Appendix E

Biological Resources Technical Report

INSIGNIA ENVIRONMENTAL

LS POWER GRID CALIFORNIA, LLC

MANNING 500/230 KILOVOLT SUBSTATION PROJECT

BIOLOGICAL RESOURCES TECHNICAL REPORT

APRIL 2024

PREPARED FOR:

LS POWER GRID CALIFORNIA

EXECUTIVE SUMMARY

This Biological Resources Technical Report (Report) documents the methods and results of biological resources surveys conducted for LS Power Grid California, LLC's (LSPGC) Manning 500/230 Kilovolt (kV) Substation Project (Proposed Project). The Proposed Project includes the construction of an approximately 12-acre 500/230 kV substation and new 230 kV and 500 kV transmission lines spanning approximately 12 linear miles, as well as modifications and extensions to existing 230 kV and 500 kV transmission lines owned by Pacific Gas and Electric Company (PG&E). The Proposed Project would address the California Independent System Operator-identified overloads on the existing Borden-Storey 230 kV Transmission Lines and facilitate the advancement of renewable energy generation within the Westlands/San Joaquin Valley area. This Report identifies potential impacts to habitats and species that could result from the construction, operation, and maintenance of the Proposed Project.

The Proposed Project would be located in unincorporated areas of western Fresno County, east of the Bureau of Land Management's Tumey Hills recreation area, south of Manning Avenue, and approximately 12 miles west of the City of San Joaquin. The majority of the Proposed Project would occur in agricultural lands or in communities of non-native grasses and would intersect a major highway, Interstate 5. A total of seven different vegetation communities and land cover types were identified within the Proposed Project, none of which are classified as sensitive according to the California Native Plant Society (CNPS) (CNPS 2023b). Approximately 945 acres of the survey area have yet to be surveyed due to lack of landowner approval.

Based on field visits and background research, a total of eight special-status plant species were determined to have a low, moderate, or high potential to occur in the survey area. Of those eight species, two—Panoche pepper-grass (*Lepidium jaredii* spp. *album*) and Lost Hills crownscale (*Atripex coronate* spp. *vallicola*)—have a moderate or greater potential to occur within the survey area. No special-status plant species were identified during field surveys.

Background research and findings from field visits suggest 26 special-status wildlife species have a low, moderate, or high potential to occur within the survey area. No special-status wildlife species were observed during field visits. The following 15 special-status wildlife species have moderate or greater potential to occur within the survey area:

- Burrowing owl (*Athene cunicularia*)
- Northern harrier (*Circus cyaneusi*)
- Prairie falcon (*Falco mexicanusi*)
- Short-eared owl (*Asio flammeus*)
- Swainson's hawk (*Buteo swainsoni*)
- Tricolored blackbird (*Agelaius tricolor*)
- Yellow-billed magpie (*Pica nutalli*)
- Giant kangaroo rat (*Dipodomys nitratoides*)
- San Joaquin antelope squirrel (*Ammospermophilus nelsoni*)
- San Joaquin kit fox (*Vulpes macrotis mutica*)
- Blunt-nose leopard lizard (*Gambelia silus*)

- California glossy snake (*Arizona elegans occidentalis*)
- San Joaquin coachwhip (*Masticophis flagellum ruddocki*)
- Western spadefoot (*Spea hammondii*)
- Crotch's bumblebee (*Bombus crotchii*)

Although no critical habitat exists within the survey area, the Proposed Project would be located within the Pacific Flyway, a major north/south migration route for birds that travel between North and South America. Aquatic features observed during field visits include seven ephemeral streams and two agricultural ditches potentially under the jurisdiction of the United States Army Corps of Engineers, Regional Water Quality Control Board of the Central Valley (Region 5), and California Department of Fish and Wildlife, as well as the California Aqueduct, which is under the jurisdiction of the California Department of Water Resources. The Proposed Project would be located within the boundaries of the Fresno County General Plan and the Pacific Gas and Electric Company San Joaquin Valley Operation & Maintenance Habitat Conservation Plan.

LSPGC would implement a series of avoidance and minimization measures designed to avoid and minimize the temporary and permanent direct and indirect impacts of the Proposed Project. With the implementation of these measures, impacts to hydrological features and special-status species are anticipated to be less than significant pursuant to the California Environmental Quality Act.

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1 – INTRODUCTION

LS Power Grid California, LLC (LSPGC) proposes the Manning 500/230 Kilovolt (kV) Substation Project (Proposed Project) to address the California Independent System Operator-identified overloads on the existing Borden-Storey 230 kV Transmission Lines and facilitate the advancement of renewable energy generation within the Westlands/San Joaquin Valley area. The Proposed Project's general location is depicted in Figure 1: Project Overview Map, and the Proposed Project components located within the survey area are depicted in Figure 2: Project Components Map.

This Biological Resources Technical Report (Report) was prepared to identify any existing or potentially sensitive biological resources (e.g., vegetation communities, hydrologic features, and special-status plant and animal species and their associated habitats) that may be present within or adjacent to the Proposed Project's survey area.[1] The survey area is the footprint of all Proposed Project components with approximately 350 feet of additional buffer on either side of each component. This Report also identifies permits and authorizations that may be required for the Proposed Project and recommends avoidance and minimization measures (AMMs) to avoid and/or reduce impacts to biological resources during construction activities. With the implementation of the AMMs, impacts to sensitive biological resources would be avoided and minimized. As a result, impacts to biological resources would be less than significant.

2 – PROJECT DESCRIPTION

2.0 PROJECT OVERVIEW

The main components of the Proposed Project include:

- Constructing an approximately 12-acre 500/230 kV substation (Manning Substation);
- Constructing an approximately 12-mile-long, double-circuit 230 kV transmission line from the proposed LSPGC Manning Substation to Pacific Gas and Electric Company's (PG&E's) existing Tranquillity Switching Station;
- Extending the following PG&E transmission lines into the proposed LSPGC Manning Substation:[2]
    - Los Banos-Midway #2 500 kV Transmission Line (approximately 0.75 mile),
    - Los Banos-Gates #1 500 kV Transmission Line (approximately 0.75 mile), and

[1] The survey area consists of all areas of the Proposed Project area, as well as an approximately 350-foot buffer, totaling 3,508 acres.

[2] PG&E would be responsible for extending the existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and the Panoche-Tranquillity Sw. Sta. #1 and #2 230 kV Transmission Lines into the proposed LSPGC Manning Substation. PG&E would route these transmission line extensions to a point within 100 feet of the proposed LSPGC Manning Substation wall, where they would terminate on dead-end structures owned by PG&E. PG&E would also be responsible for reconductoring approximately 7 miles of its Panoche-Tranquillity Sw. Sta. #1 and #2 230 kV Transmission Lines and making any necessary adjustments to the existing series capacitors on the Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines.

  - Panoche-Tranquillity Sw. Sta. #1 and #2 230 kV Transmission Lines (approximately 4.2 miles each); and

- Reconductoring approximately 7 miles of PG&E's existing Panoche-Tranquillity Sw. Sta. #1 and #2 230 kV Transmission Lines.

As depicted in Figure 1: Project Overview Map, the Proposed Project is located in the westernmost portion of Fresno County in California. The Proposed Project components are depicted in more detail in Figure 2: Project Components Map.

3 – REGULATORY FRAMEWORK

3.0 FEDERAL

3.0.0 Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects plant and wildlife species that are listed as endangered or threatened by the United States (U.S.) Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries).

Under Section 9 of the FESA, any take of endangered wildlife is prohibited; "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 U.S. Code [U.S.C.] 1532[19] and 1538). Take can also include the modification of a species' habitat. For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land; and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S.C. 1538[c]).

Under Section 7 of the FESA, federal agencies are required to consult with the USFWS and/or NOAA Fisheries if their actions, including permit approvals or federal funding, could adversely affect a listed species (including plants) or its critical habitat. Through Section 7 consultation and the issuance of a Biological Opinion, the USFWS and/or NOAA Fisheries may issue an incidental take permit (ITP), allowing take of the species that is incidental to another authorized activity, provided that the action will not jeopardize the continued existence of the species.

Section 10 of the FESA provides for the issuance of ITPs for private actions that have no federal involvement through the development of a habitat conservation plan (HCP).

3.0.1 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) recognizes international treaties between the U.S. and other countries that have afforded protection to migratory birds and any of their parts, eggs, and nests, from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The MBTA prohibits acts to "pursue, hunt, take, capture, or kill, or attempt to take, capture, or kill" migratory birds and a range of buying, selling, and transporting activities (16 U.S.C. 703). "Take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue or collect" a bird.

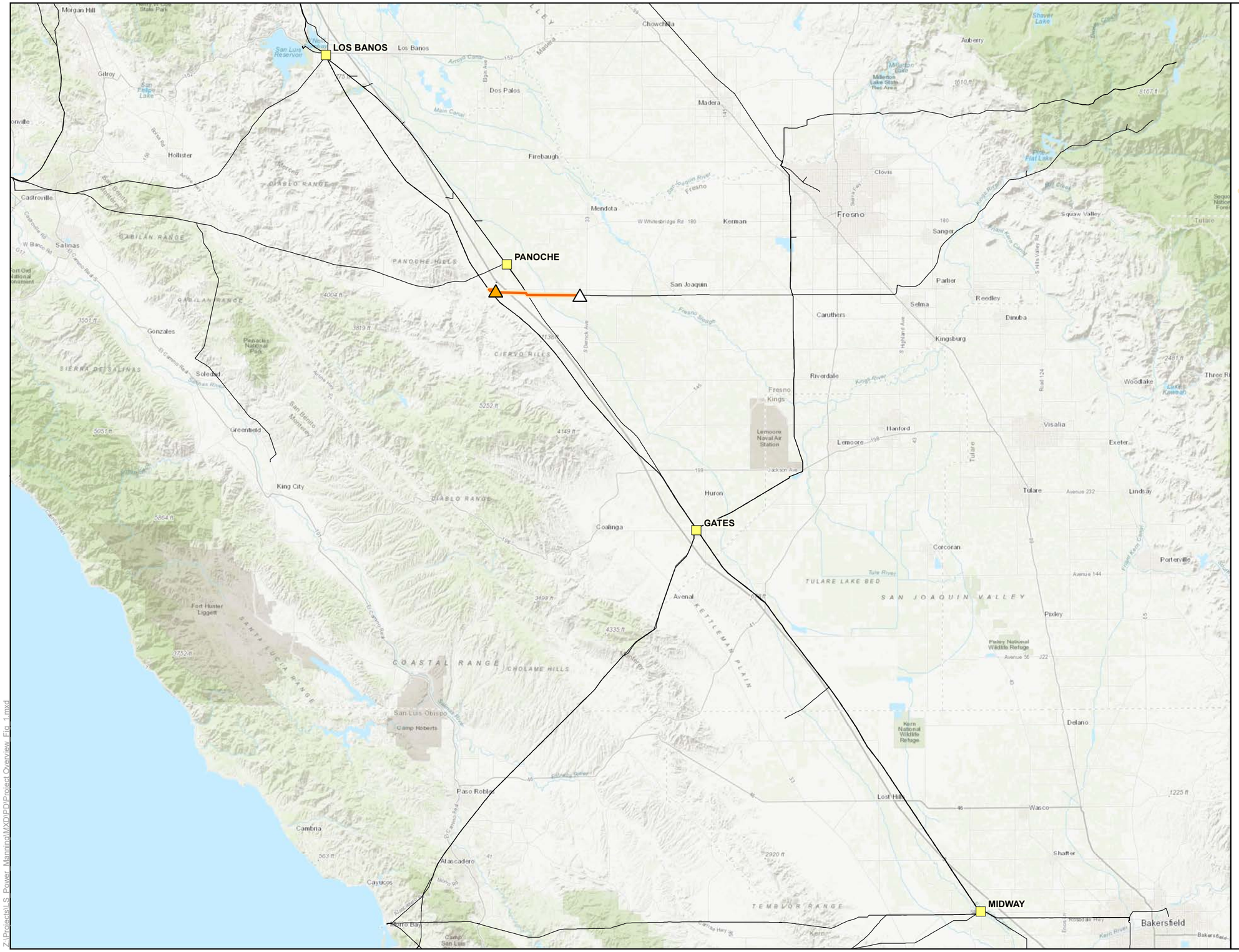

Figure 1: Project Overview Map

Manning 500/230 Kilovolt Substation Project

- Existing PG&E Substation
- Existing PG&E Tranquillity Switching Station
- Existing PG&E Transmission Line
- Proposed LSPGC Substation
- Proposed Transmission Lines and Interconnections

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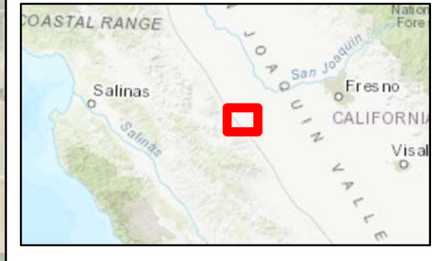
Figure 2: Project Components Map

Manning 500/230 Kilovolt Substation Project

- Existing PG&E Tranquillity Switching Station
- Existing PG&E Transmission Line
- Existing PG&E Transmission Line to be Removed
- Proposed LSPGC 230 kV Transmission Line
- Proposed PG&E 500 kV Interconnections
- Proposed PG&E 230 kV Interconnections
- Proposed PG&E 230 kV Reconductoring
- Proposed PG&E 12 kV Distribution Line
- Proposed LSPGC Manning Substation Site



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Birds, nests, and eggs are all protected. The regulations governing migratory bird permits can be found in Title 50, Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits) of the Code of Federal Regulations.

3.0.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) affords additional legal protection to bald eagles and golden eagles. This law prohibits the take, sale, purchase, barter, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof (16 U.S.C. 668-668d). The BGEPA also defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb," and includes criminal and civil penalties for violating the statute. The USFWS further defines the term "disturb" as agitating or bothering an eagle to a degree that causes or is likely to cause injury, or a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

3.0.3 Clean Water Act

Section 404

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity involving a discharge of dredged or fill material into waters of the U.S. Waters of the U.S. include the following:

- Navigable waters of the U.S.,
- Interstate waters,
- All other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce,
- Tributaries to any of these waters, and
- Wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Section 402

CWA Section 402 regulates construction-related storm water discharges to surface waters through the National Pollutant Discharge Elimination System program, which is administered by the U.S. Environmental Protection Agency (EPA). In California, the State Water Resources Control Board is authorized by the U.S. EPA to oversee the program through the Regional Water Quality Control Boards (RWQCBs). The Proposed Project is within the jurisdiction of the Central Valley RWQCB (Region 5).

Section 401

Under CWA Section 401(a)(1), the applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the U.S. must provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The RWQCBs administers the Section 401 program to prescribe measures for projects that are necessary to avoid, minimize, and mitigate adverse effects on water quality and ecosystems.

3.0.4 Plant Protection Act of 2000

Some non-native plant species are officially categorized as "noxious weeds" because they are highly invasive or interfere with an area's management objectives, or both. Both the U.S. and California governments maintain lists of plants that are considered threats to the well-being of the nation or the state. The Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 et seq.; 88 Stat. 2148), established a federal program to control the spread of noxious weeds. The act was superseded by the federal Plant Protection Act of 2000 (7 U.S.C. 7701 et seq.; 114 Stat. 438), which consolidated and modernized all major statutes pertaining to plant protection and quarantine (e.g., the Federal Noxious Weed Act and Plant Quarantine Act).

The Plant Protection Act revised the original definition of a "noxious weed" as listed in the Federal Noxious Weed Act to include the following:

> "any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment."

Under the Plant Protection Act, the Secretary of Agriculture was authorized to designate plants as "noxious weeds" by regulation, and to prohibit or restrict all such weeds from entering the U.S. or moving through interstate commerce. The secretary was also given authority to inspect, seize, and destroy products and to quarantine areas, if necessary, to prevent the spread of such weeds. The Secretary of Agriculture was also authorized to cooperate with other federal, state, and local agencies, farmers' associations, and private individuals in measures to control, eradicate, or prevent or retard the spread of such weeds.

3.1 STATE

3.1.0 California Fish and Game Code Sections 3511, 4700, 5050, and 5515

The state of California first began to designate species as "fully protected" prior to the creation of the California ESA (CESA) and the FESA. Lists of fully protected species were initially developed to provide protection to animals (i.e., fish, amphibians, reptiles, birds, and mammals) that were rare or facing possible extinction. Most fully protected species have since been listed as threatened or endangered under the CESA and/or the FESA. Fully protected species may not be taken or possessed at any time, and ITPs cannot be issued for these species (California Fish and Game Code Section 4700).

3.1.1 California Fish and Game Code Sections 3503, 3503.5, and 3513

California 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. Section 3503.5 specifies these protections for birds in the orders Falconiformes and Strigiformes (i.e., raptors). Section 3513 also 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.

3.1.2 Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), waters of the state fall under the jurisdiction of the appropriate RWQCB. The RWQCB must prepare and periodically update water quality control plans, also known as basin plans. Each basin plan establishes numerical or narrative water quality objectives to protect established beneficial uses, which include wildlife, fisheries, and their habitats. Projects that affect wetlands or waters of the state, including groundwater, must meet the discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

3.1.3 Native Plant Protection Act (California Fish and Game Code Sections 1900-1913)

The Native Plant Protection Act (NPPA) (California Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by the California Department of Fish and Wildlife (CDFW). The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect them from take. The NPPA also stipulates that no person may take or possess any endangered or rare native plant, or any part or product thereof. However, this does not apply to the removal of endangered or rare native plants within a right-of-way by the owner of the land or his/her agent, nor does it apply to the obligation of a publicly or privately owned public utility to provide service to the public.

3.1.4 California Code of Regulations (Title 14, Sections 251.1, 670.2, and 670.5)

Title 14, Section 251.1 of the California Code of Regulations (CCR) restricts the harassment of non-game birds and mammals. Harassment is defined as an intentional act that disrupts an animal's normal behavior patterns, which includes, but is not limited to breeding, feeding, or sheltering.

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

3.2 LOCAL

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D, Section XIV.B:

> "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters."

Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as the County of Fresno does not have jurisdiction over the Proposed Project. This section includes a summary of local biological resources-related policies, plans, or programs for informational purposes. LSPGC and PG&E are not subject to local discretionary permitting; ministerial permits would be secured as appropriate.

3.2.0 Fresno County General Plan

The Fresno County General Plan (County of Fresno 2000) includes the following policies that may be applicable to resources affected by the Proposed Project:

- Policy OS-E.5: The county shall support preservation of habitats of rare, threatened, endangered, and/or other special-status species including fisheries.

- Policy OS-E.9: Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist.

3.2.1 PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan

The PG&E San Joaquin Valley Operation & Maintenance HCP is intended to allow PG&E to conduct operations and maintenance activities in the San Joaquin Valley while minimizing, avoiding, and compensating for any possible adverse effects to threatened and endangered species during such activities. The plan area includes parts of nine San Joaquin Valley counties, including Fresno County. Although the construction of the Proposed Project would not be a covered activity, the Proposed Project area would be located within the boundaries of this HCP.

4 – PRELIMINARY AGENCY CONSULTATION

No pre-survey contact with applicable wildlife agencies was conducted with regards to this Report. No agency approvals were required for biologists conducting surveys. Agency protocols and best practices applied to the survey effort are detailed in Section 5.3 Biological Resource Survey Method.

5 – METHODS

5.0 SURVEY AREA

The survey area includes the Proposed Project alignment along with an approximately 350-foot buffer around the majority of the Proposed Project components, which is depicted in Attachment A: Vegetation Communities and Land Cover Types, for a total of approximately 3,508 acres. The buffer varies in distance all throughout the alignment due to access roads, proposed staging areas, and other various reasons relating to construction logistics. The survey area includes all areas of permanent and temporary impact areas associated with the construction of the Proposed Project. Most of the survey area is composed of agricultural lands, both active and inactive, with steep hills in the western region that are used for heavy cattle grazing. The survey area crosses a major highway, Interstate (I-) 5, which runs north-south.

5.1 DEFINITIONS

The following definitions were used to define special-status resources within the survey area.

5.1.0 Special-Status Plants

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

- Species listed or candidates for listing as threatened or endangered under the FESA;
- Species listed or candidates for listing as threatened or endangered under the CESA;
- Species meeting the definition of endangered, rare, or threatened under CEQA (14 CCR Section 15380) that may include species not found on either federal or state endangered species lists; and
- Species considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California (i.e., California Rare Plant Ranks [CRPRs] 1A, 1B, 2A, 2B, and 3).

5.1.1 Sensitive Natural Communities and Habitats

Natural communities were considered sensitive if they met one of the following criteria:

- sensitive vegetation communities/habitats identified in local or regional plans, policies, or regulations, or designated as sensitive by the CDFW or USFWS (including communities assigned a State Rarity Rank of S1 to S3 under the CDFW Vegetation Classification and Mapping Program);
- areas that provide habitat for locally unique biotic species/communities (e.g., oak woodlands, grasslands, and forests);
- habitat that contains or supports rare, endangered, or threatened wildlife or plant species as defined by the CDFW and USFWS;
- habitat that supports one or more CDFW SSC;
- areas that provide habitat for rare or endangered species and that meet the definition in CEQA Guidelines Section 15380;[3]
- existing game and wildlife refuges and reserves;
- lakes, wetlands, estuaries, lagoons, streams, and rivers; and
- riparian corridors.

[3] This definition is provided in Title 14, Division 6, Chapter 3, Section 15380 of the CCR.

5.1.2 Special-Status Wildlife

Wildlife species were considered special-status species if they met one or more of the following criteria:

- species listed or candidates for listing as threatened or endangered under the FESA;
- species listed or candidates for listing as threatened or endangered under the CESA;
- species that are fully protected in California (California Fish and Game Code Sections 3511, 4700, 5050, and 5515);
- species meeting the definition of endangered, rare, or threatened under CEQA (14 CCR Section 15380) that may include species not found on either federal or state endangered species lists;
- migratory birds and any of their parts, eggs, and nests, as protected by the MBTA;
- birds of prey (California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800);
- species designated as an SSC or as fully protected by the CDFW;
- species protected under the BGEPA;
- species designated as Birds of Conservation Concern (BCC) or Watch List species by the CDFW; and
- bats considered by the Western Bat Working Group (WBWG) to be high- or medium-priority species.

5.1.3 Special-Status Species with Potential to Occur

Species identified from a literature search were assigned one of the following potentials to occur:

- **Present:** The species was observed during surveys.
- **High Potential:** Suitable habitat for the species is present within the survey area, and recent (i.e., within 30 years) occurrences have been reported within 1 mile of the survey area; or marginal habitat is present, and recent occurrences have been recorded within 0.25 mile of the survey area.
- **Moderate Potential:** Suitable habitat for the species is present, and the survey area is located within the species' known range, but no recent (i.e., within 30 years) occurrences have been recorded between 1 and 5 miles from the survey area; or marginal habitat is present, the survey area is located within the species' known range, and multiple recent occurrences have been recorded between 1 and 5 miles from the survey area.
- **Low Potential:** Poor or marginal habitat for the species exists, and at least one recent occurrence has been recorded between 1 and 5 miles from the survey area; barriers to

migration/dispersal may be present; or suitable habitat for the species is present within the survey area, but either no recent occurrences have been recorded between 1 and 5 miles from the survey area, or the survey area is located outside of the species' known range.

- **No Potential:** No habitat exists for the species; no occurrences have been recorded between 1 and 5 miles from the survey area, or the survey area is outside of the species' known geographic or elevation range; and/or the species has been confirmed to be extirpated from the area.

5.2 RECORDS SEARCH

A literature and database review, including a geographic information system review of records from the California Natural Diversity Database (CNDDB) (CDFW 2023b), was conducted of the U.S. Geological Survey (USGS) 7.5-minute quadrangles within and adjacent to the survey area. The CNPS Inventory of Rare and Endangered Plants of California (CNPS 2023b) was reviewed using a nine-quadrangle search to obtain additional information regarding special-status plant species. The USFWS Information for Planning and Consultation (IPaC) (USFWS 2023b) was consulted using the polygon feature for a list of federally threatened and endangered species known to occur within or near the Proposed Project and to determine the Proposed Project's proximity to USFWS-designated critical habitat. All special-status species found in the CNDDB, CNPS, and IPaC occurrence records within 5 miles of the Proposed Project—as well as the WBWG priority bats that were determined to have an overlapping range with the Proposed Project (WBWG 2023)—were evaluated for their potential to occur within the survey area based on the presence of suitable habitat.

Further, the USFWS's National Wetlands Inventory (NWI) (USFWS 2023c) and the USGS National Hydrography Dataset (USGS 2023) were queried to determine if potentially jurisdictional waters had been previously mapped within the survey area.

5.3 BIOLOGICAL RESOURCE SURVEY METHOD

On October 17 and 18, November 6 to 8, and November 13, 2023, Insignia Environmental (Insignia) biologists conducted surveys to characterize the existing conditions within the survey area and identify potential biological resources (e.g., habitat for special-status species, sensitive natural communities, and jurisdictional waters) that may occur. Assessments were conducted by walking meandering transects spaced no more than 15 meters apart and covering 100 percent of the survey area for which landowner access had been granted. The survey area is shown in Attachment A: Vegetation Communities and Land Cover Types.

The biologists conducted a habitat assessment, as well as a preliminary assessment of water features potentially under the jurisdiction of the USACE, RWQCB, and CDFW, as described in more detail under the subheadings that follow. All sensitive natural resources observed were photographed and recorded using a submeter-accurate Global Positioning System (GPS) unit.

Surveys were conducted during daylight hours with clear to partly cloudy skies and did not occur in inclement weather conditions or under fog cover. Temperatures ranged from 62 to 81 degrees Fahrenheit with wind speeds between 5 and 15 miles per hour.

Due to access constraints imposed by private property owners, approximately 945 acres (26.9 percent) of the survey area were not included in biological resource surveys. While this area was included in the records search and preliminary research for this Report, additional field surveys and jurisdictional waters assessments will be required to identify any existing or potentially sensitive biological resources (e.g., vegetation communities, hydrologic features, and special-status plant and animal species and their associated habitats) that may be present within or adjacent to this portion of the survey area.

5.3.0 Habitat Assessment

A habitat assessment was conducted within the survey area to determine whether the Proposed Project contained habitat suitable to support special-status species. Surveys for vegetation communities and land cover types were conducted by walking meandering transects spaced no more than 15 meters apart covering 100 percent of the area surveyed. Areas inaccessible due to fencing or other physical structures were considered surveyed if they were within a visual range of 6 meters.

As part of the habitat assessment, natural communities were mapped to the alliance level, as described in *A Manual of California Vegetation Online* (CNPS 2023a). Other non-vegetative land covers were documented as well. The biologists identified dominant species, assigned alliances, and mapped the natural community and land cover boundaries using a submeter-accurate GPS unit. Natural communities were evaluated using NatureServe's Heritage Methodology, the same system used to assign global and state rarity ranks for plant and animal species in the CNDDB. Sensitive natural communities are natural communities with ranks of S1, S2 or S3.

5.3.1 Preliminary Jurisdictional Determination

Insignia biologists conducted a preliminary assessment of water features potentially under the jurisdiction of the USACE, RWQCB, and CDFW. Assessments were conducted by walking meandering transects that were spaced no more than 15 meters apart and covered 100 percent of the survey area. Insignia biologists used guidance from A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008) to determine the location and size of linear water features potentially under the jurisdiction of the USACE, RWQCB, and/or CDFW. Photographs were taken for each linear water feature to record downstream and upstream conditions. OHWM indicators and measurements of each jurisdictional linear water feature were recorded on electronic data sheets. Top of bank (TOB) measurements were also noted for each linear water feature to assess the areas that may be CDFW-jurisdictional under Section 1600 of the California Fish and Game Code. Potentially jurisdictional wetland features were identified through combined observations of visible hydrology, vegetation typically associated with wetlands, and elevation relative to the surrounding topography.

6 – RESULTS

6.0 GEOGRAPHY, CLIMATE, AND HYDROLOGY

The nearest weather station to the Proposed Project, which receives an average annual precipitation of 8 inches per year (U.S. Department of Agriculture [USDA] 2021), is located in the City of Mendota, approximately 13 miles northeast of the Proposed Project. The mean annual air temperature is 63 degrees Fahrenheit. Elevation within the Proposed Project area ranges from 200 to 800 feet.

6.1 RECORDS SEARCH

Results of the initial desktop analysis indicated that the majority of the survey area consists of agricultural fields. Relatively small acreages of grassland habitats are found in the far western portions of the survey area surrounding PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines.

From this records search, Insignia compiled a list of 15 special-status plant species and 50 special-status wildlife species that have the potential to occur within 5 miles of the survey area. Twelve potentially jurisdictional water features were identified within the survey area during USFWS NWI database review.

6.2 VEGETATION COMMUNITIES

As presented in Table 1: Vegetation Community Alliances and Land Cover Types, seven vegetation communities and land cover types were identified during the Proposed Project survey. Approximately 26.9 percent of the survey area, as depicted in Attachment A: Vegetation Communities and Land Cover Types, has not been surveyed due to pending landowner approval. The natural communities observed in the survey area are ranked S5 and SNA (semi-natural stands dominated by non-native species). The S5 ranking is classified as demonstrably secure due to statewide abundance (CNPS 2023b).

The survey area supports non-native grasses, agriculture, and cattle grazing. None of the natural communities observed are considered sensitive. The following subsections describe each vegetation community and land cover type identified within the survey area. Photographs are provided in Attachment B: Habitat Assessment Photographs.

6.2.0 Active Agriculture

Active agriculture areas constitute approximately 40.6 percent of the survey area and are those areas that are farmed, harvested, or tended. Areas where recent crop harvest or soil tilling were evident were also included in this cover type. This cover type consists largely of almond orchards, specifically the nonpareil varieties (*Prunus dulcis*). Active agriculture within the survey area also contains pomegranate orchards (*Punica granatum*), hemp fields (*Cannabis sativa*), cotton fields (*Gossypium* spp.), and grape vineyards (*Vitis vinifera*). This land cover type covers the vast majority of the accessible survey area east of PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines.

Table 1: Vegetation Community Alliances and Land Cover Types

Vegetation Community Alliance or Land Cover Type	Approximate Size in Survey Area (acres)
Active Agriculture	1,425.9
Amsinkia (menziesii, tessellata) – Phacelia spp. Herbaceous Alliance*	286.0
Avena spp. – Bromus spp. Herbaceous Semi-Natural Alliance	154.2
Developed	30.8
Disturbed	663.4
Dry lake/Mudflats/Playa	0.01
Open Water	3.5
Not Surveyed	945.0
Total	**3,508.0**

*S5: demonstrably secure due to statewide abundance (CNPS 2023b)

6.2.1 Amsinkia (menziesii, tessellata) Phacelia spp. Herbaceous Alliance (S5)

The *Amsinkia-Phacelia* alliance constitutes approximately 8.2 percent of the survey area and can be found in upland slopes, broad valleys, grazed or recently burned hills, and fallow fields with generally well-draining and loamy soils. This vegetation community is often subject to frequent bioturbation. Typically, fiddlenecks (*Amsinkia* spp.) or phacelia (*Phacelia* spp.) are co-dominant or seasonally characteristic of the alliance, making up at least 50 percent of the herbaceous layer. Fiddlenecks (var. *menziesii, tessellata*) and phacelia (*Phacelia ciliate*, *Phacelia distans*, *Phacelia tanacetifolia*) are accompanied by squirreltail fescue (*Vulpia bromoides*), red brome (*Bromus rubens*), and great brome (*Bromus diandrus*). The *Amsinkia-Phacelia* alliance is found in the westernmost portion of the accessible survey area in close proximity to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines.

6.2.2 Avena spp. – Bromus spp. Herbaceous Semi-Natural Alliance (SNA)

The *Avena* spp. and *Bromus* spp. alliance constitutes approximately 4.3 percent of the survey area and occurs in foothills, waste places, rangelands, and openings in woodlands. Wild oat (*Avena* spp.) and brome grasses (*Bromus* spp.) make up the dominant characteristic species of the herbaceous layer, being at least 50 percent of the cover collectively. In low cover, emergent trees and shrubs may be present. Some non-native species that may also be co-dominant are Australian saltbush (*Atriplex semibaccata*) and barleys (*Hordeum* spp.). This alliance is found in the westernmost portion of the accessible survey area in close proximity to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines.

6.2.3 Developed

Developed areas constitute approximately 0.8 percent of the survey area; they are highly modified and contain some form of human-constructed infrastructure. Maintained paved roads, highways, or buildings may be included in this cover type. Within the survey area, developed

land cover is found along the I-5 corridor and the Governor Edmund G. Brown California Aqueduct (California Aqueduct).

6.2.4 Disturbed

Disturbed areas constitute approximately 18.9 percent of the survey area and are those areas that have been changed from their natural state by human influence. This cover type lacks vegetation and includes all dirt roads, unmaintained paved roads, cleared areas, barren pasturelands, and agricultural plots with no evidence of recent activity. Potential vegetation, if any, that may grow in this cover type include Russian thistle (*Salsola tragus*), brome grasses, wild oat, fiddlenecks, or phacelia. Disturbed areas were observed throughout the survey area as most agricultural plots are segregated by dirt roads; however, the majority of disturbed land cover was found in the westernmost portion of the survey area in close proximity to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and the proposed LSPGC Manning Substation site.

6.2.5 Dry Lake/Mudflats/Playa

The dry lake/mudflats/playa alliance constitutes less than 0.1 percent of the survey area and has minimal vegetation, if any. This alliance contains very dry, cracked sediment that was once the substrate at the bottom of a pool of water. It is highly probable that the evaporated pools of water were once large ditches and rarely become rehydrated. Potential vegetation that may grow nearby includes Russian thistle. The sediment tends to be very dense and clay-like. One dry pond was observed within agricultural land immediately west of I-5.

6.3 SPECIAL-STATUS PLANT SPECIES

Background research conducted for the Proposed Project generated a list of 15 special-status plant species that have a potential to occur in the survey area. This list was generated by comparing the species' ranges and habitat requirements with the location of the Proposed Project and habitat types within it. Table 2: Special-Status Species Listing Codes provides the relevant listing codes, and Table 3: Special-Status Plant Species with the Potential to Occur provides detailed information on each of the 15 species. CNDDB occurrences of special-status plants are depicted in Attachment C: CNDDB Occurrences of Special-Status Plant Species. Of the 15 species evaluated, only two species—Panoche pepper-grass and Lost Hills crownscale—were determined to have a moderate potential to occur within the Proposed Project and are described in the following subsections. Both species are listed as CRPR 1B.2. The remaining 13 special-status plant species have low or no potential to occur and are not further discussed in this Report.

6.3.0 Species with a Moderate Potential to Occur

Panoche Pepper-Grass

Panoche pepper-grass can be found in dry streambeds, on alluvial fans, and on slopes. This species may grow in heavy clay or sandy soils, or low-lying alkaline areas on steep, south-facing slopes. Flowers of this plant are four-petaled, white, and small, and are located along the upper portions of the plant's numerous branches. The blooming period for the Panoche pepper-grass lasts from February to July.

Table 2: Special-Status Species Listing Codes

Code	Description
Federal Listing Codes	
FE	Federally listed as endangered
FT	Federally listed as threatened
PT	Proposed to be federally listed as threatened
C	Candidate for listing
BCC	USFWS Bird of Conservation Concern
State Listing Codes	
SE	State-listed as endangered
ST	State-listed as threatened
SCE	State candidate for listing as endangered
SSC	CDFW Species of Special Concern
FP	Fully protected species
WL	California Watch List species
WBWG-H	The high designation represents those species considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment.
WBWG-M	The medium designation represents a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.
CRPR 1B	Plants that are rare, threatened, or endangered in California or elsewhere
CRPR 2B	Plants that are rare, threatened, or endangered in California, but more common elsewhere
CRPR 0.1	Plants that are seriously threatened in California (over 80 percent of occurrences threatened; high degree and immediacy of threat)
CRPR 0.2	Plants that are moderately threatened in California (20 to 80 percent of occurrences threatened; moderate degree and immediacy of threat)

Table 3: Special-Status Plant Species with the Potential to Occur

Common Name	Scientific Name	Listing Status	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Alkali-sink goldfields	*Lasthenia chrysantha*	1B.1	This species occurs in vernal pools at elevations between 0 and 655 feet (CNPS 2023a).	February to April	Annual herb	Suitable habitat and conditions for this species are not present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Brittlescale	*Atriplex depressa*	1B.2	This species occurs in chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools at elevations between 5 and 1,050 feet (CNPS 2023a).	April to October	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Chaparral ragwort	*Senecio aphanactis*	2B.2	This species occurs in chaparral, cismontane woodlands, and coastal scrub at elevations between 50 and 2,625 feet (CNPS 2023a).	January to May	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Low Potential**
Hall's tarplant	*Deinandra halliana*	1B.2	This species occurs in chenopod scrub, cismontane woodland, valleys, and foothill grasslands at elevations between 855 and 3,115 feet (CNPS 2023a).	March, April to May	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b) but was not observed during field surveys. **Low Potential**

Common Name	Scientific Name	Listing Status	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Heartscale	*Atriplex cordulata* spp. *Cordulata*	1B.2	This species occurs in chenopod scrub, meadows and seeps, and valleys and foothill grasslands at elevations between 0 and 1,835 feet (CNPS 2023a).	April to October	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Lesser saltscale	*Atriplex minuscula*	1B.1	This species occurs in chenopod scrub, playas, valleys, and foothill grasslands at elevations between 50 and 655 feet (CNPS 2023a).	May to October	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Lost Hills crownscale	*Atriplex coronate* spp. *Vallicola*	1B.2	This species occurs in chenopod scrub, valleys, foothill grasslands, and vernal pools at elevations between 165 and 2,085 feet (CNPS 2023a).	April to September	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 0.25 and 1 mile of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Moderate Potential**
Munz's tidy-tips	*Layia munzii*	1B.2	This species occurs in chenopod scrub, valleys, and foothill grasslands at elevations between 490 and 2,295 feet (CNPS 2023a).	March to April	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Low Potential**

Common Name	Scientific Name	Listing Status	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Pale-yellow layia	*Layia heterotricha*	1B.1	This species occurs in cismontane woodland, coastal scrub, pinyon and juniper woodlands, valleys, and foothill grasslands at elevations between 985 and 5,595 feet (CNPS 2023a).	March to June	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Low Potential**
Palmate-bracted bird's-beak	*Chloropyron palmatum*	FE, SE, 1B.1	This species occurs in chenopod scrub, valleys, and foothill grasslands at elevations between 15 and 510 feet (CNPS 2023a).	May to October	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Panoche pepper-grass	*Lepidium jaredii* spp. *album*	1B.2	This species occurs in valley and foothill grasslands at elevations between 605 and 2,445 feet (CNPS 2023a).	February to June	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 0.25 and 1 mile of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Moderate Potential**
Recurved larkspur	*Delphinium recurvatum*	1B.2	This species occurs in chenopod scrub, cismontane woodland, valleys, and foothill grasslands at elevations between 10 and 2,590 feet (CNPS 2023a).	March to June	Perennial herb	Marginal habitat and conditions for this species are present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**

Common Name	Scientific Name	Listing Status	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
San Joaquin woollythreads	*Monolopia congdonii*	FE, 1B.2	This species occurs in chenopod scrub, valleys, and foothill grasslands at elevations between 195 and 2,625 feet (CNPS 2023a).	February to May	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Low Potential**
Sanford's arrowhead	*Sagittaria sanfordii*	1B.2	This species occurs in marshes and swamps at elevations between 0 and 2,135 feet (CNPS 2023a).	May to October	Perennial herb	Suitable habitat and conditions for this species are not present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Showy golden madia	*Madia radiata*	1B.1	This species occurs in cismontane woodlands, valleys, and foothill grasslands at elevations between 80 and 3,985 feet (CNPS 2023a).	March to May	Annual herb	Marginal habitat and conditions for this species are present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Low Potential**

Some foothill grassland habitat is present within the western portion of the survey area along and adjacent to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. However, this grassland habitat offers only marginally suitable habitat as it is infested with non-native grasses and forbs and heavily grazed by cattle. Recent CNDDB observations for this plant have been recorded within 1 mile of the survey area. This species has a moderate potential to occur within the survey area and a listing status of 1B.2.

Lost Hills Crownscale

Lost Hills crownscale usually grows in dried beds of alkaline pools within scrub or annual grassland communities. The plant has short stems and several branches containing alternating egg-shaped leaves. The flowers of this species are difficult to see because they are extremely small and petalless. The blooming period for the Lost Hills crownscale lasts from April to September.

Some foothill grassland habitat is present within the western portion of the survey area along and adjacent to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. However, this grassland habitat offers only marginally suitable habitat as it is infested with non-native grasses and forbs and heavily grazed by cattle. Recent CNDDB observations for this plant have been recorded within 1 mile of the survey area. This species has a moderate potential to occur within the survey area and a listing status of 1B.2.

6.4 SPECIAL-STATUS WILDLIFE SPECIES

Based on the literature and database review, 57 special-status wildlife species were identified that have the potential to occur within the survey area. Table 2: Special-Status Species Listing Codes provides the relevant listing codes, and Table 4: Special-Status Wildlife Species with the Potential to Occur provides detailed information on each of the 57 species. CNDDB occurrences of special-status wildlife are depicted in Attachment D: CNDDB Occurrences of Special Status Wildlife Species. Of the 57 species evaluated, a total of 15 species—including one amphibian, one invertebrate, three reptiles, three mammals, and seven birds—have a moderate or high potential to occur in the survey area. All other special-status species assessed for potential of occurrence were found to have low or no potential to occur. The species with a high or moderate potential to occur are further described in Section 6.4.0 Species with a High Potential to Occur and Section 6.4.1 Species with a Moderate Potential to Occur, respectively.

Table 4: Special-Status Wildlife Species with the Potential to Occur

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Amphibians				
California red-legged frog	*Rana draytonii*	FT, SSC	This species has several requirements for suitable habitat, including streams or stock ponds for breeding, neighboring upland areas with insects and invertebrates as prey, and areas with relief from heat during the summer months. Tadpoles rely on algae that grow on top of rocks and vegetation for food and are active during both day and night, whereas adults are generally nocturnal (USFWS 2023b).	Suitable habitat is not present within the survey area. This species has not been recently documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b). This species was not observed during the field survey. **No Potential**
California tiger salamander	*Ambystoma californiense*	FT, ST, WL	This species occupies grassland, savanna, or open woodland habitats and spends much of the year in underground refuges, especially ground squirrel (*Otospermophilus beechyi*) burrows. Vernal pools or other seasonal water sources are required for breeding and egg-laying. Adults may travel hundreds of meters across upland habitat to reach breeding ponds following seasonal rains from November to February. The diet of this species is highly variable and may include invertebrates, amphibians, or small mammals (USFWS 2023b).	Suitable annual grassland habitat is present within the survey area, and suitable refuge burrows were observed during field surveys. No suitable vernal pools were observed within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **Low Potential**
Foothill yellow-legged frog – Central Coast Distinct Population Segment	*Rana boylii (population 4)*	FT, SE	This species can be found in foothills and mountain streams at elevations up to 5,000 feet. Adults occur in a variety of vegetation types, including valley-foothill hardwood, hardwood-conifer, and riparian. Ponderosa pine (*Pinus ponderosa*), mixed conifer, mixed chaparral, and wet meadows may also be habitat for this species. Diet includes aquatic and terrestrial invertebrates like snails, moths, flies, water striders, beetles, grasshoppers, hornets, and ants (for adults) (USFWS 2023b).	Suitable stream habitat is not present within the survey area. This species has been recently documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during the field survey. **No Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Western spadefoot	*Spea hammondii*	SSC, PT	This species occurs predominantly in grasslands, but may also occur in valley-foothill hardwood woodlands. The western spadefoot consumes worms, insects, and other invertebrates and requires shallow, temporary pools of water from heavy winter rains for reproduction (USFWS 2023a).	Suitable grassland habitat is present within the survey area. This species has been recently documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b). This species was not observed during the field survey. **Moderate Potential**
Birds				
Burrowing owl	*Athene cunicularia*	SSC, BCC	This species can be found in a variety of open habitat types, including grassland, savanna, desert scrub, agricultural, and urban areas. Breeding occurs from March through October, and nesting takes place within abandoned burrows dug by burrowing mammals. The young leave the nest when they are self-reliant at 12 weeks old. This species preys on large insects and small mammals (USFWS 2023b).	Grassland habitat suitable for foraging is found in the survey area; burrows suitable for species occupation and breeding were observed during the field surveys. Migrating individuals may occur in or near the survey area during winter months. This species has been recently documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b). This species was not observed during the field survey. **Moderate Potential (Nesting)** **Moderate Potential (Foraging/Migration)**
California condor	*Gymnogyps californianus*	FE, SE, FP	This species uses extensive territories in open grasslands, oak savannah foothills, and beaches adjacent to coastal mountains for foraging, roosting, and nesting. Nests are built in caves and ledges in steep, rocky terrain. This species may also use cavities and broken tops of conifers for nesting locations. Juveniles remain dependent on their parents for 1 to 2 years while they learn to forage on their own. The species will consume carrion and carcasses (USFWS 2023b).	Marginal foraging habitat is present, and no nesting habitat is present in the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Nesting)** **No Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
California horned lark	*Eremophila alpestris actia*	WL	This species is found in a variety of open habitats, notably where trees and large shrubs are not present. Its diet consists mostly of snails, insects, and spiders in the breeding season and includes more grass and forb seeds during the rest of the year. California horned lark frequent grasslands and habitats with low, sparse vegetation to take cover and forage. The breeding season is from March to July, with peak activity in May. Young typically leave the nest within 9 to 12 days (CDFW 2023a).	Marginal foraging and breeding habitat is present in the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b); however, all occurrences are over 30 years old. This species was not observed during field surveys. **Low Potential (Nesting)** **Low Potential (Foraging)**
California thrasher	*Toxostoma redivivum*	BCC	This species occurs from sea level to the upper elevations of montane chaparral and lower-elevation limits of coniferous and pine-oak woodlands (approximately 5,000 feet). California thrasher rely on dense cover and shrub habitats for breeding (CDFW 2023a).	No foraging or breeding habitat is present in the survey area. This species is not tracked by the CNDDB (CDFW 2023b) and was not observed during field surveys. **No Potential (Nesting)** **No Potential (Foraging)**
Oak titmouse	*Baeolophus inornatus*	BCC	This species occurs primarily in warm, dry oak or oak-pine woodlands. The composition of the oak woodlands varies but they are generally open. Nests are primarily in natural cavities and woodpecker-excavated cavities in oak (*Quercus* spp.) (USFWS 2023a).	No foraging or breeding habitat is present in the survey area. This species is not tracked by the CNDDB (CDFW 2023b) and was not observed during field surveys. **No Potential (Nesting)** **No Potential (Foraging)**
Northern harrier	*Circus cyaneus*	SSC, BCC	This species is found in a variety of open grassland, wetland, and agricultural habitats. Open wetland habitats used for breeding include marshy meadows, wet and lightly grazed pastures, and freshwater and brackish marshes. Breeding habitat also includes dry upland habitats, such as grassland, cropland, drained marshland, and shrub-steppe in cold deserts. Wintering habitat includes open areas dominated by herbaceous vegetation, such as grassland, pastures, cropland, coastal sand dunes, brackish and freshwater marshes, and estuaries (USDA 2023).	Suitable foraging and nesting habitat are present in the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **Low Potential (Nesting)** **Low Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Prairie falcon	*Falco mexicanus*	WL	This species is highly associated with perennial grasslands, savannahs, rangeland, agricultural fields, and desert scrub areas. Prairie falcon forages in the early morning and late afternoon, except while raising young or when food is scarce. Optimal nesting locations utilize open terrain near canyons, cliffs, escarpments, and rock outcrops. Small mammals make up most of this species' prey, with small birds and reptiles being the remainder. Breeding season takes place from February to September, with peak activity from April to August. The young of this species begin to disperse in June and July (Washington Department of Fish and Wildlife [WDFW] 2023).	Suitable nesting habitat is not present within the survey area; however, suitable foraging habitat is present throughout the survey area. This species has recently been documented within 0.25 mile of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **No Potential (Nesting)** **High Potential (Foraging/Migration)**
Short-eared owl	*Asio flammeus*	SSC, BCC	This species occurs in agricultural fields, grazed and ungrazed grasslands, and freshwater and saltwater marshes. Short-eared owls are crepuscular hunters and prefer to consume meadow voles (*Microtus* spp.) and mice (*Mus* spp.) among other mammals and birds. Nestlings consume insects. This species is a ground-nesting bird, sometimes roosting and foraging communally if prey is abundant. Breeding season begins in late winter with fledglings leaving within a month of hatching (USFWS 2023a).	Suitable foraging and breeding habitat are present in the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b). This species was not observed during field surveys. **Moderate Potential (Nesting)** **Moderate Potential (Foraging)**
Savannah sparrow (Belding's)	*Passerculus sandwichensis beldingi*	SE, BCC	This species is wetland-dependent and can be found in open areas like grasslands, tundra, meadows, bogs, farmlands, and grassy areas with scattered bushes, but it prefers salt marshes. Nests are built in marshes with dried pickleweed (*Salicornia* spp.). Like other savannah sparrow subspecies, it eats insects and seeds (USFWS 2023b).	No foraging or breeding habitat is present in the survey area. This species is not tracked by the CNDDB (CDFW 2023b) and was not observed during field surveys. **No Potential (Nesting)** **No Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Yellow-billed magpie	*Pica nuttalli*	BCC	This species has been observed in oak savanna, in open areas with large trees, and along streams. Yellow-billed magpie forage in grasslands, pastures, fields, and orchards. In addition to ground-dwelling invertebrates, this species consumes grains, acorns, carrion, and small mammals. Nests are built in large trees and small colonies (USFWS 2023a).	Suitable foraging habitat is present within the survey area; however, trees suitable for nesting habitat are not present. This species is not tracked by the CNDDB (CDFW 2023b) and was not observed during field surveys. **No Potential (Nesting)** **Moderate Potential (Foraging)**
Swainson's hawk	*Buteo swainsoni*	ST	This species occurs in open grasslands, prairies, and farmlands that have nearby trees for nesting. Swainson's hawks nest in bushes and in several tree species, including oak, willow (*Salix* spp.), and eucalyptus (*Eucalyptus* spp.), and usually nest in trees in riparian areas near open fields. This species primarily hunts small rodents, rabbits, birds, and reptiles during the breeding season. This species largely lives off insects, such as grasshoppers and beetles, during the non-breeding season. Reproduction is from March through April, incubation lasts 34 to 35 days, and fledging is 6 weeks later (CDFW 2023b).	Suitable foraging habitat for the species is present in the survey area; however, oak woodland or riparian habitat suitable for nesting is not present. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during the field survey. **Low Potential (Nesting)** **Moderate Potential (Foraging)**
Tricolored blackbird	*Agelaius tricolor*	ST, SSC, BCC	This highly colonial species requires open water, protected nesting substrate, and foraging areas adjacent to the colony with insect prey. Breeding occurs near freshwater, often in emergent wetlands with tall, dense cattails (*Typha* spp.) or tules (*Schoenoplectus* spp.), but also in thickets of willow; blackberry (*Rubus* spp.); wild rose (*Rosa acicularis*); or tall, dense forbs. Seeds and cultivated grains, such as rice and oats, compose most of this species' fall and winter diet. It forages on the ground in croplands, grassy fields, flooded land, and along edges of ponds. The breeding season usually occurs from mid-April to late July (USFWS 2023a).	Suitable foraging habitat is present within the survey area; however, wetlands suitable for nesting are not present. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **No Potential (Nesting)** **Moderate Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Invertebrates				
Crotch's bumblebee	*Bombus crotchii*	SCE	This species inhabits grasslands and shrublands and requires hotter, drier environments than other bee species. Due to a short tongue, this species prefers milkweeds (*Asclepias* spp.), dusty maidens (*Chaenactis douglasii*), lupines (*Lupinus* spp.), medics (*Medicago* spp.), phacelias, sages (*Salvia* spp.), clarkias (*Clarkia* spp.), poppies (*Papaver* spp.), and wild buckwheats (*Erigonum* spp.). Nests are frequently located in abandoned rodent nests, tufts of grass, old bird nests, rock piles, or cavities in dead trees (Los Padres Forest Watch [LPFW] 2023).	Suitable habitat is present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during the field survey. **Moderate Potential**
Longhorn fairy shrimp	*Branchinecta longiantenna*	SSC	This species lives in clear to turbid freshwater vernal pools, water-filled depressions in sandstone, grass-bottomed pools, or claypan pools. Longhorn fairy shrimp are opportunistic feeders, ingesting algae, bacteria, protozoa, rotifers, and bits of waste from other plants and animals. Eggs of this species lie at the bottom of the pool and remain viable for several years until the vernal pool refills with water (USFWS 2023b).	No suitable vernal pool habitat is present in the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during the field survey. **No Potential**
Monarch butterfly	*Danaus plexippus*	C, SSC	This species requires milkweed and flowering plants for suitable habitat. Although adults only need to feed on nectar from flowers, milkweed is the only place where they can lay eggs. Most individuals of this species live 2 to 5 weeks, but overwintering individuals may live 6 to 9 months (USFWS 2023b).	Marginal habitat is present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during the field survey. **Low Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	This species is extremely dependent on the elderberry (*Sambucus nigra* ssp. *canadensis*), which is a shrub found in riparian areas and foothill oak woodlands. Adults and juveniles exclusively eat the stems, leaves, and flowers of the elderberry. Individuals are only found on the valley floor and low foothills. The typical lifespan of this species is 1 to 2 years (USFWS 2023b).	Suitable habitat for this species is not present within the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b). No observations of this species or elderberry shrubs, this species' obligate host plant, were made during field surveys. **No Potential**
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	This species occurs within vernal pool habitats throughout California. Female vernal pool fairy shrimp carry fertilized eggs in a sac on the underside of their body. The eggs are either dropped to the pool bottom or remain in the brood sac until the mother dies and sinks to the bottom of the pool. This species opportunistically filter-feeds on various planktonic food sources, including algae and protozoa (USFWS 2023b).	Suitable vernal pool habitat was not observed during the field survey. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during the field survey. **No Potential**
Mammals				
American badger	*Taxidea taxus*	SSC	This solitary species can be found in grassland, shrub steppe, desert, dry forest, parkland, and agricultural areas. It forages underground by digging into burrow systems of prey species, commonly including ground squirrels, prairie dogs (*Cynomys* spp.), marmots (*Marmota* spp.), and pocket gophers (*Heteromeomys* spp.). American badgers may also feed on carrion, insects, reptiles, and birds (USDA 2023).	Suitable grassland habitat is present within the survey area; however, no suitable breeding burrows/dens were encountered during the survey. This species has been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b), but the occurrences are over 30 years old. **Low Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Big free-tailed bat	*Nyctinomops macrotis*	SSC, WBWG-M	This insectivorous species occurs in rugged, rocky canyons and roosts in buildings, caves, and occasionally holes in trees. Little is known about this species in California (Texas Parks and Wildlife Department [TPWD] 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is not present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
California leaf-nosed bat	*Macrotus californicus*	SSC, WBWG-H	This species is confined to lowland Sonoran Desert habitat and forages in open desert wash habitats. The California leaf-nosed bat utilizes caves and mines almost exclusively for roosting (CDFW 2023a).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is not present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	FE, SE	This species consumes primarily seeds, but may also forage on green herbaceous vegetation and insects. Burrows of this species are usually found in relatively light, sandy soils in raised areas. The breeding season is assumed to be initiated in winter after the onset of the rainy season (USFWS 2023b).	No suitable habitat is present in the survey area. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**
Giant kangaroo rat	*Dipodomys ingens*	FE, SE	This species eats seeds, small amounts of green foliage like clovers (*Trifolium* spp.) and filaree (*Erodium* spp.), and insects. Giant kangaroo rats often emerge from their burrow around twilight and are mainly active at night. This species mainly inhabits sandy-loam soils located on level and gently sloping ground vegetated with annual grasses and forbs and widely scattered desert shrubs (USFWS 2023b).	Marginal annual grassland habitat is present within the survey area, and small mammal burrows suitable for occupation were also observed. This species has been documented within 0.25 mile of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **High Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Hoary bat	*Lasiurus cinereus*	WBWG-M	This species generally roosts alone or in family groups consisting of a mother and her young. Forest habitats with a mixture of forest and small, open areas that provide edges are ideal for this species. Hoary bat can be found in a variety of places, such as Spanish moss (*Tillandsia usneoides*), squirrel nests, woodpecker holes, and tree trunks. This species forages for food in the early evening and before sunrise, preferring moths, beetles, and sometimes mosquitoes or any other large insect that can be caught in open areas (TPWD 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is present. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but all occurrences are over 30 years old. This species was not observed during field surveys. **No Potential (Roosting)** **Low Potential (Foraging)**
Mexican long-tongued bat	*Choeronycteris mexicana*	SSC, WBWG-M	This species occurs in the southernmost part of California in desert and arid scrub habitats and feeds on nectar and pollen. Mexican long-tongued bats roost in caves, crevices, and buildings (TPWD 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is not present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
Long-eared myotis	*Myotis evotis*	WBWG-M	This insectivorous species occupies a wide range of rocky and forested habitats year-round and roosts in abandoned buildings, bridges, hollow trees, stumps, loose bark, and rock fissures. Long-eared myotis forages in a variety of habitats, including conifer forests ranging from drier Ponderosa pine to humid coastal and montane forests. Non-forested habitats are also used, including shrub steppe, chaparral, and agricultural lands (State of Montana 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is present. However, suitable roosting sites, water sources, and riparian habitats and rock outcroppings are not available nearby. This species is not tracked by the CNDDB (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Pallid bat	*Antrozous pallidus*	SSC, WBWG-H	This species generally roosts in colonies of 20 to several hundred individuals. Pallid bats prefer to roost in rock crevices, tree hollows, mines, caves, and a variety of anthropogenic structures like buildings. This species consumes insects it can reach on the ground or sometimes in flight. These may include large, flightless arthropods like scorpions, ground crickets, and cicadas (TPWD 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is marginal. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but all occurrences are over 30 years old. This species was not observed during field surveys. **No Potential (Roosting)** **Low Potential (Foraging)**
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC, WBWG-M	This insectivorous species inhabits pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis habitats. It prefers rock crevices and cliffs for roosting (TPWD 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is not present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No potential (Roosting)** **No Potential (Foraging)**
San Joaquin antelope squirrel	*Ammospermophilus nelsoni*	ST	This species inhabits arid grassland, shrubland, and alkali sink habitats. This species is an omnivore, ingesting mostly green vegetation, fungi, seeds, and insects. Breeding season lasts from late winter to early spring, with gestation lasting approximately 26 days. The typical lifespan of a San Joaquin antelope squirrel is less than 1 year (California State University, Stanislaus [CSUS] 1998).	Suitable grassland habitat for this species is present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Moderate Potential**
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, ST	This species inhabits a variety of open habitats, including grasslands, chenopod scrublands, and semi-arid regions. Breeding occurs from January to March, with a gestation period of 49 to 55 days. The female constructs a den in the ground, often utilizing existing burrows dug by other animals. Its diet primarily consists of small mammals, such as rodents, rabbits, and ground squirrels (USFWS 2023b).	Grassland habitat suitable for foraging is present within the survey area, and burrows suitable for occupation were observed during the survey. This species has been documented within 0.25 mile of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **High Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Silver-haired bat	*Lasionycteris noctivagans*	WBWG-M	This migratory species inhabits coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats in the summer. Silver-haired bats roost in hollow trees, snags, buildings, rock crevices, and caves, as well as under bark (TPWD 2023).	No suitable roosting habitat is present in the survey area, and marginal foraging habitat is present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
Spotted bat	*Euderma maculatum*	SSC, WBWG-H	This species occurs in foothills, mountains, and desert regions of southern California. Habitat includes arid deserts, grasslands, and mixed conifer forests. Spotted bat prefers to roost in rock crevices and is occasionally found in caves and buildings. Cliffs provide optimal roosting habitat (TPWD 2023).	No suitable roosting habitat is present in the survey area; however, suitable foraging habitat is present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **Low Potential (Foraging)**
Tulare grasshopper mouse	*Onychomys torridus tularensis*	SSC	This nocturnal species inhabits low, open scrub and semi-scrub habitats. Its diet includes primarily insects, specifically grasshoppers, crickets, caterpillars, moths, scorpions, and beetles. In general, wild individuals are expected to live less than 1 year and are capable of breeding year-round (CDFW 2023a).	No suitable scrub habitat for this species is present within the survey area. This species has been documented between 0.25 and 1 mile of the survey area based on CNDDB records (CDFW 2023b); however, all occurrences are over 30 years old. This species was not observed during the field survey. **No Potential**
Fringed myotis	*Myotis thysanodes*	WBWG-H	This insectivorous species occurs in pinyon-juniper, valley-foothill hardwood, and hardwood-conifer forests at elevations from 4,000 to 7,000 feet. Fringed myotis forages in open habitats, early successional stages, streams, lakes, and ponds. This species utilizes caves, mines, buildings, or crevices for roosting (WDFW 2023).	No suitable roosting habitat is present in the survey area; however, suitable foraging habitat is present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **Low Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Little brown bat	*Myotis lucifugus*	WBWG-M	This insectivorous species is common in mid- to high-elevation forests. The little brown bat is fairly common in sagebrush, bitterbrush, alkali desert scrub, wet meadow, and montane chaparral and is least common in valley foothill woodlands, redwood, mixed chaparral, low sagebrush, alpine dwarf-shrub, coastal scrub, and grasslands. Individuals may roost in buildings, in trees, under rocks or wood, and occasionally in caves (USFWS 2023b).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is not present. This species is not tracked by the CNDDB (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
Long-legged myotis	*Myotis volans*	WBWG-H	This insectivorous species occurs in woodland and forest habitats above 4,000 feet and forages in chaparral, coastal scrub, and Great Basin shrub habitats, as well as in early successional stages of woodlands and forests. This species is uncommon in desert and arid grassland habitats. Long-legged myotis utilizes rock crevices, buildings, tree bark and snags, mines, and caves for roosting (WDFW 2023).	No suitable roosting habitat is present in the survey area, and marginal foraging habitat is present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
Western mastiff bat	*Eumops perotis californicus*	SSC, WBWG-H	This insectivorous species occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban settings. Western mastiff bats utilize cliff faces, high buildings, trees, and tunnels for roosting (CDFW 2023b).	No suitable roosting habitat is present in the survey area, and foraging habitat is marginal. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but all occurrences are over 30 years old. This species was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG-H	This insectivorous species occurs in subalpine and alpine habitats and is most abundant in mesic habitat. Townsend's big-eared bat utilizes caves, mines, tunnels, buildings, or other human-made structures for roosting (WDFW 2023).	No suitable roosting habitat is present in the survey area, and suitable foraging habitat is not present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **No Potential (Foraging)**
Western red bat	*Lasiurus blossevillii*	SSC, WBWG-H	This insectivorous species occurs in many regions of California in edge habitats adjacent to streams and open fields. Western red bat utilizes the foliage of trees and shrubs to roost (TPWD 2023).	No suitable roosting habitat Is present in the survey area, and foraging habitat is present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **Low Potential (Foraging)**
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG-H	This insectivorous species occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Western yellow bat utilizes trees (including palms) for roosting (CDFW 2023a).	No suitable roosting habitat is present in the survey area, and foraging habitat is marginal. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential (Roosting)** **Low Potential (Foraging)**
Reptiles				
Blunt-nosed leopard lizard	*Gambelia silus*	FE, SE, FP	This species lives in central California within arid, open spaces that have patchy or sparse vegetation. These habitats typically have low, drought-tolerant shrubs and elevations below 2,600 feet. Most of this species' diet is insects (USFWS 2023b).	Marginal habitat for this species is present within the survey area. This species has been documented within 0.25 mile of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **High Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
California glossy snake	*Arizona elegans occidentalis*	SSC	This species is typically found in desert scrub, grasslands, and rocky areas. This species is primarily nocturnal and seeks shelter in burrows, in crevices, or under rocks during the day. Breeding occurs in the spring and early summer. Females lay eggs in sandy soil or loose substrate, where they are left to incubate. The diet of this species consists mainly of small mammals, including rodents, lizards, and occasionally birds or eggs (CDFW 2023a).	Suitable grassland habitat for this species is present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Moderate Potential**
Coast horned lizard	*Phrynosoma blainvillii*	SSC	This species is found frequently near ant hills in open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. They sometimes eat small invertebrates, such as spiders, beetles, termites, flies, bees, and grasshoppers (National Park Service [NPS] 2023).	Suitable grassland habitat is present within the survey area. The species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but all occurrences are over 30 years old. **Low Potential**
Northern California legless lizard	*Anniella pulchra*	SSC	This fossorial species utilizes the base of shrubs or other vegetation to forage for prey. The diet of this species includes insect larvae, small insects, and spiders. This species is mainly found in coastal dune, valley-foothill, chaparral, and coastal scrub habitats (CDFW 2023a).	No suitable shrubland habitat for this species is present within the survey area. This species has been documented within 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **No Potential**
Giant gartersnake	*Thamnophis gigas*	FT, ST	This semi-aquatic species inhabits marshes, wetlands, and slow-moving bodies of water. This species is often closely associated with the water sources that serve as hunting grounds. Breeding typically occurs in the spring and early summer. After mating, females give birth to live young. The diet of this species primarily consists of small fish, amphibians, and aquatic invertebrates (USFWS 2023b).	Suitable wetland habitat is not present within the survey area and suitable nesting habitat is not present. This species has not been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b) and was not observed during field surveys. **No Potential**

Common Name	Scientific Name	Listing Status	Habitat and Life History	Potential to Occur in the Survey Area
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	SSC	This species is observed most in open terrain with abundant grass, desert, scrub, chaparral, and pasture habitats. San Joaquin coachwhips may use rodent burrows, bushes, trees, and rock piles for cover. It feeds on rodents, other reptiles, eggs, and carrion (CDFW 2023a).	Suitable grassland habitat for this species is present within the survey area. This species has been documented within 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **Moderate Potential**
Western pond turtle	*Actinemys marmorata*	PT, SSC	This freshwater turtle species primarily inhabits ponds, lakes, and slow-moving streams with suitable basking sites. Western pond turtles spend a significant amount of time basking on logs or rocks. Breeding typically occurs in the spring and early summer. Females dig nests in sandy or gravelly areas near water, where they lay their eggs. The hatchlings emerge several months later and make their way to the water. This species is omnivorous with a diet that consists of various aquatic plants, insects, small fish, and amphibians (USFWS 2023b).	Suitable wetland and nesting habitat is not present within the survey area. This species has been documented between 1 and 5 miles of the survey area based on CNDDB records (CDFW 2023b), but was not observed during field surveys. **No Potential**

6.4.0 Species with a High Potential to Occur

Avian Species

Prairie Falcon

The prairie falcon (*Falco mexicanusi*) occupies arid environments, utilizing cliffs for nesting and steppe and shrub steppe habitat or grassland and prairie habitats for foraging. The diet for the prairie falcon consists of ground squirrels, western meadowlarks (*Sturnella neglecta*), horned larks (*Eremophila alpestris*) (especially in breeding seasons), or whatever is locally abundant. Nests are typically built on cliffs, usually with a large hole or sheltered ledge, or sometimes golden eagle (*Aquila chrysaetos*) or hawk nests are reused. The prairie falcon is listed as a California Watch List species.

With an abundance of suitable foraging habitat throughout the survey area along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines, the proposed PG&E 500 kV Interconnections, and proposed LSPGC 230 kV Transmission Line and recent CNDDB occurrences within 0.25 mile of the survey area, the prairie falcon has a high potential to forage within the survey area. No cliffs or rocky outcrops for breeding are present within the survey area; therefore, this species has no nesting potential within the survey area.

Mammal Species

Giant Kangaroo Rat

The giant kangaroo rat (*Dipodomys nitratoides*) prefers to live in annual grasslands with gentle slopes and sandy soils. However, most existing populations are found in poor/marginal habitats like shrub communities on steeper slopes with a variety of soils. This species primarily eats seeds, but also green plants and insects. Popular plant species to consume include pepper-grass (*Lepidium* spp.), filaree (*Erodium cicutarium*), Arabian grass (*Schismus arabicus*), and brome grasses. Giant kangaroo rat is listed as state and federally endangered.

Suitable grassland habitat for the giant kangaroo rat is present within the survey area parallel to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections, although it is limited and heavily impacted by invasive plant species and cattle grazing. No burrows of this species were detected during field surveys, but there are recent CNDDB occurrences within 0.25 mile of the survey area. This species has a high potential to occur within the survey area.

San Joaquin Kit Fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) lives in deserts and grasslands, preferring minimal shrubs and grasses. An opportunistic hunter, this species consumes primarily kangaroo rats (*Dipodomys* spp.), but also white-footed mice (*Peromyscus leucopus*), pocket mice (*Chaetodipus* spp. and *Perognathus* spp.), ground squirrels, rabbits, ground nesting birds, and at times insects. The San Joaquin kit fox is a nocturnal hunter, spending most of the day underground within the den. The species may dig dens, use those made by other animals, or use human-made structures like culverts and abandoned pipelines. The mating season occurs between December and March. Both the female and male care for their young, who stay inside

the den for their first month. San Joaquin kit fox is listed as federally endangered and state threatened.

No CNDDB occurrences for this species have been documented within 0.25 mile of the survey area. Grasslands suitable for both foraging and denning are present within the survey area parallel to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. Several burrows of suitable size for kit fox occupancy were encountered during field surveys; however, this species was not observed. This species has a high potential to occur within the survey area.

Reptile Species

Blunt-Nosed Leopard Lizard

The blunt-nosed leopard lizard (*Gambelia silus*) occurs in arid, open areas that have patchy or sparse vegetation, characterized by low and drought-tolerant shrubs. This species may also inhabit non-native grassland and alkali sink scrub communities with poorly drained alkaline and saline soils. In addition to active foraging, it also utilizes the sit-and-wait strategy to catch insects, which make up 97 percent of the diet of this species. The blunt-nosed leopard lizard is generally active during the day in spring, summer, and fall. Hatchlings emerge from their burrows in the hot months of July and August. This species is listed as state endangered, federally endangered, and fully protected under California law.

Marginally suitable habitat for this species is present within the survey area along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. Arid, open habitat for the blunt-nosed leopard lizard is present within the survey area, but absence of shrub cover makes the habitat less than ideal for the blunt-nosed leopard lizard. Recent CNDDB occurrences for this species have been documented within 0.25 mile of the survey area, but it was not observed during field surveys. This species has a high potential to occur within the survey area.

6.4.1 Species with a Moderate Potential to Occur

Amphibian Species

Western Spadefoot

Western spadefoot (*Spea hammondii*) occurs primarily in grasslands with shallow temporary pools, but also occurs in valley-foothill hardwood woodlands. Some populations are able to survive in orchards and vineyards. Western spadefoot spends most of the year in underground burrows that retain moisture. Rainfall is an important element for this species, allowing it to access breeding ponds that would not exist otherwise. Adults can eat insects, worms, and other invertebrates, but tadpoles consume planktonic organisms, algae, and other dead aquatic larvae. Western spadefoot is listed as a CDFW SSC and proposed to be federally listed as threatened.

Grassland habitat is present within the western portion of the survey area along and adjacent to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. However, vernal or temporarily ponded water is not present in these areas, making them marginally suitable for occupation. Although this species was not observed during the field surveys, a recent CNDDB occurrence

has been documented within 5 miles of the survey area. This species has a moderate potential to occur within the survey area.

Avian Species

Burrowing Owl

The burrowing owl (*Athene cunicularia*) occupies wide-open, sparsely vegetated areas like prairies, deserts, grasslands and agricultural fields. Males are generally territorial and chase or attack other individuals of the same species, except for their breeding partner. Burrowing owls often use burrows dug by other animals like ground squirrels. Although insects and small mammals are the primary source of food for this species, the burrowing owl is an opportunistic predator and eats anything it can physically handle. Unlike other owl species, the burrowing owl nests in the ground and actively hunts in the daytime. This species is listed as a CDFW SSC and USFWS BCC.

Suitable grassland habitat for foraging and burrows of suitable size for nesting are present, particularly in the western region of the survey area parallel to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. A CNDDB occurrence for this species has been documented within 5 miles of the survey area. This species was not observed or detected during field surveys. This species has a moderate potential to occur for both nesting and foraging within the survey area.

Northern Harrier

The northern harrier (*Circus cyaneusi*) utilizes a wide variety of open habitats with herbaceous cover, including saltwater and freshwater wetlands, grasslands, idle fields, agricultural pasturelands, deserts, and cropland. This species forages on small rodents and birds within open fields with dense vegetation. Ideal breeding and nesting grounds include wetland or upland habitats with tall, dense grasses; forbs; or low shrubs for concealment of nests. Nests are constructed on the ground or over water on platforms of vegetation. Northern harrier is listed as a CDFW SSC and USFWS BCC.

Suitable nesting and foraging habitat for this species exists throughout the survey area, which contains many fields with agriculture, grasslands, or croplands along the existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines, the proposed PG&E 500 kV Interconnections, and the proposed LSPGC 230 kV Transmission Line. The northern harrier was not observed during field surveys, and no CNDDB occurrences have been documented within 5 miles of the survey area. This species has a moderate potential to forage and nest within the study area.

Short-Eared Owl

The short-eared owl (*Asio flammeus*) prefers large areas of open grassland and nests in prairies, hayfields, or even stubble fields. This species consumes small mammals, particularly voles (*Microtus* spp.). An abundance of short-eared owls in a given location correlates strongly to an abundance of prey. The nests of this species are built on the ground, with females scraping out a space and lining it with feathers and grasses. Nests can be built in grasslands, grain stubble,

hayland, and low perennials at dry sites with small knolls, ridges, or hummocks in fairly obvious locations. Short-eared owl is listed as a CDFW SSC and USFWS BCC.

Grasslands and stubble fields are both present in the survey area, making suitable foraging and suitable breeding habitat available for this species. Grasslands are found along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and stubble fields are found along the proposed PG&E 500 kV Interconnections and the proposed LSPGC 230 kV Transmission Line. Although this species was not observed during field surveys, CNDDB occurrences have been documented within 1 mile of the survey area. This species has a moderate potential to forage and nest within the survey area.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) feeds almost exclusively on insects, mainly grasshoppers. The young of this species can occasionally be fed rodents, rabbits, and reptiles. Suitable habitat for this species requires riparian areas, shrub-steppe areas with scattered trees, and large shrubs. Swainson's hawk nests are typically located in small, shrubby trees. This species can be found throughout North America from southern Canada to northern Mexico. Swainson's hawk is listed as state threatened.

No suitable nesting habitat for this species is found within the survey area, but suitable foraging habitat is present. Shrub-steppe within the survey area can be found near the proposed PG&E 230 kV Reconductoring. CNDDB occurrences have been documented within 5 miles of the survey area. This species has a moderate potential to forage and low potential to nest within the survey area.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is frequently found in agricultural fields throughout central California. This species prefers freshwater marshlands with large stands of emergent vegetation for breeding sites, but is known to nest in agricultural fields with suitable nesting cover, provided the species is adjacent to a large source of water. The tricolored blackbird forages in grasslands and agricultural areas, where it consumes a variety of seeds and invertebrates. This species is listed as state threatened, a CDFW SSC, and a USFWS BCC.

Suitable nesting habitat for this species is not present within the survey area; however, suitable foraging habitat is abundant. Grasslands and agricultural areas can be found along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines, the proposed PG&E 500 kV Interconnections, and proposed LSPGC 230 kV Transmission Line. CNDDB occurrences for this species have been recorded within 5 miles of the survey area. This species has a moderate potential to forage and no potential to nest within the survey area.

Yellow-Billed Magpie

Yellow-billed magpie (*Pica nutalli*) is principally found in oak woodlands and savannas within central California. This species constructs bulky stick nests in tall trees, such as oaks, pines (*Pinus* spp.), and cottonwoods (*Populus* spp.). Yellow-billed magpie forages in a variety of habitats, provided that water and insect prey are present in those areas. This species is frequently

observed foraging on the ground in agricultural fields where it consumes grains, acorns, insects, and occasionally small mammals and carrion. Yellow-billed magpie is listed as a USFWS BCC.

Suitable nesting habitat for this species is not present within the survey area, but suitable foraging habitat is found throughout the survey area. Foraging habitat is located along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines, the proposed PG&E 500 kV Interconnections, and proposed LSPGC 230 kV Transmission Line. The yellow-billed magpie is not tracked by the CNDDB; however, the survey area is within the known range of this species. This species has a moderate potential to forage and no potential to nest within the survey area.

Invertebrate Species

Crotch's Bumblebee

Crotch's bumblebee (*Bombus crotchii*) can be found in warmer and drier habitats compared to other bumblebee species. This insect has adapted to plant species that are associated with grasslands and shrublands like milkweeds, dusty maiden, medics, phacelias, sages, clarkia, poppies, and wild buckwheats. Crotch's bumblebee lives in annual colonies with a queen, workers, and reproductives. Nests can be constructed in abandoned rodent nests underground, tufts of grass above ground, old bird nests, rock piles, or cavities in dead trees. This species is a state candidate for listing as endangered.

Limited suitable grassland habitat is found within the survey area along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines. No shrubland is present in the survey area. CNDDB occurrences have been documented for Crotch's bumblebee within 5 miles of the survey area, but this species was not observed during field surveys. This species has a moderate potential to occur within the survey area.

Mammal Species

San Joaquin Antelope Squirrel

The San Joaquin antelope squirrel (*Ammospermophilus nelsoni*) lives in relatively arid annual grassland and shrubland communities that receive less than 23 centimeters of mean annual precipitation. This species is found to be most abundant in areas with sparse to moderate cover of shrubs like saltbushes (*Atriplex* spp.), California ephedra (*Ephedra californica*), bladderpod (*Cleome isomeris*), goldenbushes (*Isocoma* spp.), and matchweed (*Gutierrazia sarothrae*). San Joaquin antelope squirrels are omnivorous, eating what is most readily available or abundant, but preferring green vegetation, fungi, and insects more than seeds. This species is listed as state threatened.

Suitable grassland habitat for the San Joaquin antelope squirrel is present within the western region of the survey area parallel to PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. Recent CNDDB occurrences have been documented within 5 miles of the survey area. This species was not observed during field surveys. This species has a moderate potential to occur within the survey area.

Reptile Species

California Glossy Snake

The California glossy snake (*Arizona elegans occidentalis*) is nocturnal and most common in desert habitats, but may also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass. Individuals may take cover in mammal burrows or in loose soil. California glossy snakes tend to be most active in May and June, or prior to the first rains of fall. This species generally consumes a variety of desert lizards. California glossy snake is listed as a CDFW SSC.

Suitable grassland habitat is present in the western region of the survey area along PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. A CNDDB occurrence has been documented within 5 miles of the survey area, but California glossy snake was not observed during field surveys. This species has a moderate potential to occur within the survey area.

San Joaquin Coachwhip

The San Joquin coachwhip (*Masticophis flagellum ruddocki*) is found in open terrain and is most abundant in grass, desert, scrub, chaparral, and pasture habitats. This species seeks cover in rodent burrows, bushes, trees, and rock piles. The species hibernates in soil or sand approximately 1 foot below the surface, or sometimes at the bases of plants. The diet of this species consists of rodents, lizards and lizard eggs, snakes, birds and bird eggs, young turtles, insects, and carrion. This species can be seen actively hunting, with a head poking out from burrows or trees. San Joaquin coachwhip is listed as a CDFW species of special concern.

Suitable grassland habitat for this species is present within the survey area parallel to PG&E's existing Los Banos-Midway #2 500 kV and Los-Banos-Gates #1 500 kV Transmission Lines and west of the proposed PG&E 500 kV Interconnections. Recent CNDDB occurrences have been documented within 5 miles of the survey area; however, this species was not observed during field surveys. This species has a moderate potential to occur within the survey area.

6.5 GENERAL WILDLIFE SPECIES

Fourteen wildlife species, as identified in Table 5: Wildlife Species Observed within the Survey Area, were incidentally identified during the surveys; these included one reptile, four mammals, and nine birds. Noted wildlife species were identified by direct observation, vocalizations, or the observance of scat and tracks. The wildlife identified are not necessarily comprehensive accounts of all species that utilize the survey area, because species that are nocturnal, secretive, or seasonally absent may not have been observed.

With a significant amount of the survey area being currently used or previously used for agriculture and heavy cattle grazing, many of the wildlife species occupying this area are known to adapt well to disturbed habitats. Areas being used for active agriculture, specifically orchards, are able to support larger communities of birds, providing food, shelter, and potential nesting habitat. California ground squirrels were spotted frequently near their burrows in non-vegetated areas, particularly those near the edges of parcels not actively being used for agriculture or near steep declines, like walls of large ditches.

Table 5: Wildlife Species Observed within the Survey Area

Common Name	Scientific Name
American crow	*Corvus brachyrhynchos*
Black-tailed jackrabbit	*Lepus californicus*
Brewer's blackbird	*Euphagus cyanocephalus*
Desert cottontail	*Sylvilagus audubonii*
California ground squirrel	*Otospermophilus beecheyi*
Common raven	*Corvus corax*
Coyote	*Canis latrans*
Dark-eyed junco	*Junco hyemalis*
Great horned owl	*Bubo virginianus*
Mourning dove	*Zenaida macroura*
Northern mockingbird	*Mimus polyglottos*
Savannah sparrow	*Passerculus sandwichensis*
Western fence lizard	*Sceloporus occidentalis*
White crowned sparrow	*Zonotrichia leucophrys*

6.6 CRITICAL HABITAT

No critical habitat for any special-status wildlife species occurs within the Proposed Project area. The nearest critical habitat, which is for the Fresno kangaroo rat (*Dipodomys nitratoides exilis*), is located approximately 10 miles northeast of the Proposed Project.

6.7 NATIVE WILDLIFE CORRIDORS AND NURSERY SITES

Wildlife migration corridors are areas that connect suitable wildlife habitats in a region that would otherwise be fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population or high-density areas; and facilitate genetic diversity. The CEQA Guidelines require that project proponents disclose and mitigate for significant impacts on wildlife corridors. Impacts to wildlife corridors (e.g., human disturbance and development) can cause harm to migrating species, cause species to exceed population thresholds in fragmented patches, or prevent healthy gene flow between populations. The California Essential Habitat Connectivity Project maintains a statewide Essential Habitat Connectivity Map, which broadly depicts large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them (Essential Connectivity Areas) (Spencer et al. 2010). The survey area lies outside of any Natural Landscape Blocks or Essential Connectivity Areas (CDFW 2021).

The Proposed Project lies within the Pacific Flyway—an important north-south migration corridor that runs along the Pacific coast of the Americas from Alaska to Patagonia, including all of North America west of the Rocky Mountains. The Pacific Flyway links the breeding grounds of the north with the wintering areas to the south and is used by many different species of birds during migration. Many birds (especially waterfowl) use locations in California's Central Valley as a stopover point or wintering area. Important locations within the Central Valley include wildlife refuges. One wildlife refuge, the Mendota Wildlife Area, is located less than 10 miles from the Proposed Project. The Proposed Project does not occur in any nursery sites.

6.8 AQUATIC FEATURES

Insignia biologists identified six water features within the survey area that are potentially under the jurisdiction of the USACE, RWQCB, and/or CDFW. Table 6: Potentially Jurisdictional Linear Water Features provides detailed information on each of the potentially jurisdictional water features and if they meet the criteria to be classified as a drainage. Criteria includes having an observable OHWM, connection to other waters upstream or downstream, a defined bed and bank, wetland indicators, evidence of water flow, or an adjacent riparian area. Attachment E: Linear Water Feature Photographs presents upstream and downstream photographs of these features. Four of the potentially jurisdictional water features are ephemeral streams located in the western region of the survey area alongside PG&E's existing Los Banos-Midway #2 500 kV and Los Banos-Gates #1 500 kV Transmission Lines, as depicted in Attachment A: Vegetation Communities and Land Cover Types and Attachment F: Linear Water Features on the Proposed Alignment. The remaining two potentially jurisdictional water features are agricultural ditches located along West Manning Avenue. These water features did not contain observable water flow and were identified using distinct OHWM indicators. Although several NWI features depicted in Attachment G: National Wetlands Inventory Map were present, several were not identifiable in the field and deemed not present.

Additionally, the California Aqueduct would be crossed by the proposed PG&E 230 kV Reconductoring and the proposed LSPGC 230 kV Transmission Line between South Douglas Avenue and South Lyon Avenue. The California Aqueduct falls under the jurisdiction of the California Department of Water Resources.

7 – RECOMMENDATIONS

This section provides recommended AMMs to reduce the potential for impacts to special-status species with moderate or high potential to occur within the Proposed Project area.

Table 6: Potentially Jurisdictional Linear Water Features

NWI ID	Drainage ID	Feature Type	Wetland Indications Present	Approximate Length (feet)	Average Measurement (feet)				Jurisdictional Area (acres)			Notes
					OHWM Width	OHWM Depth	TOB Width	TOB Depth	USACE	RWQCB	CDFW	
W-1	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	This is a paved aqueduct under the jurisdiction of the Bureau of Reclamation.
W-2	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	This feature is located within the alternatives survey area. No OHWM, connectivity to waters upstream or downstream, defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present in this feature at the time of the survey. As a result, this feature was not determined to be jurisdictional.
W-3	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	This feature is located within the alternatives survey area. No OHWM, connectivity to waters upstream or downstream, defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present in this feature at the time of the survey. As a result, this feature was not determined to be jurisdictional.
W-4	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	No OHWM, connectivity to waters upstream or downstream, defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present in this feature at the time of the survey. As a result, the feature was determined to not be jurisdictional. The feature is identified in Photographs 25 and 26 of Attachment E: Linear Water Feature Photographs.
W-5	D-3	Riverine (NWI) Ephemeral (Field assessment)	N	1,581	4.47	1.0	15.14	6.3	-	0.32	1.08	The feature has a well-defined bed and bank. Indicators of the OHWM were obscured by dense vegetation; vegetation changes in the channel were used as a proxy for the OHWM. The feature had observable connectivity to waters upstream; however, connectivity downstream was not present. No wetland indicators or riparian vegetation were observed. The feature is no longer defined at its intersection with a dirt road on the downstream side. No water was present within the feature at the time of the survey. This feature was determined to be jurisdictional. The feature is identified in Photographs 6 and 7 of Attachment E: Linear Water Feature Photographs.
W-6	D-6	Riverine (NWI) Ephemeral (Field assessment)	N	921	7.98	0.1	-	-	-	-	-	The OHWM, if present, was obscured by dense vegetation; flattened vegetation (indicative of water flow) was used as a proxy for OHWM. Connectivity to flow upstream and downstream (i.e., flattened vegetation) was observed. No defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present within the feature at the time of the survey. As a result, this feature was determined to not be jurisdictional. The feature is identified in Photographs 14 and 15 of Attachment E: Linear Water Feature Photographs.
W-7	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	This feature is located within the alternatives survey area. No OHWM, connectivity to waters upstream or downstream, defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present within the feature at the time of the survey. As a result, this feature was determined to not be jurisdictional.

NWI ID	Drainage ID	Feature Type	Wetland Indications Present	Approximate Length (feet)	Average Measurement (feet)				Jurisdictional Area (acres)			Notes
					OHWM Width	OHWM Depth	TOB Width	TOB Depth	USACE	RWQCB	CDFW	
W-8	D-1, western section on Alternative Alignment	Riverine (NWI) Ephemeral Stream (Field assessment)	N	1,262.13	2.25	0.75	5.5	7.25	0.07	0.07	0.16	This feature crosses the survey area in two locations. The western section of this feature, located within the alternatives survey area, has a well-defined bed and bank and observable OHWM indicators. The feature had observable connectivity to waters upstream and downstream. No wetland indicators or riparian vegetation were observed. No water was present within the feature at the time of the survey. This feature was determined to be jurisdictional. The feature is identified in Photographs 1 and 2 of Attachment E: Linear Water Feature Photographs.
	D-1, eastern section on Preferred Alignment	Riverine (NWI)	To be determined (TBD)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	This feature crosses the survey area in two locations. The eastern section crosses I-5 and has not yet been surveyed due to landowner access restrictions. A well-defined drainage with a bed, bank, and an OHWM was observable from public roads. The feature had observable connectivity to waters upstream and downstream. No wetland indicators or riparian vegetation were observed from public roads. No water was present within this feature at the time of observation from public roads. The feature was determined to be jurisdictional. The feature is identified in Photograph 27 of Attachment E: Linear Water Feature Photographs.
W-9	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	No OHWMs, connecting waters upstream or downstream, defined bed and bank, wetland indicators, or nearby riparian area were observed. No water was present within this feature at the time of the survey. This feature was determined to not be jurisdictional. The feature is identified in Photographs 28 and 29 of Attachment E: Linear Water Feature Photographs.
W-10	-	Riverine (NWI)	N	-	-	-	-	-	-	-	-	Portions of this feature have not yet been surveyed due to landowner access constraints. No OHWM, connecting waters upstream or downstream, defined bed and bank, wetland indicators, or nearby riparian area were observed. No water was present within this feature at the time of the survey. This feature was determined to not be jurisdictional. Photographic confirmation is available for accessible parcels that contain this feature. The feature is identified in Photograph 30 of Attachment E: Linear Water Feature Photographs.
W-11	D-9	Riverine (NWI) Agricultural Ditch (Field assessment)	N	1,184	0.57	0.1	2.67	3.0	-		0.14	Portions of this feature have not yet been surveyed due to landowner access constraints. Although this feature intersects with the survey area at multiple locations, only one drainage (an agricultural ditch with no apparent connectivity to a navigable waterway) was observable within the survey area. An OHWM, defined bed and bank, and connecting waters upstream were observed. No wetland indicators or riparian vegetation was identified. No water was present within the feature at the time of the survey. The feature is not identified in a water quality control plan, and historical aerial imagery does not indicate that it is a relocated water of the state or excavated in a water of the state. This feature was determined to be potentially jurisdictional under the CDFW. The feature is identified in Photographs 23 and 24 of Attachment E: Linear Water Feature Photographs.
W-12	D-8	Riverine (NWI) Agricultural Ditch (Field assessment)	N	2,329	0.43	1.0	3.2	2.5	-	-	0.34	Portions of this feature have not yet been surveyed due to landowner access constraints. Although this feature intersects with the survey area at multiple locations, only one drainage (an agricultural ditch with no apparent connectivity to a navigable waterway) was observable within the survey area. An OHWM and defined bed and bank were observed. No connection to waters upstream or downstream, wetland indicators, or riparian vegetation was observed. No water was present in this feature

NWI ID	Drainage ID	Feature Type	Wetland Indications Present	Approximate Length (feet)	Average Measurement (feet)				Jurisdictional Area (acres)			Notes
					OHWM Width	OHWM Depth	TOB Width	TOB Depth	USACE	RWQCB	CDFW	
												at the time of the survey. This feature is not identified in a water quality control plan, and historical aerial imagery does not indicate that it is a relocated water of the state or excavated in a water of the state. The feature was determined to be potentially jurisdictional under the CDFW. The feature is identified in Photographs 20, 21, and 22 of Attachment E: Linear Water Feature Photographs.
-	D-2	Ephemeral Stream (Field assessment)	N	789	2.92	0.5	14.99	9.0	-	0.11	0.55	This feature is a tributary of D-3 (W-5). The feature has a well-defined bed and bank. Indicators of the OHWM were obscured by dense vegetation; vegetation changes in the channel were used as a proxy for the OHWM. The feature had observable connectivity to waters upstream; the feature intersects downstream with D-3. No wetland indicators or riparian vegetation were observed. No water was present within the feature at the time of the survey. This feature was determined to be jurisdictional. The feature is identified in Photographs 3, 4, and 5 of Attachment E: Linear Water Feature Photographs.
-	D-4	Ephemeral Stream (Field assessment)	N	256	1.96	0.5	7.82	3.0	-	0.02	0.09	This feature is a tributary of D-3 (W-5). The feature has a well-defined bed and bank. Indicators of the OHWM were obscured by dense vegetation; vegetation changes in the channel were used as a proxy for the OHWM. The feature had observable connectivity to waters upstream; the feature intersects downstream with D-3. No wetland indicators or riparian vegetation were observed. No water was present within the feature at the time of the survey. This feature was determined to be jurisdictional. The feature is identified in Photographs 8 and 9 of Attachment E: Linear Water Feature Photographs.
-	D-5	Ephemeral Stream (Field assessment)	N	460	-	-	-	-	-	-	-	The OHWM, if present, was obscured by dense vegetation; flattened vegetation indicative of water flow was used as a proxy for OHWM. No connectivity to waters upstream or downstream, defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present within the feature at the time of the survey. As a result, this feature was determined to not be jurisdictional. The feature is identified in Photographs 10, 11, 12, and 13 of Attachment E: Linear Water Feature Photographs.
-	D-7	Ephemeral Stream (Field assessment)	N	589	-	-	-	-	-	-	-	The OHWM, if present, was obscured by dense vegetation; flattened vegetation indicative of water flow was used as a proxy for OHWM. No connectivity to waters upstream or downstream, defined bed and bank, wetland indicators, or riparian vegetation were observed. No water was present within this feature at the time of the survey. As a result, this feature was determined to not be jurisdictional. The feature is identified in Photographs 16, 17, 18, and 19 of Attachment E: Linear Water Feature Photographs.

7.0 PRE-CONSTRUCTION SURVEYS AND MONITORING

Prior to initiating Proposed Project activities, the following pre-construction surveys would be recommended:

7.0.0 Rare Plants

- Prior to initial vegetation clearing and ground-disturbing activities in annual grassland habitat, a qualified biologist would conduct pre-construction surveys of the Proposed Project work area for special-status plants. Surveys would be conducted during the appropriate blooming periods for Lost Hills crownscale and Panoche pepper-grass (i.e., April to September and February to July, respectively). Surveys would be confined to Proposed Project work areas within annual grassland habitats, as well as disturbed habitats and agricultural areas within 500 feet of annual grassland habitats. In the event of the discovery of a previously unknown special-status plant, the area would be marked as sensitive and would be avoided to the maximum extent practicable. If avoidance of species listed under the FESA or CESA is not possible, the USFWS and/or the CDFW would be consulted. Any other construction activities that may impact sensitive biological resources, including movement of construction equipment and other activities outside of the fenced/paved areas, would be monitored by a qualified biologist. The monitor/inspector would have the authority to stop work activities upon the discovery of sensitive biological resources and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to sensitive resources.

7.0.1 Avian Species

- If feasible, construction and vegetation trimming/removal would be avoided during the migratory bird nesting or breeding season (i.e., February 15 to August 31). When it is not feasible to avoid construction during the nesting or breeding season, a survey would be performed in the area where the work is to occur. This survey would be performed to determine the presence or absence of nesting birds. If an active nest (i.e., containing eggs or young) is identified, a suitable construction buffer (which would differ based on species and location of nest) would be implemented to ensure that the nesting or breeding activities are not substantially adversely affected. If the nesting or breeding activities are being conducted by a federally or state-listed species, the USFWS and CDFW would be consulted as necessary. Monitoring of the nest would continue until the birds fledge or construction is no longer occurring on the site.

- If a raptor nest is observed during pre-construction surveys, a qualified biologist would determine if it is active. If the nest is determined to be active, the biological monitor would monitor the nest to ensure that nesting or breeding activities are not substantially adversely affected. If the biological monitor determines that activities associated with the Proposed Project are disturbing or disrupting nesting or breeding activities, the biological monitor would make recommendations to reduce noise or disturbance in the vicinity of the nest, such as temporarily suspending work in the area. If the nest is determined to be inactive, the nest would be removed under direct supervision of the qualified biologist.

7.0.2 Special-Status Mammals and Herpetofauna

- Prior to initial vegetation clearance and ground-disturbing activities, a qualified biologist would conduct pre-construction surveys of the Proposed Project work area for special-status wildlife and burrows and dens potentially occupied by special-status wildlife. Surveys would be confined to Proposed Project work areas within annual grassland habitats, as well as disturbed habitats and agricultural areas within 500 feet of annual grassland habitats. The qualified biologist would identify, flag, and map all burrows and dens potentially occupied by burrowing owl, San Joaquin antelope squirrel, giant kangaroo rat, and San Joaquin kit fox, and then confirm occupation of all potential burrows for buffers and avoidance. Methods of determining burrow occupancy may include, but would not be limited to visual observations of scat or tracks outside burrow entrances, dusting burrow entrances with a tracking medium for 3 days, installing trail cameras for nocturnal observations, performing small mammal trapping, or a combination of these methods as appropriate and in consultation with the CDFW and USFWS. If occupied burrows cannot be avoided, the USFWS and CDFW would be consulted to ensure compliance with the FESA and CESA, respectively, and species-specific mortality reduction or avoidance plans would be developed for agency review and approval.

- If occupied burrows or dens are found during construction wildlife and burrow surveys, adequate buffers would be established around burrows. Adequate buffers would be determined by a qualified biologist based on field conditions and resource agency guidelines. If avoidance of species listed under the FESA or CESA is not possible, the USFWS and/or CDFW would be consulted and species-specific mortality reduction or avoidance plans would be developed for agency review and approval, as appropriate. These plans may include, but would not be limited to the following:

  – Detailed description of trapping methodology,
  – Detailed burrow excavation methods,
  – Release location(s),
  – Detailed release methods,
  – Artificial burrow design and installation methods,
  – Description of exclusion fencing type and implementation, and
  – Identification of a wildlife rehabilitation center or veterinary facility capable of and willing to treat injured special-status species.

  Any other construction activities that may impact burrows occupied by special-status species (including movement of construction equipment and other activities outside of the fenced/paved areas within wildlife habitat) would be monitored by a qualified biologist. The monitor/inspector would have the authority to stop work activities upon the discovery of sensitive biological resources and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to sensitive resources.

- Prior to the initiation of construction, a qualified biologist would conduct protocol-level surveys of the Proposed Project work area for giant kangaroo rat. Surveys would be

confined to Proposed Project work areas within annual grassland habitats, as well as disturbed habitats and agricultural areas within 500 feet of annual grassland habitats. Surveys would conform to the methodology outlined in the San Joaquin Kangaroo Rat Trapping Protocol (USFWS 2013). If species presence is determined through these surveys, the USFWS and CDFW would be consulted to ensure compliance with the FESA and CESA, respectively, and species-specific mortality reduction or avoidance plans would be developed for agency review and approval.

- Prior to the initiation of construction, a qualified biologist would conduct protocol-level surveys of the Proposed Project work area for giant kangaroo rat. Surveys would be confined to Proposed Project work areas within annual grassland habitats, as well as disturbed habitats and agricultural areas within 500 feet of annual grassland habitats. Surveys would conform to the methodology outlined in the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011). If species presence is determined through these surveys, the USFWS and CDFW would be consulted to ensure compliance with the FESA and CESA, respectively, and species-specific mortality reduction or avoidance plans would be developed for agency review and approval.

- Prior to the initiation of construction, a qualified biologist would conduct focused surveys of the Proposed Project work area for San Joaquin antelope squirrel in annual grassland habitats, as well as disturbed habitats and agricultural areas within 500 feet of annual grassland habitats. If species presence is determined through these surveys, the CDFW would be consulted to ensure compliance with the CESA, and species-specific mortality reduction or avoidance plans would be developed for agency review and approval.

- Prior to the initiation of construction, a qualified biologist would conduct protocol-level surveys of the Proposed Project work area for blunt-nosed leopard lizard in annual grassland habitats and disturbed habitats within 500 feet of annual grassland habitats. Surveys would conform to the methodology outlined in the Approved Survey Methodology for the Blunt-Nosed Leopard Lizard (CDFW 2019). If species presence is determined through these surveys, the USFWS and CDFW would be consulted to ensure compliance with the FESA and CESA, respectively, and a species-specific avoidance plan would be developed for agency review and approval. This plan would include an overview and results of blunt-nosed leopard lizard surveys, the proposed mitigation measure implementation strategy, and methods to avoid species take prior to and during construction activities.

7.0.3 Crotch's Bumblebee

- A pre-construction survey plan for Crotch's bumblebee would be developed and implemented for all Proposed Project work areas within annual grassland habitats, as well as disturbed habitats and agricultural areas within 500 feet of annual grassland habitats. The plan would detail survey methodology and reporting procedures. Prior to initial vegetation clearance and ground-disturbing activities, pre-construction surveys would be conducted to identify Crotch's bumblebee habitat and host plants present within the Proposed Project work areas. Photograph-only surveys would also be conducted in

accordance with USFWS protocol recommendations (USFWS 2019) to determine adult bumblebee presence. Active Crotch's bumblebee nest sites may be incidentally observed during photograph-only surveys and would be identified as active based on repeated observations of bumblebee ingress and egress from the nest site and after consultation with the CDFW. Active nests would be marked for avoidance prior to construction.

- If occupied Crotch's bumblebee nests are found during pre-construction bumblebee surveys, adequate buffers would be established around nests. Adequate buffers would be determined by a qualified biologist based on field conditions and resource agency guidelines. If avoidance of bumblebee nests is not possible, the CDFW would be consulted. If Crotch's bumblebee host plants are found during pre-construction bumblebee surveys, these would be avoided to the greatest extent feasible during construction activities. Any construction activities that may impact Crotch's bumblebee nests and/or host plants, including movement of construction equipment and activities outside of the fenced/paved areas within wildlife habitat, would be monitored by a qualified biologist. The monitor/inspector would have the authority to stop work activities upon the discovery of occupied nests and host plants and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to Crotch's bumblebee.

7.1 AVOIDANCE AND MINIMIZATION MEASURES

- Any construction activities that may impact sensitive biological resources, including the movement of construction equipment and other activities outside of the fenced/paved areas, would be monitored by a qualified biologist. The monitor/inspector would have the authority to stop work activities upon the discovery of sensitive biological resources and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to sensitive resources.

- All work areas within the Proposed Project area would be clearly delineated with fencing, staking, or flags prior to construction commencing. Construction activities would be restricted to delineated work areas, and all delineation would be maintained in working order until the completion of construction.

- All sensitive biological areas (including aquatic resources) within Proposed Project work areas would be clearly marked prior to construction to restrict construction activities and equipment from entering these areas. Signage would be placed along regular intervals of this delineation prohibiting entry by Proposed Project personnel and identifying the delineated area as a sensitive resource. A buffer of at least 5 feet from all construction activities would be established around these areas. These buffers would be inspected regularly to ensure that they remain in place. All construction activities that are permitted within jurisdictional waters would be clearly delineated and monitored by a qualified biologist.

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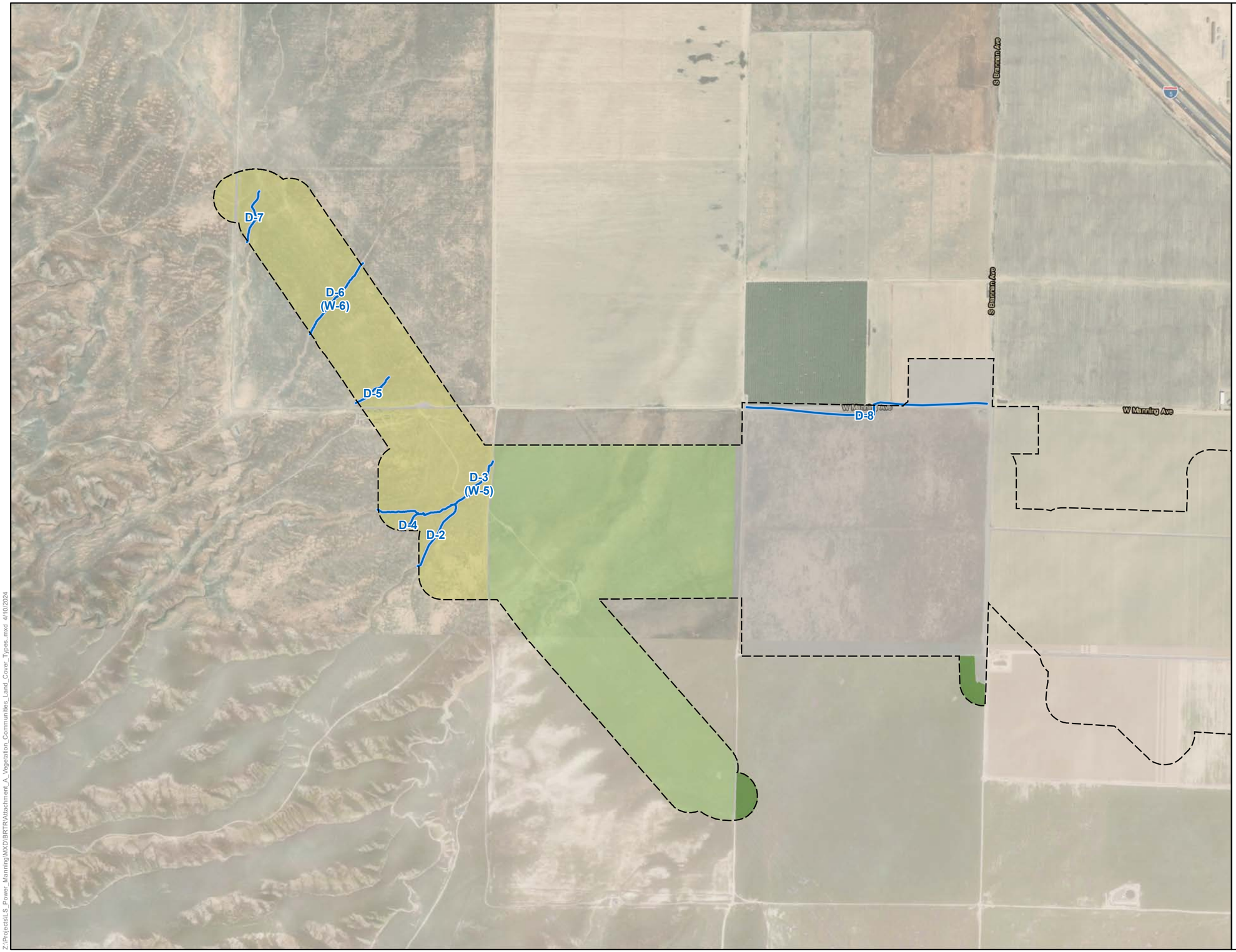
ATTACHMENT A: VEGETATION COMMUNITIES AND LAND COVER TYPES

Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 1 of 13
Manning 500/230 Kilovolt Substation Project



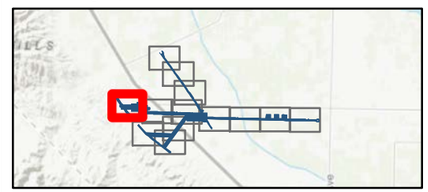
Survey Area

Mapped Drainage

Vegetation Community

- Agriculture
- *Amsinckia (menziesii, tessellata) - Phacelia spp.* Herbaceous
- *Avena spp. - Bromus spp.* Herbaceous Semi-Natural
- Disturbed

Source: Insignia, 2023



LS POWER GRID CALIFORNIA

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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 2 of 13
Manning 500/230 Kilovolt Substation Project

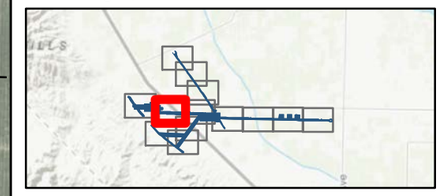
Survey Area

Mapped Drainage

Vegetation Community

- Agriculture
- *Avena spp. - Bromus spp.* Herbaceous Semi-Natural
- Developed
- Disturbed
- Open Water

Source: Insignia, 2023



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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 3 of 13
Manning 500/230 Kilovolt Substation Project

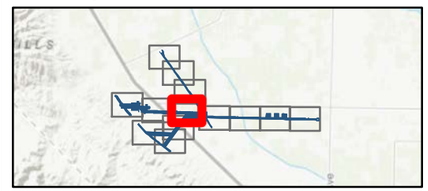
Survey Area

Mapped Drainage

Vegetation Community

- Agriculture
- Developed
- Disturbed
- Dry Lake / Mudflats / Playa

Source: Insignia, 2023



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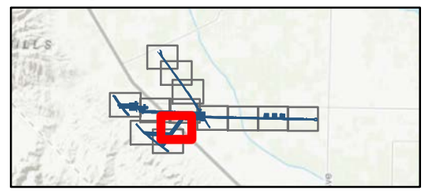
Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 4 of 13
Manning 500/230 Kilovolt Substation Project

Survey Area

Vegetation Community

- Agriculture
- *Amsinckia (menziesii, tessellata)* - *Phacelia spp.* Herbaceous
- Developed
- Disturbed
- Dry Lake / Mudflats / Playa

Source: Insignia, 2023



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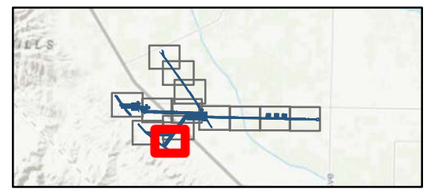
Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 5 of 13
Manning 500/230 Kilovolt Substation Project

Survey Area

Vegetation Community

- Agriculture
- *Amsinckia (menziesii, tessellata)* - *Phacelia spp.* Herbaceous
- Developed
- Disturbed
- Dry Lake / Mudflats / Playa

Source: Insignia, 2023



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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 6 of 13
Manning 500/230 Kilovolt Substation Project

D-1
(W-8)

W Mountain View Ave

W Mountain View Ave

W Mountain View Ave

W Mountain V

Survey Area

Mapped Drainage

Ephemeral Stream

Vegetation Community

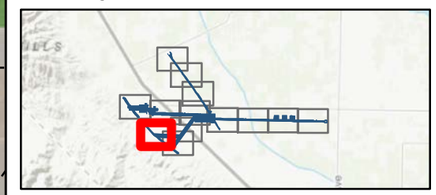
Agriculture

Amsinckia (menziesii, tessellata) - Phacelia spp. Herbaceous

Avena spp. - Bromus spp. Herbaceous Semi-Natural

Disturbed

Source: Insignia, 2023



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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 7 of 13
Manning 500/230 Kilovolt Substation Project

Survey Area

Mapped Drainage

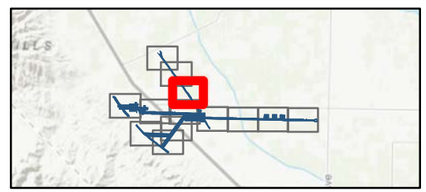
Vegetation Community

Agriculture

Developed

Disturbed

Source: Insignia, 2023



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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 8 of 13
Manning 500/230 Kilovolt Substation Project

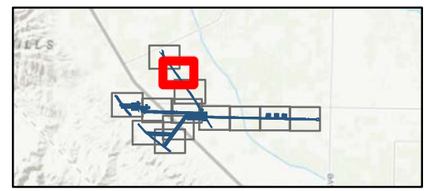
Survey Area

Vegetation Community

Agriculture

Disturbed

Source: Insignia, 2023



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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 9 of 13
Manning 500/230 Kilovolt Substation Project

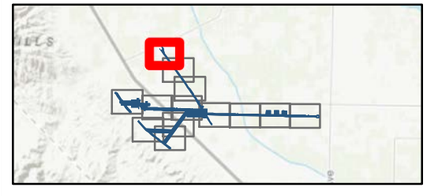
Survey Area

Vegetation Community

Agriculture

Disturbed

Source: Insignia, 2023



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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 10 of 13
Manning 500/230 Kilovolt Substation Project

D-9

W Manning Ave

S Jarrid Ave

S Newcomb Ave

W Dinuba Ave

Survey Area

Mapped Drainage

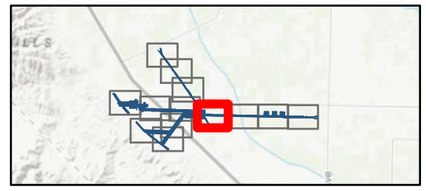
Vegetation Community

Agriculture

Developed

Disturbed

Source: Insignia, 2023



LS POWER GRID CALIFORNIA

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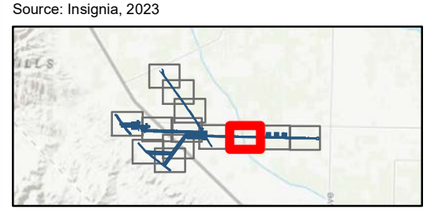
Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 11 of 13
Manning 500/230 Kilovolt Substation Project

Survey Area

Vegetation Community

- Agriculture
- Developed
- Disturbed
- Open Water

Source: Insignia, 2023



LS POWER GRID CALIFORNIA

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Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 12 of 13
Manning 500/230 Kilovolt Substation Project

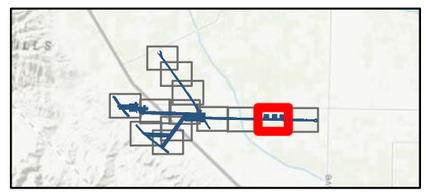
W Manning Ave
S Washoe Ave
S San Diego Ave
W Dinuba Ave

Survey Area

Vegetation Community

- Agriculture
- Disturbed

Source: Insignia, 2023



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INSIGNIA ENVIRONMENTAL

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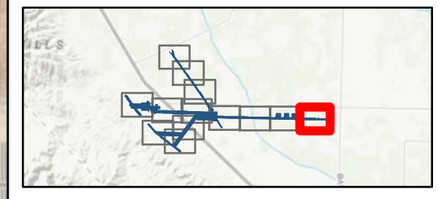
Attachment A: Vegetation Communities, Drainages and Land Cover Types
Map 13 of 13
Manning 500/230 Kilovolt Substation Project

Survey Area

Vegetation Community

- Agriculture
- Disturbed

Source: Insignia, 2023



LS POWER GRID CALIFORNIA

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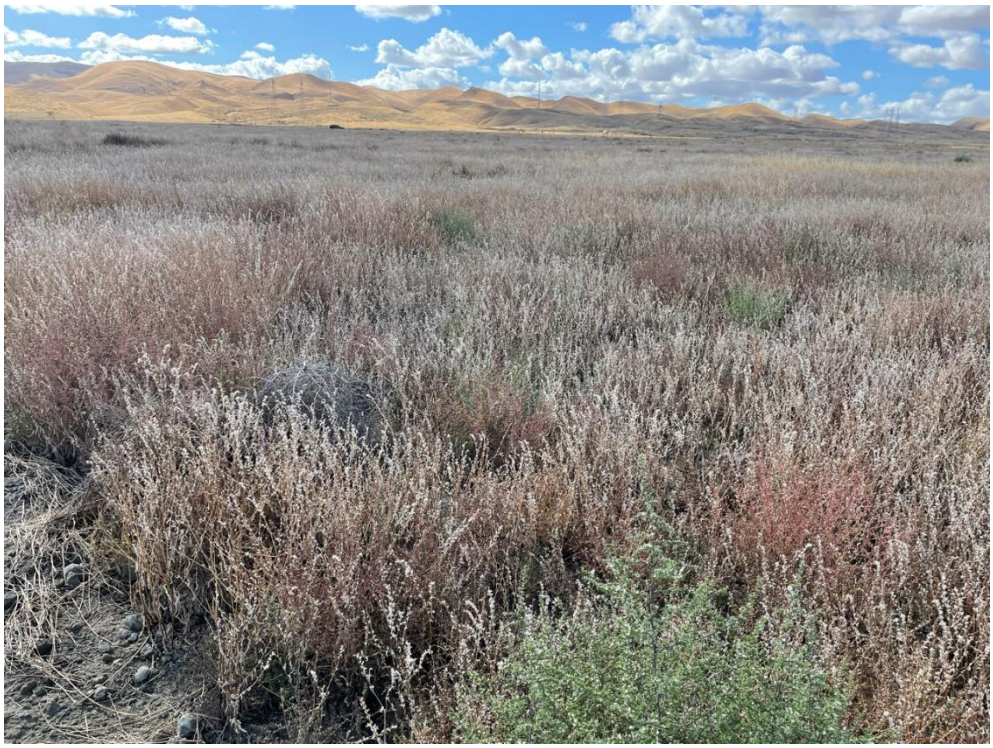
ATTACHMENT B: HABITAT ASSESSMENT PHOTOGRAPHS

ATTACHMENT B: HABITAT ASSESSMENT PHOTOGRAPHS

Photograph 1: Active agriculture, facing north.



Photograph 2: *Amsinkia (menziesii, tessellata) - Phacelia spp* Herbaceous Alliance, facing northwest.

Photograph 3: *Avena spp. – Bromus spp.* Herbaceous Semi-Natural Alliance, facing west.

Photograph 4: Developed, facing northeast.

Photograph 5: Disturbed, facing west.

Photograph 6: Dry lake/ mudflats/playa, facing south.

ATTACHMENT C: CNDDB OCCURRENCES OF SPECIAL-STATUS PLANT SPECIES

Attachment C: CNDDB Occurrences of Special-Status Plant Species

Manning 500/230 Kilovolt Substation Project

- Existing PG&E Substation
- Existing PG&E Tranquillity Switching Station
- Proposed LSPGC Substation
- Proposed Transmission Lines and Interconnections
- Existing PG&E Transmission Line

- Project Buffers

Special Status Plant Species

- chaparral ragwort
- Hall's tarplant
- Lost Hills crownscale
- Munz's tidy-tips
- pale-yellow layia
- Panoche pepper-grass
- recurved larkspur
- San Joaquin woollythreads
- showy golden madia

Source: California Department of Fish and Wildlife, California Natural Diversity Database, 2022

LSPOWER GRID CALIFORNIA INSIGNIA ENVIRONMENTAL

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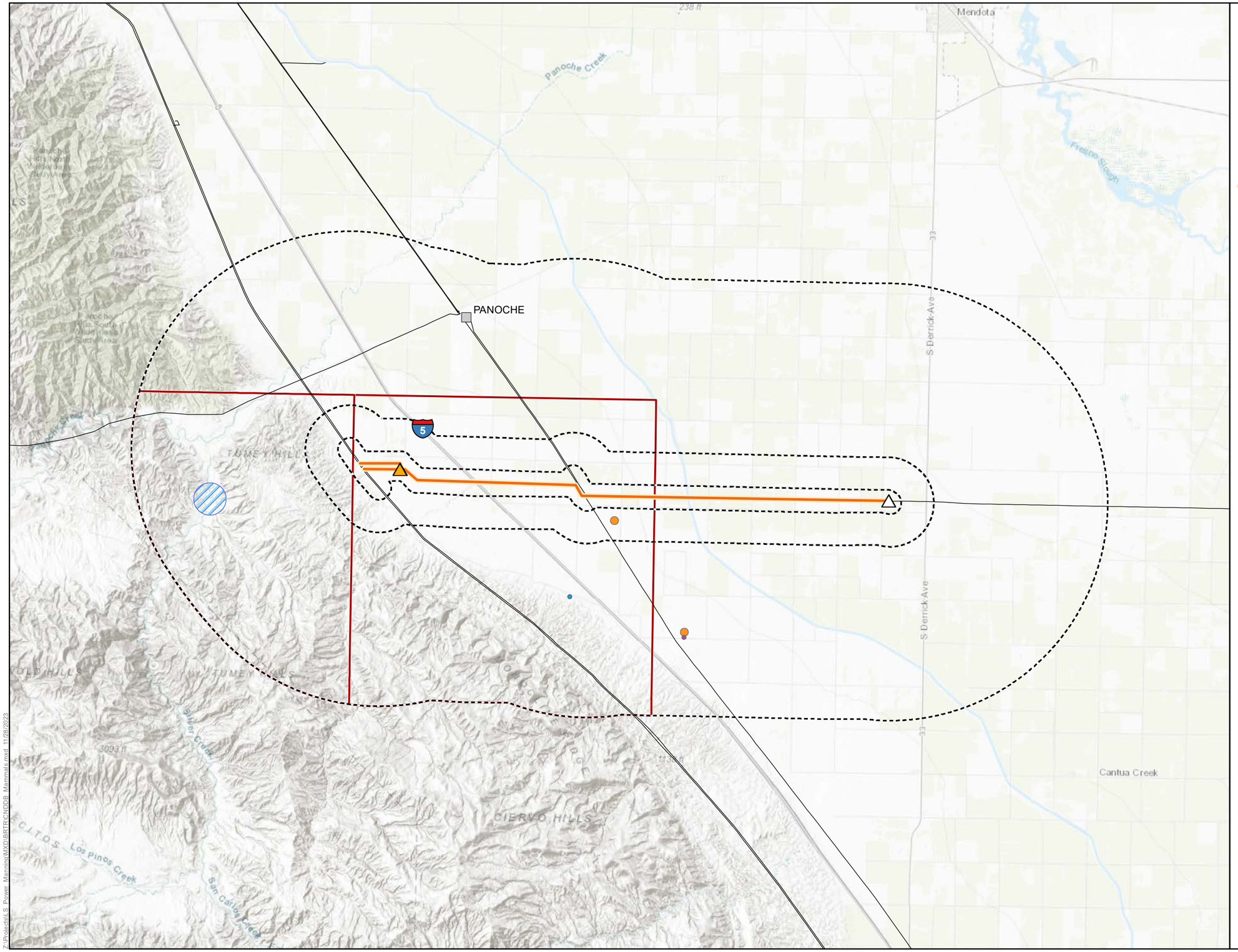
ATTACHMENT D: CNDDB OCCURRENCES OF SPECIAL STATUS WILDLIFE SPECIES

Attachment D: CNDDB Occurrences of Special Status Bird Species: Map 2 of 5 Manning 500/230 Kilovolt Substation Project



- Existing PG&E Substation
- Existing PG&E Tranquillity Switching Station
- Existing PG&E Transmission Line
- Proposed LSPGC Substation
- Proposed Transmission Lines and Interconnections
- Project Buffers

Special Status Bird Species

- burrowing owl
- California horned lark
- prairie falcon
- short-eared owl
- tricolored blackbird

Source: California Department of Fish and Wildlife, California Natural Diversity Database, 2022

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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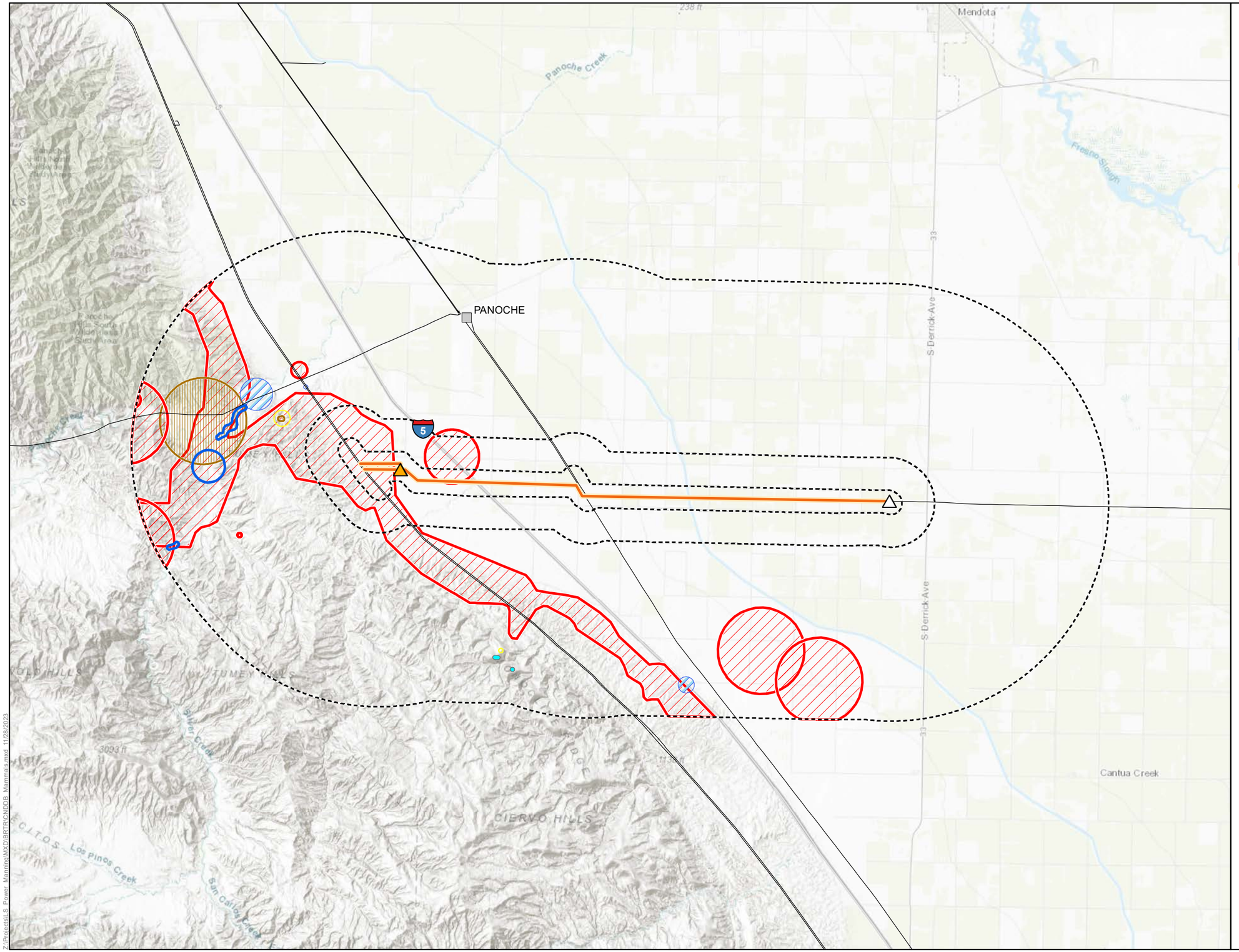

Attachment D: CNDDB Occurrences of Special Status Reptile Species: Map 3 of 5 Manning 500/230 Kilovolt Substation Project

- Existing PG&E Substation
- Existing PG&E Tranquillity Switching Station
- Existing PG&E Transmission Line
- Proposed LSPGC Substation
- Proposed Transmission Lines and Interconnections
- Project Buffers

Special Status Reptile Species

- blunt-nosed leopard lizard
- California glossy snake
- coast horned lizard
- Northern California legless lizard
- San Joaquin coachwhip
- western pond turtle

Source: California Department of Fish and Wildlife, California Natural Diversity Database, 2022

LSPOWER GRID CALIFORNIA INSIGNIA ENVIRONMENTAL

1:137,890

0 0.5 1 2 3 4 Miles

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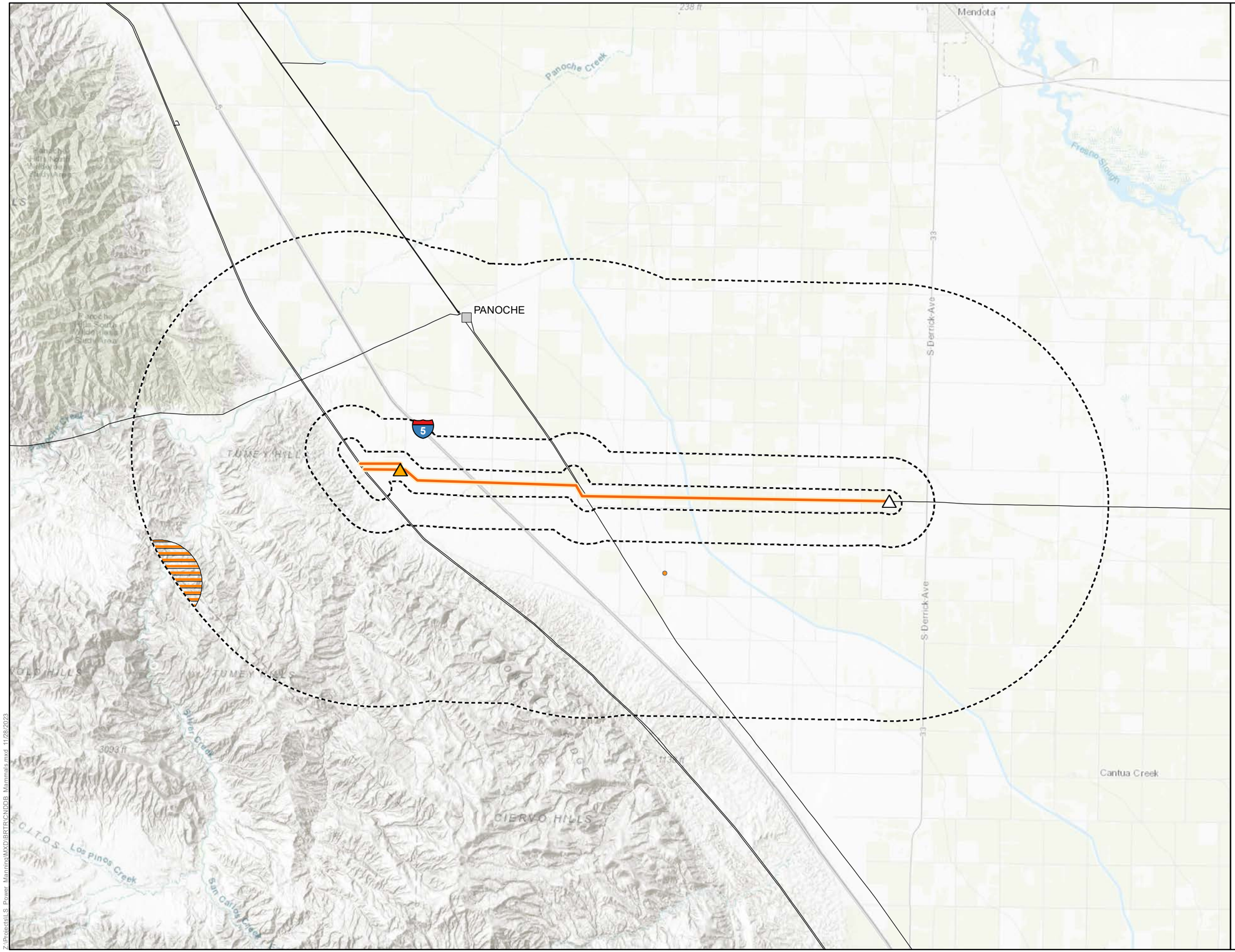

Attachment D: CNDDB Occurrences of Special Status Amphibian Species: Map 4 of 5
Manning 500/230 Kilovolt Substation Project

- Existing PG&E Substation
- Existing PG&E Tranquillity Switching Station
- Existing PG&E Transmission Line
- Proposed LSPGC Substation
- Proposed Transmission Lines and Interconnections
- Project Buffers

Special Status Amphibian Species

- foothill yellow-legged frog - central coast DPS
- western spadefoot

Source: California Department of Fish and Wildlife, California Natural Diversity Database, 2022

LSPOWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

1:137,890
0 0.5 1 2 3 4 Miles

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Attachment D: CNDDB Occurrences of Special Status Invertebrate Species: Map 5 of 5
Manning 500/230 Kilovolt Substation Project

- Existing PG&E Substation
- Existing PG&E Tranquillity Switching
- Existing PG&E Transmission Line
- Proposed LSPGC Substation
- Proposed Transmission Lines and
- Project Buffers

Special Status Invertebrate Species

- Crotch bumble bee
- longhorn fairy shrimp

Source: California Department of Fish and Wildlife, California Natural Diversity Database, 2022

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

1:125,000

0 0.5 1 2 3 Miles

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Attachment D: CNDDB Occurrences of Special Status Mammal Species: Map 1 of 5 Manning 500/230 Kilovolt Substation Project

PANOCHE

S Derrick Ave

Fresno Slough

Cantua Creek

CIERVO HILLS

Silver Creek

Los Pinos Creek

San Carlos Creek

3093 ft

- Existing PG&E Substation
- Existing PG&E Tranquillity Switching
- Existing PG&E Transmission Line
- Proposed LSPGC Substation
- Proposed Transmission Lines and
- Project Buffers

Special Status Mammal Species

- American badger
- giant kangaroo rat
- Nelson's San Joaquin antelope squirrel
- pallid bat
- San Joaquin kit fox
- Tulare grasshopper mouse
- western mastiff bat

Source: California Department of Fish and Wildlife, California Natural Diversity Database, 2022

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

1:125,000

0 0.5 1 2 3 Miles

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ATTACHMENT E: LINEAR WATER FEATURE PHOTOGRAPHS

ATTACHMENT E: LINEAR WATER FEATURE PHOTOGRAPHS

Photograph 1: D-1 (W-8, western section), facing upstream and southwest.

Photograph 2: D-1 (W-8, western section), facing upstream and south.

Photograph 3: D-2, bed and bank.

Photograph 4: D-2, facing downstream and northeast.

Photograph 5: D-2, facing upstream and southwest.

Photograph 6: D-3 (W-5), facing downstream and east.

Photograph 7: D-3 (W-5), facing upstream and southwest.

Photograph 8: D-4, facing downstream and west.

Photograph 9: D-4, facing upstream and south.

Photograph 10: D-5, facing downstream and northeast.

Photograph 11: D-5, ordinary high water mark (OHWM).

Photograph 12: D-5, water feature swales out facing northeast.

Photograph 13: D-5, facing upstream and southwest.

Photograph 14: D-6 (W-6), facing downstream and northeast.

Photograph 15: D-6 (W-6), facing upstream and southwest.

Photograph 16: D-7, OHWM.

Photograph 17: D-7, facing downstream and northeast.

Photograph 18: D-7, facing downstream and north. Feature swales out.

Photograph 19: D-7, facing upstream and south.

Photograph 20: D-8 (W-12), facing downstream and northeast.

Photograph 21: D-8 (W-12), facing upstream and west.

Photograph 22: D-8 (W-12), facing downstream and northeast.

Photograph 23: D-9 (W-11), facing downstream and east.

Photograph 24: D-9 (W-11), facing upstream and west.

Photograph 25: W-4, facing northwest.

Photograph 26: W-4, facing southeast.

Photograph 27: W-8, eastern section, facing upstream and south.

Photograph 28: W-9, facing southwest.

Photograph 29: W-9, facing north.

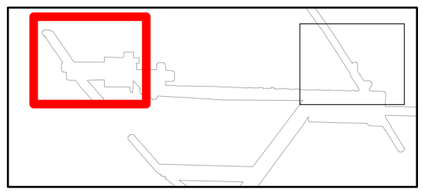
Photograph 30: W-10, facing southeast.

ATTACHMENT F: LINEAR WATER FEATURES ON THE PROPOSED ALIGNMENT

Attachment F: Linear Water Features on the Proposed Alignment
Map 1 of 2
Manning 500/230 Kilovolt Substation Project

D-7
D-6 (W-6)
D-5
W-6
D-8
W-5
D-3 (W-5)
D-4
D-2
W-9
W-12
W-4

Survey Area
Mapped Drainage (April 2024)
National Wetlands Inventory Feature



LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

N
1:10,800
0 500 1,000 Feet

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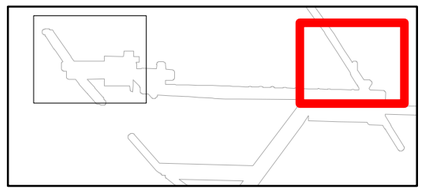
Attachment F: Linear Water Features on the Proposed Alignment
Map 1 of 2
Manning 500/230 Kilovolt Substation Project

Mapped Drainage (April 2024)

National Wetlands Inventory Feature



LSPOWER GRID CALIFORNIA INSIGNIA ENVIRONMENTAL

1:7,200
0 500 1,000 Feet

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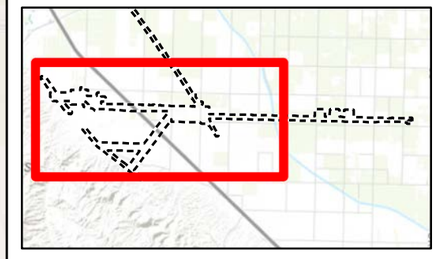
ATTACHMENT G: NATIONAL WETLANDS INVENTORY MAP

Attachment G:
National Wetlands Inventory Map

Manning 500/230 Kilovolt Substation Project

National Wetlands Inventory Within Survey Area

Source:U.S. Geological Survey's National Hydrography Dataset (NHD), 2023



LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

1:40,000

0 0.5 1 Miles

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