking sites such as sandy banks, rocks

and logs in or very near the water. They eat a variety of prey items including aquatic insects, crustaceans, worms, and small fish, but this species is an opportunistic forager and will also eat carrion and some plant material.

Western pond turtles are relatively long lived and may take up to 8 years to reach sexual maturity. Mating generally occurs between April and May. Females typically move into adjacent uplands between July and August to excavate a nest and lay their eggs. Nest sites are usually located adjacent to the water source, but may be located several hundred yards from the water in open areas with dry hard soil. Clutch size is variable, but nests generally contain 4 to 7 eggs that hatch in approximately 3 months. Juveniles may emerge from the nest in the fall and move into the water, or they may over-winter in the nest until the spring. Western pond turtles appear to have a high degree of site fidelity, a limited home range, and are primarily aquatic. Terrestrial movement away from a water source is generally limited to nesting, estivation, or in response to drought conditions. Long-range aquatic movements are likely during the mating season and for dispersal. They over-winter under water or on land when water temperatures are below 59°F (15°C).

Western pond turtles range from the Pacific slope in the Puget Sound area of Washington south to the Sierra Pedro Martir in Baja California. They occur throughout the western half of California with a few isolated populations in San Bernardino County. Western pond turtle populations have been declining due to habitat loss, agriculture conversion, grazing, and introduced predators such as the bull frogs and bass. There are over 1,000 reported occurrences in the CNDDB, including 18 records within 10 miles of the proposed project site (Figure 4). The nearest reported occurrences are approximately 1.3 miles northwest of the LEC project site at Coldani Marsh, and 1.7 miles to the southwest in Telephone Cut along the north side of Bishop Tract (Figure 4).

There is no suitable aquatic habitat for this species in the project area. The large irrigation ditch immediately south of the project site could provide suitable habitat for this species and they could occur in the adjacent upland areas of the project site; however, none were observed during the 2009 wildlife surveys. Several red-eared slider turtles (*Chrysemys scripta*) were observed basking in and around the large irrigation ditch immediately south of the project site.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia*) is a small owl generally 8 inches tall with a rounded head, long round wings and a short tail. They are generally light brown to tan with white streaks or spots, large yellow eyes and a light colored beak. This species is a California Species of Special Concern.

Optimum burrowing owl habitat consists of open grassland with short vegetation and an abundance of small mammal burrows (particularly ground squirrel) and higher roosting sites such as fence posts or soil mounds. Short vegetation may increase prey availability, enhance predator detection by the owls, and attract burrowing mammals that provide nest sites for burrowing owls. Burrows are often found on dry rolling hills, in fallow fields and along the edges of human-disturbed habitats. Burrowing owls prey on small mammals, insects, birds, crayfish, and reptiles and will also eat carrion.

Most burrowing owls in California are year-round residents. The breeding season extends from March through August with the peak occurring between April and May. Clutch size ranges from 2 to 10 eggs with an average of 5 or 6. Incubation requires 21 to 28 days and young fledge after about 48 days. Home range can be up to 4 acres from a burrow site.

Historically the western burrowing owl was common throughout much of California and Arizona, but habitat loss and eradication of ground squirrels has resulted in declining populations. In California, breeding populations are found in the Central Valley, southern San Francisco Bay area, near Livermore, along the lower Colorado River, and in Imperial County. There are 73 reported occurrences of this species in San Joaquin County, including two records within 10 miles of the LEC site. The nearest record is approximately 3.5 miles south of the project along a levee road south of Bear Creek and north of Mosher Slough (Figure 4).

No burrowing owls were observed during the 2009 wildlife surveys; however, the open grassland areas and edges of agricultural fields along the natural gas pipeline route could provide suitable habitat for this species. Therefore, pre-disturbance surveys will be conducted for all aspects of the project prior to initial ground disturbance.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a medium-sized hawk with a white face and under side. It has long, pointed gray and black wings, and a long white tail. The white-tailed kite is a California Fully Protected Species.

This species nests in a variety of trees including oaks, willows, walnuts, and other large trees found near open areas with suitable foraging habitat. Stick nest are constructed between 20 and 100 feet from the ground. Foraging habitat includes grasslands, emergent wetlands, pastures and agricultural fields. Kites feed primarily on small mammals such as voles and mice, but will occasionally eat birds, insects, amphibians, and reptiles. During the breeding season the home range is generally within 0.5 mile from the nest site, but extends to around 2 miles at other times of the year.

In California, this species is a yearlong resident. The nesting period extends from February through October with peak activity between May and August. Clutch size ranges from 3 to 6 eggs that require around 28 days of incubation. Young fledge in 30 to 40 days.

Historic population declines occurred between 1900 and 1940, but today the overall population appears to be stable. While there is only one reported occurrence in the CNDDDB for this species in San Joaquin County, this likely represents a lack of reporting rather than the rarity of the species in this area.

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 wildlife surveys conducted in 2008; however, no kites were observed nesting during the 2009 wildlife surveys. Suitable nesting and foraging habitat is present in the immediate vicinity of the LEC site, within several of the proposed staging and laydown areas, and along the proposed natural gas line alignment. Therefore, pre-disturbance surveys will be conducted for all aspects of the project prior to initial ground disturbance.

Other Protected Species

In addition to the species listed above, most nesting and migratory bird species are protected under the Federal Migratory Bird Treaty Act and/or the State of California Fish and Game Code Section 3503. These statutes make it unlawful to take, possess, or destroy the nest or eggs of any bird species. Common species such as killdeer (*Charadrius vociferus*), white-tailed kite, and red-tailed hawks have been observed nesting on or in the immediate vicinity of the proposed project site and laydown areas. Therefore, pre-disturbance surveys will be conducted for all aspects of the project prior to initial ground disturbance.

Proposed Mitigation and Avoidance Measures

NCPA will incorporate the following mitigation measures into the LEC project to avoid, minimize, and compensate for potential effects to sensitive biological resources and habitats that support special-status species that may occur on or around the proposed project site and associated linear features. To the extent possible, these measures include standard avoidance and minimization measures that have been established for the protection of those species with the potential to occur in the project vicinity. These measures are subject to review and approval by the HTAC for the San Joaquin County MSHCP, which includes staff from the SJCOG, the U.S. Fish and Wildlife Service (USFWS), and CDFG.

General Project Mitigation Measures

All construction and facility personnel will receive worker environmental awareness training on special-status species that have the potential to occur in the project area. An agency-approved Designated Biologist will be responsible for project oversight and will have the following duties:

- Advise the project owner's construction and operations staff on the implementation of the California Energy Commission's (CEC) Conditions of Certification for biological resources as set forth in the CEC Final Decision issued for the project.
- Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat.
- Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions.
- Notify the project owner and the CEC's Compliance Project Manager of any noncompliance with biological resource issues.
- Notify the appropriate permitting agency in the event of a listed wildlife fatality or injury.
- Conduct pre-disturbance biological surveys for the power plant site, laydown and parking areas, and natural gas pipeline route prior to initial ground disturbance.

Giant Garter Snake

Standard avoidance and minimization measures outlined in the San Joaquin County MSHCP for giant garter snake require a minimum setback of 200 feet for ground clearing

and heavy equipment access from aquatic habitat. Due to the existing industrial facilities adjacent to the proposed project site, the area available for development is limited (Figure 2). As a result, the establishment of the 200-foot setback from the irrigation canal located immediately south of the City property is not possible. Therefore, NCPA is seeking a variance from the 200-foot setback to allow construction-related activities to occur within 30 feet of the existing canal. NCPA has calculated that the loss of upland habitat for the giant garter snake associated with the 170-foot encroachment into the buffer zone area is 5.90 acres. It is believed that the SJCOG will require the standard mitigation for impacts on giant garter snake upland habitat, which is at a 3:1 ratio. NCPA proposes the following mitigation and avoidance measures:

- Construction activities associated with vegetation removal, initial ground disturbance and grading would be completed during the active season for the giant garter snake between May 1 and October 31.
- The irrigation canal area will be clearly marked with temporary fencing and signs will be installed demarking the area as environmentally sensitive. Wire-backed silt fencing will be installed prior to any ground disturbance to prevent snakes and other wildlife from entering into the work areas.
- A qualified biologist will conduct preconstruction surveys of the area within 24 hours of ground disturbance. Additional preconstruction surveys will be conducted if construction activities have stopped for more than two weeks.
- A biological monitor will be on site during the initial clearing and grading of all areas within 200 feet of the canal. In the event a snake is observed, all activity will immediately cease until the snake has exited the work area on its own or until other appropriate corrective measures have been taken to ensure that no harm will come to the snake. Any incidental sightings will be immediately reported to USFWS and CDFG.
- All work areas, equipment, spoils, vehicles, and personnel will remain in designated work, laydown, and parking areas.
- Best management practices will be used to ensure no stormwater, debris, or chemicals are discharged from the work area into the irrigation canal.

NCPA is proposing that the permanent and temporary loss of 5.90 acres of upland habitat for giant garter snake be compensated/mitigated through an in-lieu land swap as allowed under the provisions of the MSHCP. A mitigation ratio of 3:1 would apply, for a total of 17.7 acres as identified in Figure 7. The proposed mitigation area is part of a larger tract of land that the City of Lodi owns and is located adjacent to and bordering CDFG's White Slough Wildlife Area. The proposed mitigation site is currently vegetated with ruderal grasses and in agricultural production of corn and alfalfa using treated wastewater from the WPCF. The site includes existing irrigation canals that contain some standing water and appear to be routinely maintained as shown in representative photos in Attachment A. This parcel of land will provide contiguous (adjoining) land with the existing White Slough Wildlife Area and is expected to provide beneficial habitat for giant garter snake and other aquatic/upland species that reside in the area. It is anticipated that the proposed mitigation site will remain in agricultural production, and no enhancements (additional streams, vegetation, etc.) will be needed. NCPA and the City of Lodi are currently negotiating the

final terms of the purchase agreement and will work with the SJCOG to ensure that the mitigation parcel is set aside in perpetuity via a dedicated conservation easement.

Western Pond Turtle

The following mitigation measures would be implemented to avoid and minimize effects to the western pond turtle:

- Temporary fencing will be installed along the edge of the irrigation canal and signs will be posted identifying the area as environmentally sensitive.
- Concurrent with the preconstruction surveys for giant garter snake, surveys will also be conducted for the western pond turtles and potential nest locations.
- In the event a turtle or nest is identified in the work area, the location will be noted and the CDFG will immediately be contacted to determine the appropriate mitigation and avoidance measure to be taken prior to the start of any ground disturbance within 300 feet of the nest.

Swainson's Hawk

Nesting bird surveys have been initiated and will continue throughout the nesting season. Additional preconstruction nesting bird surveys will also be performed prior to ground disturbance. If an active nest is identified or a nest tree becomes occupied during construction activities, then all construction activities shall remain a minimum distance of two times the drip line of the tree, measured from the nest (SJCMSCP, 2000).

The portion of the LEC natural gas pipeline that will be constructed on agricultural land will result in the temporary loss of 3.55 acres of Swainson's hawk foraging habitat. (The remaining portion of the gas pipeline will be installed within existing graveled access roads and existing paved roads or their shoulders (i.e., North Thornton Road, North Devries Road, and West Armstrong Road), and will not impact agricultural lands. The project proponent will compensate/mitigate for the loss of 3.55 acres of agricultural land at a 1:1 ratio within the same in-lieu swap parcel proposed for giant garter snake compensation/mitigation.

Burrowing Owls

Preconstruction surveys for burrowing owls will be completed within 30 days prior to the start of construction. In the event occupied burrows are identified in the project area, the following minimization and avoidance measures will be implemented.

- In the event that owls or owl sign are identified during the survey, the location(s) will be noted and mapped. In the event an active burrow would be affected by the project, replacement burrows will be constructed at a location approved by the MSHCP technical oversight committee and passive relocation of the owls will occur prior to the start of construction. Passive relocation would only occur during the non-breeding season (September 1 to January 31).
- If an active nest is found during the breeding season, a 250-foot buffer area will be established around the burrow site until the fledglings are capable of independent

survival. In the event such a buffer is not practicable, alternative mitigation measures will be determined in consultation with the technical advisory committee.

White-tailed Kite and Other Nesting Birds

Surveys for other nesting bird species including the white-tailed kite will be conducted concurrent with the Swainson’s hawk, burrowing owl, and other preconstruction surveys. If an active nest is discovered during preconstruction surveys, clearing and construction within 100 feet of the nest will be postponed until it is vacated and the juveniles have fledged. Reduction of buffers would require consultation and approval from the HTAC.

Summary of Mitigation/Compensation

Table 1 summarizes the permanent and temporary loss of giant garter snake upland habitat associated with the request for a buffer zone variance, and the temporary loss of Swainson’s hawk foraging habitat associated with construction of the gas pipeline in agricultural land. The table also shows the total amount of mitigation land proposed via an in-lieu land swap to mitigate/compensate for these impacts. In addition to the in-lieu land swap, the San Joaquin County MSHCP requires a one-time endowment fee of \$4,603.57 per acre for the actual acres impacted by the proposed project. The combined total acreage impacted from the loss of giant garter snake upland habitat and impacts to agricultural lands is 9.45 acres. Therefore, the one-time endowment fee is expected to be \$43,503.74.

TABLE 1
Summary of Acreage Impacts and Mitigation/Compensation

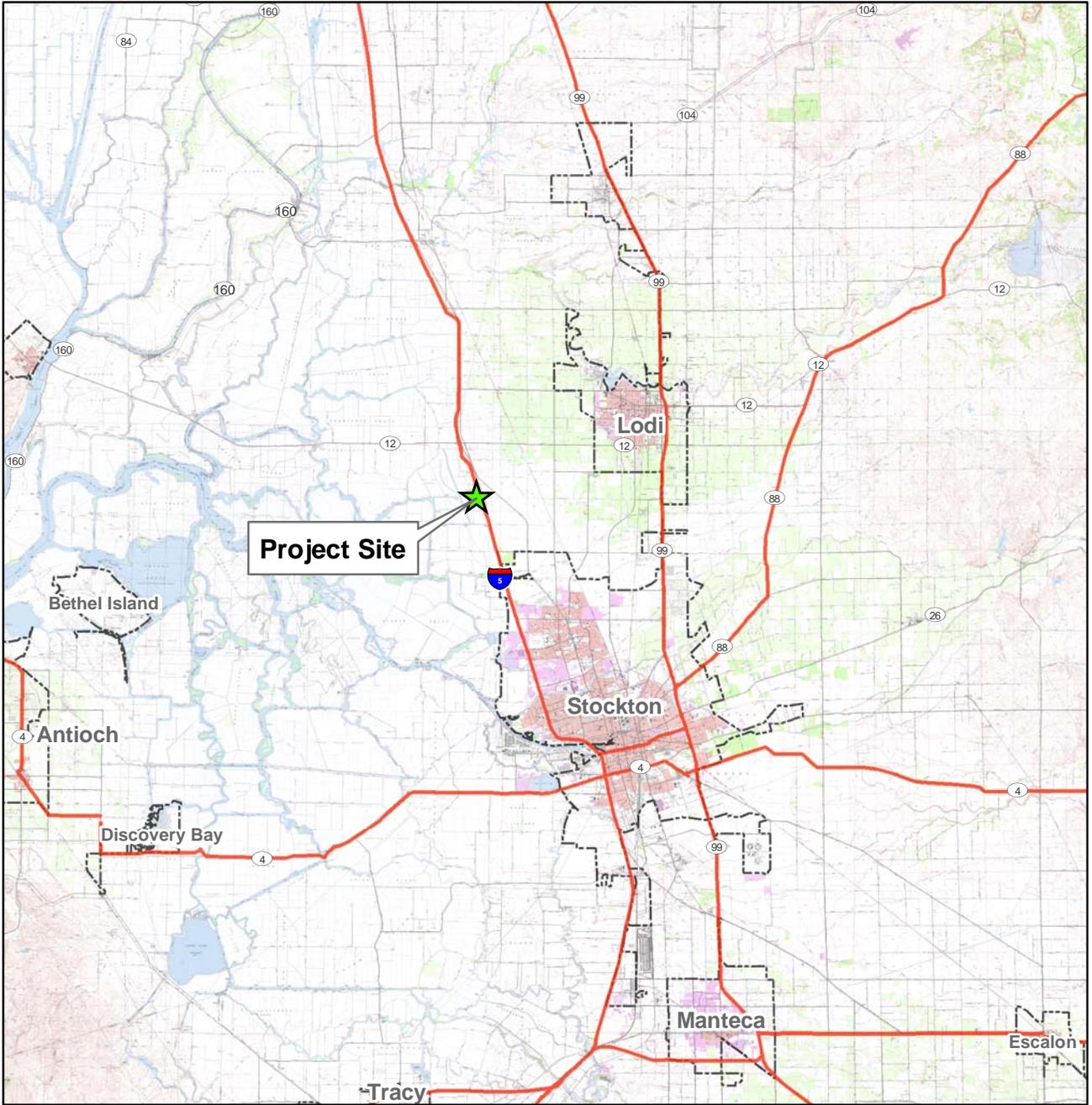
Species	Acres Impacted	Mitigation Ratio	In-Lieu Swap Acreage
Giant Garter Snake	5.90	3:1	17.7
Swainson’s Hawk	3.55	1:1	3.55
Western Pond Turtle	0	N/A	0
Burrowing Owl	0	N/A	0
White-tailed Kite	0	N/A	0
Other Nesting Birds	0	N/A	0
Total Acreage	9.45	—	21.25

References

California Department of Fish and Game (CDFG). 2008. California Natural Diversity Database (Rarefind Version 3.1.0).

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJCMSCP). 2000. San Joaquin Council of Governments. November 14.

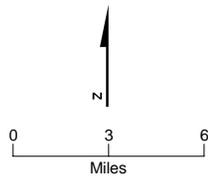
Swainson’s Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley. Available at: http://www.dfg.ca.gov/wildlife/species/survey_monitor.html



VICINITY MAP

LEGEND

 Project Site



Map Location

FIGURE 1
PROJECT VICINITY MAP
 LODI ENERGY CENTER
 LODI, CALIFORNIA

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



Proposed Plant Site

LEGEND

- Proposed Lay Down and/or Parking
- Proposed Plant Site

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

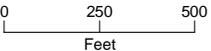


FIGURE 2
SITE LOCATION
 LODI ENERGY CENTER
 LODI, CALIFORNIA



- LEGEND**
- ✕ Proposed HDD Locations
 - Gas Pipeline
 - Agricultural Lands
 - In Existing Roads
 - Proposed Lay Down and/or Parking
 - Proposed Plant Site
 - Gas Pipeline Laydown Area

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

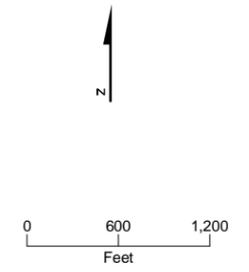
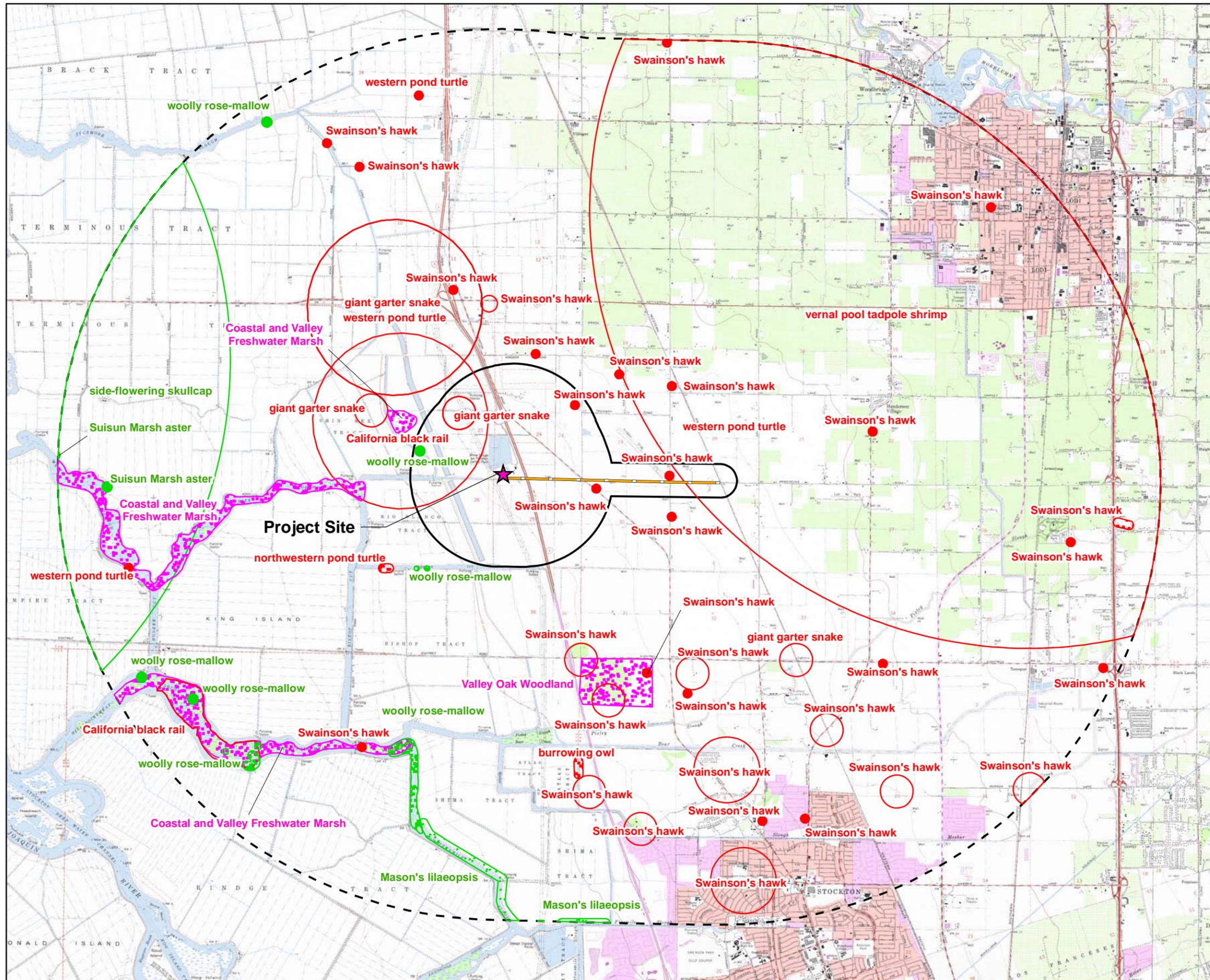


FIGURE 3
NATURAL GAS LINE
 LODI ENERGY CENTER
 LODI, CALIFORNIA



LEGEND

- ★ Project Site
- Natural Gas Pipeline Route
- CNDDDB 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, California Natural Diversity Database (CNDDDB) July, 2008, Solana HCP EIS/EIR, 2007, Commission for Environmental Cooperation, 1997, U.S. Environmental Protection Agency, 2005.

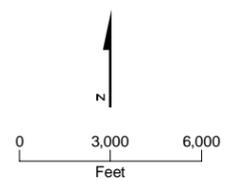
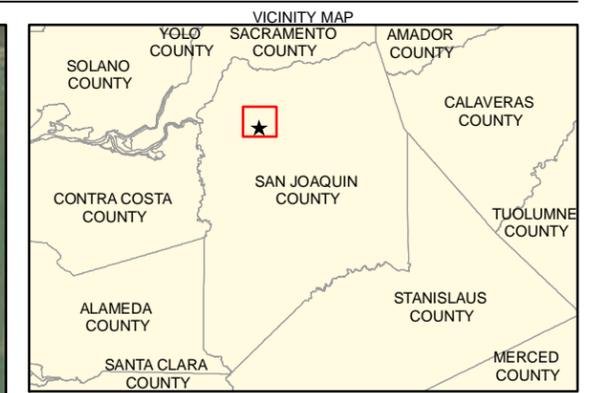
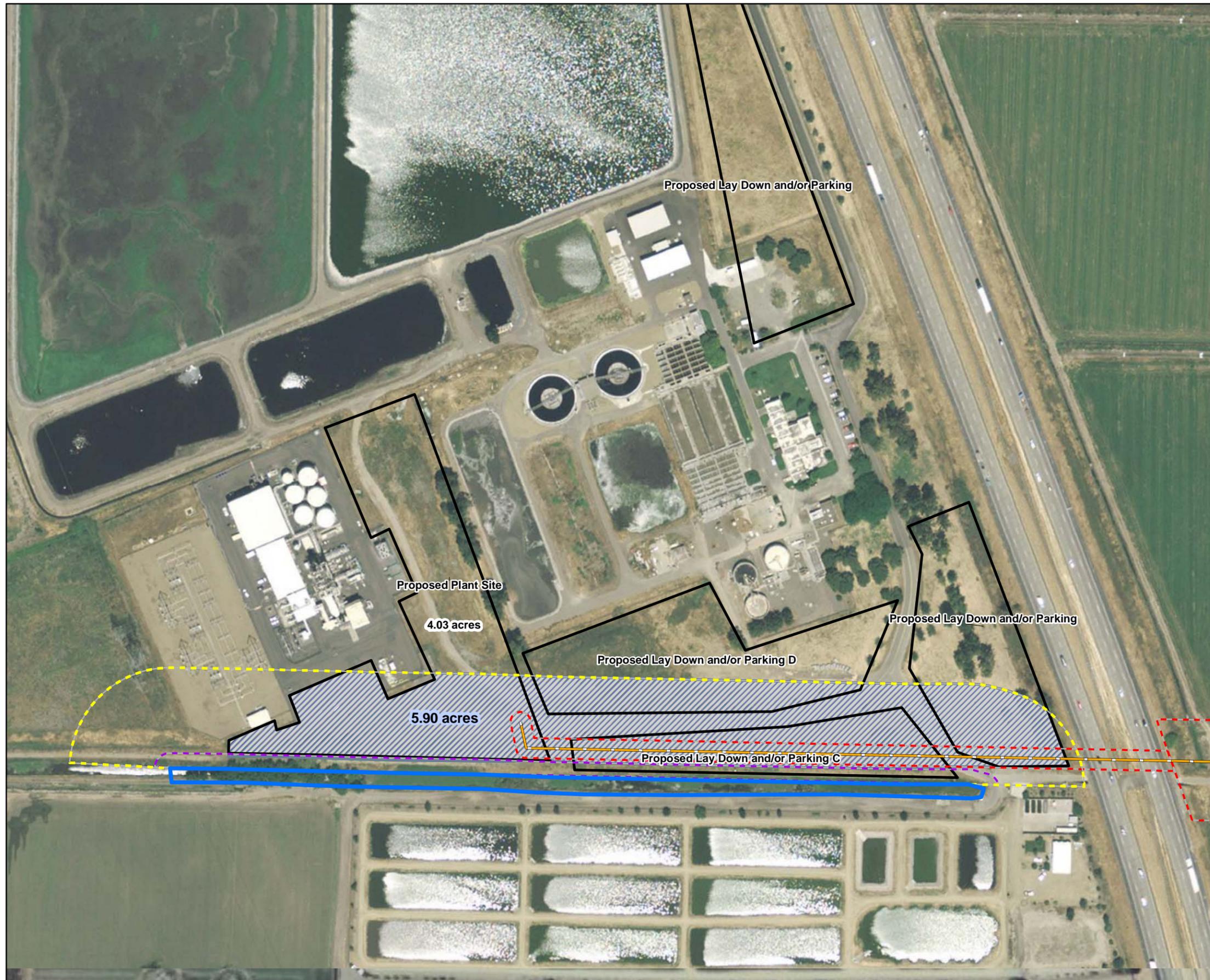


FIGURE 4
SPECIAL-STATUS SPECIES
 LODI ENERGY CENTER
 LODI, CALIFORNIA



- LEGEND**
- Natural Gas Pipeline
 - ROW of Pipeline
 - 30' Setback of Canal
 - 200' ROW of Canal
 - Project Sites
 - Irrigation Canal
 - 170' Encroachment of GGS Upland Habitat (5.90 acres)

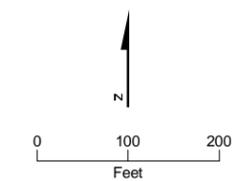


Figure 5
Habitat Acres Within 200 ft of Canal
 Lodi Energy Center
 San Joaquin County, CA



- LEGEND**
- ✕ Proposed HDD Locations
 - Swanson's Hawk Nests
 - Revised Natural Gas Line Route
 - Proposed Lay Down and/or Parking
 - Proposed Plant Site
 - Gas Pipeline Laydown Area

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

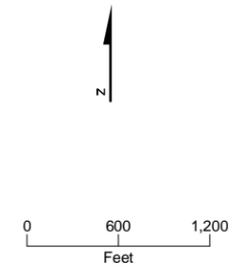


FIGURE 6
2009 WILDLIFE SURVEY
 LODI ENERGY CENTER
 LODI, CALIFORNIA



- LEGEND**
-  PROPOSED LAYDOWN AND/OR PARKING
 -  PROPOSED PLANT SITE
 -  CITY PARCEL LIMITS
 -  PROPOSED MITIGATION AREA

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

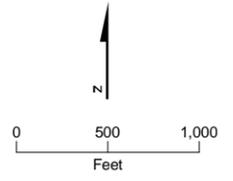


FIGURE 7
PROPOSED MITIGATION AREA
 LODI ENERGY CENTER
 LODI, CALIFORNIA

Attachment A
Site Photos



Proposed Lodi Energy Center plant site - looking north from near the southeastern corner of the existing power plant



Proposed Lodi Energy Center plant site - looking south from the northwest corner of the site



Laydown Area A - looking to the northwest from access road to the site



Laydown Area B - looking north from paved access road



Paved access road between proposed Laydown Areas B, C and D from southeastern part of the property looking generally to the west-northwest



Laydown Area C - from the east access road at east side looking to the west



Laydown Area C - from the west end of access road at east side looking to the east



Laydown Area D - from the east side of area looking to the west



West side of Laydown Area D looking north from Laydown Area C



Southwestern part of the proposed Lodi Energy Center site, from dirt road looking to the northwest



Dirt access road along irrigation canal and large cottonwood trees in the southwestern corner of the Lodi Energy Center site



Existing substation and energy facility on the north side of the dirt access road along the irrigation canal - looking to the east-northeast from the southwest corner of the substation



Open grassland area west of the existing substation – photo from dirt access road along irrigation canal looking to the north.



Irrigation canal on south side of the property looking west.



Photo of proposed in-lieu land swap area from existing access road looking north.



Photo of proposed in-lieu land swap area from existing access road looking south.