Appendix 4.4-A – Biological Resources Technical Report

Gates 500kV Dynamic Reactive Support Project
Biological Resources Technical Report

November 2020
Revised February 2021

Prepared For:

LS Power Grid California, LLC

Prepared By:

Heritage Environmental Consultants, LLC

Table of Contents

Appendices

1. Introduction

1.1. Project Description

LS Power Grid California, LLC (LSPGC) is proposing the Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project) in unincorporated Fresno County. The Proposed Project includes a +/-848 million volt-amperes, reactive (MVAR) dynamic reactive device to be installed in a minimum of two equally sized Static Synchronous Compensator (STATCOM) units that would independently connect to the existing Pacific Gas and Electric Company's (PG&E) Gates Substation 500-kV bus via two new single-circuit 500 kV interconnection transmission lines.

The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of the CAISO controlled grid and accommodate maintenance and contingencies of the reactive device. Specifically, the STATCOM facility would support the regional transmission system by providing voltage support and grid stability at the Gates Substation 500-kV bus. This would facilitate the reliable operation of the extra high voltage transmission system in the electrical vicinity of the Gates Substation after the retirement of the Diablo Canyon nuclear generating units. The Proposed Project has an in-service date of June 2024 per the CAISO functional specifications.

1.2. Project Area

The Proposed Project site would be located in southern Fresno County entirely on private land and would be approximately 20 acres in size, located directly north and adjacent to the PG&E Gates Substation in Fresno County, California (**Figures 1 and 2**). The Proposed Project site is located approximately one mile northwest of the intersection of South Lassen Avenue (State Route [SR] 269) and West Jayne Avenue, which is approximately 3.5 miles southwest of the City of Huron and approximately 2.5 miles east of Interstate 5 (I-5) in southwest Fresno County. The Proposed Project site is located within the northeast quarter of Public Land Survey System (PLSS) Section 33 of Township 20 South and 17 East. The Proposed Project site is zoned, actively used, and surrounded by active agriculture.

The Proposed Project would require a permanent footprint of approximately 9.8 acres of land that would be owned by LSPGC. These 9.8 acres would contain the STATCOMs and ancillary project components (totaling approximately 8.75 acres) and a stormwater detention basin and conveyance system, (totaling approximately 1.05 acres).

1.3. Project Components

1.3.1. STATCOM Substation

The proposed STATCOM Substation that includes two STATCOM units would be constructed immediately north of the existing PG&E Gates Substation within the LSPGC-owned 20 acre portion of APN 075-060-067S. Construction of the STATCOM Substation facility would permanently disturb a total area of approximately 6.5 acres, and would be contained within the STATCOM Substation facility's fenced area. Below are the main ancillary STATCOM components that are intended to provide voltage support to the regional transmission system:

- Lightning Shielding Masts;
- Two 500-kV Circuit Breakers;
- 500 kV Bussing;
- 500 kV Group Operated Disconnect Switches;
- 500 kV Surge Arresters;
- 500 kV Potential Transformers;
- Two 500 kV Take-Off Towers;
- Three Three-Phase 500 kV Main Power Transformers (includes one installed spare that would likely be rotated into service within the first 10 years of operation);
- Outdoor Heating Ventilation and Air Conditioning (HVAC) Equipment and Insulated-gate Bipolar Transistor (IGBT)/Convertor Cooling Equipment;
- Outdoor Air Core Reactors;
- Outdoor Medium Voltage Bussing;
- Outdoor Medium Voltage Instrument/Auxiliary Transformers;
- Outdoor Medium Voltage Surge Arresters; and
  Outdoor Medium Voltage Group Operated Disconnect Switches.

In addition, two approximately 4,000 square-foot STATCOM IGBT Valve/Control Enclosures (painted ANSI 70 light gray) would contain the following equipment:

- IGBT Convertors;
- Protective Relaying and Control Equipment;
- Supervisory Control and Data Acquisition (SCADA) Equipment;
- Cooling Equipment;
- AC/DC Auxiliary Power Equipment; and
- Spare Parts and Maintenance Tool Storage.

All major equipment (e.g., power transformers, power circuit breakers, reactors, IGBT value/Control Enclosures, cooling equipment) would be installed on concrete foundations. The maximum amount of oil required for the transformers at the STATCOM Substation facilities would be approximately 18,500 gallons for each of the three transformers. Each transformer would have an oil containment system consisting of an impervious, lined, open or stone-filled sump area around the transformer. The tallest structures within the STATCOM Substation would be the approximately 135- to 199-foot high take-off towers or lightning shielding masts. The take-off towers would be set approximately 20 to 25 feet below ground-level.

In addition to the electrical equipment, the STATCOM Substation would include the following facilities or components:

- Signage and lighting;
- Access road improvements and new access road construction;
- A stormwater detention basin and conveyance system;
- Chain link and barb wire security fencing approximately nine feet in height with secure gates accessible only by LSPGC staff and emergency services personnel;
- Transformer oil containment basins designed to contain the oil volume of the transformers plus the 25-year 24-hour storm; and

- Electric distribution power connection.

Lighting would be installed at the STATCOM Substation and would conform to National Electric Safety Code (NESC) requirements and other applicable outdoor lighting codes. NESC recommends, as good practice, illuminating the substation facilities to a minimum of 22 lux or two foot candles. The facility would not require 24-hour illumination. Photocell controlled lighting (motion detection) would be provided at a level sufficient to provide safe entry and exit to the STATCOM Substation and Control Building. Additional manually controlled lighting would be provided to create safe working conditions at the STATCOM Substation facility when required. All lighting provided would be shielded and pointed down to minimize glare onto surrounding properties and habitats.

The STATCOM Substation would be primarily powered by station service transformers located within the facility that would step-down the energy from the PG&E 500 kV interconnection transmission lines to distribution power level. An electric overhead distribution line would be installed to provide backup power for the STATCOM Substation facility from an existing PG&E distribution line located along the eastern boundary of the Proposed Project site. The distribution line would be installed on approximately 20 new wood poles that would be placed on the northern side of the Proposed Project's east-west access road and into the STATCOM Substation facility. The distribution poles would be set approximately 8 to 10 feet below ground level and would be approximately 30 to 40 feet tall.

The STATCOM Substation facility would also include a stormwater management system consisting of a stormwater drainage and conveyance system and an approximately 1,250-cubic-yard stormwater detention basin. The STATCOM Substation pad would be graded to drain directly toward the stormwater detention basin. This would drain via a lined ditch to the basin. The earthen stormwater detention basin would not be lined, allowing for infiltration and groundwater recharge.

The stormwater detention basin is designed to capture the runoff from the 100-year storm, 24-hour rainfall event and then release the captured water over 48 hours. Overflow from the detention basin would be returned to sheet flow via a level spreader that would provide for sheet flow of the stormwater to the adjacent land surface during storms that exceed the basin's design capacity. The level spreading approach would control erosion and prevent scouring at discharge locations. All facilities at the STATCOM Substation, including the associated access roads and stormwater drainage and conveyance system, would occur within the property line of the approximately 20-acre parcel to be owned by LSPGC.

1.3.2. Access Roads

The Proposed Project would require the improvement of two existing dirt access roads that would connect the site to West Jayne Avenue. One private dirt road is located along the southern property line, and the other private unpaved farm road parallels the eastern PG&E Gates Substation property line. Both access roads would be widened to 20 feet and graded to accommodate construction, as well as operation and maintenance (O&M) vehicles. The access roads would be improved with dust resistant base rock or gravel to maintain an all-weather roadway and the driveway approach at the intersection with West Jayne Avenue would be paved for approximately 100 feet to avoid track out. The total length of this access road is 4,220 feet and the disturbance area is 1.96 acres.

The Proposed Project would also require the development of one new access road, which would provide internal access within the STATCOM Substation facility during construction and O&M. The internal road would be graveled or rocked and would loop around the STATCOM Substation. This new road would be approximately 20 feet wide and approximately 3,200 feet long and would include a gate at both end points. Construction of this internal access road would include grading and rocking per the final Project design. Permanent gates would be installed at both STATCOM Substation facility driveways. Access roads are depicted in **Figure 2**.

1.3.3. Other Potentially Required Facilities

PG&E Interconnection Upgrades

The expansion and upgrading of the PG&E Gates Substation would be required for the interconnection of the STATCOM Substation facility and is not part of LSPGC's Proposed Project but it is considered a connected project for purposes of California Environmental Quality Act (CEQA) compliance. Per PG&E's current plans, PG&E would own all new structures located on PG&E property and would have permitting responsibility for two new circuits of gas insulated bus (GIB) that would be installed between each of Bay #2 and Bay #6 of the PG&E Gates Substation 500 kV yard and the future dead-end structures on PG&E property (total of approximately 5,300 feet of GIB). Both circuits would cross below several existing PG&E overhead transmission lines. PG&E would also be responsible for modification of the Gates Substation to provide a new bus position at Bay #2 and Bay #6, one for each STATCOM unit. This would require the addition of two to four new 500 kV breakers, 500 kV disconnect switches, protection and control devices and associated equipment.

In addition, PG&E would also install the two approximately 300-foot long 500 kV single-circuit overhead interconnection transmission lines. These would connect each of the proposed STATCOM units to the existing PG&E Gates Substation. The interconnection transmission lines would extend north from the PG&E owned tubular steel poles or lattice steel dead-end towers to the Proposed Project's take-off towers. The LSPGC-owned take-off towers would serve as the Point of Change of Ownership (POCO). PG&E would be responsible for the stringing of the 500 kV conductors to the take-off towers.

Two fiber optic communication lines (one for each 500 kV circuit) would be installed between the STATCOM Substation facility and the PG&E Gates Substation. The communication lines would be routed underground or overhead across the PG&E property to the POCO position on the Proposed Project site. PG&E would be responsible for the continuation of the communication lines into their terminal locations within the Gates Substation.

1.3.4. Future Expansions and Equipment Lifespans

Other than the initial construction of the Proposed Project, there is no reasonably foreseeable plan for any future upgrades or expansion at the Project site. Additionally, there are no foreseeable consequences of the Proposed Project, as this Project would provide voltage support to the existing PG&E transmission system and would ensure additional voltage support upgrades would not be needed elsewhere. The expected usable life of all Project facilities is 40 years.

1.3.5. Below-ground Conductor / Cable Installations

Below-grade work would include the construction of equipment foundations, oil containment for transformers, the grounding grid, low voltage cable needed for the STATCOM equipment, telecommunication lines, conduit, and erection of the control enclosures. No other below grade work or cable installations are proposed.

1.3.6. Telecommunication Lines

The Proposed Project would include a SCADA system that would consist of fully redundant servers, power supplies, and Ethernet Local Area Network (LAN) and Wide Area Network (WAN) connections, routers, firewalls, and switches. It is anticipated that two telecommunication lines would be brought into the STATCOM Substation facility. The primary telecommunication connection would be provided by AT&T and would be routed undergrounded approximately 7,700 feet from east along the northern road shoulder of West Jayne Avenue (e.g., public rights-of-way [ROW]) and then north along the Project's access roads, and finally into the STATCOM Substation facility (**Figure 2**). The secondary telecommunication would parallel the first telecommunication line through the east-west and north-access road for approximately 2,500 feet, and would connect to a telecommunication line that runs diagonally through the north-south access road and into eventually into the PG&E Gates Substation. The secondary telecommunication line would be connected within the boundary of the north-south access road (**Figure 2**).

Additionally, LSPGC is evaluating a second medium that would provide telecommunication diversity back to its offsite control center. This communication medium would likely be a Long-Term Evolution (LTE) cellular connection from the control enclosures located within the STATCOM Substation. An LTE antenna (approximately 10 inches tall) would be mounted to one of the control enclosures to boost the LTE cellular connection at the Project site.

1.4. Agency Consultation

Heritage Environmental Consultants (Heritage) attended a biological resources planning meeting on March 19, 2020 with California Department of Fish and Wildlife (CDFW) Region 4 representatives, during which potential biological concerns surrounding the Proposed Project were discussed. During this meeting it was recommended by CDFW representatives that Swainson's hawk (*Buteo swainsoni,* SWHA) protocol surveys be conducted for the Proposed Project. No other biological concerns were raised during this meeting and CDFW confirmed that no other species-specific protocol-level surveys would be required. Heritage submitted a Swainson's Hawk Survey Plan – Gates 500 kV Dynamic Reactive Support Project on March 30, 2020. The plan proposed a 0.5-mile buffer (Swainson's Hawk Technical Advisory Committee 2000) for surveys beginning in April 2020. The plan was approved by Carrie Swanberg of CDFW on April 7, 2020. The California Public Utilities Commission's (CPUC) project manager, Ms. Patricia Kelly, also attended this meeting.

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 1 General Vicinity

Fresno County, CA

LEGEND

Project Components

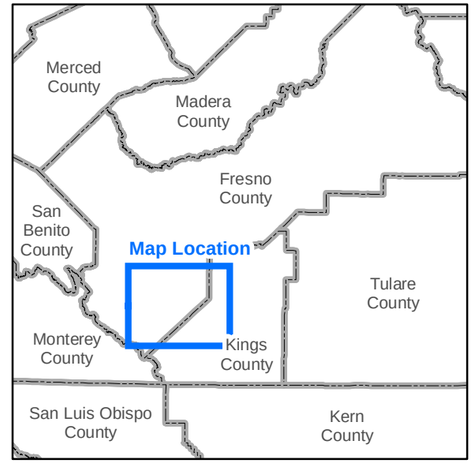
- Project Site

General Features

- Interstate
- Highway
- Railroad
- Municipal Boundary
- County Boundary

0 1 2 3 4 5
Miles

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 1 General Vicinity 072120



Data Sources: ESRI, Fresno Co., USDA, USGS. SPCS NAD83 CA Zone IV Feet. F:...\\032819.mxd RNC 5-14-19

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 2 Project Location

Fresno County, CA

S Lake Ave

S Trinity Ave

S Lassen Ave

W Phelps Ave

W Jayne Ave

5

269

LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality

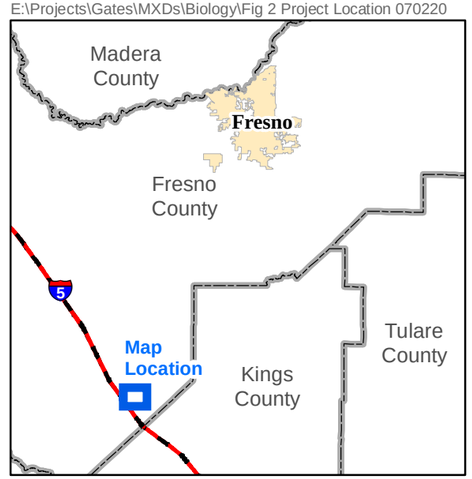
0 0.1 0.2 0.3 0.4 0.5

Miles

SPCS NAD 83, CA Zone IV, US Ft.

Data Sources: CalTrans, ESRI, Fresno County, USDA.

E:\Projects\Gates\MXDs\Biology\Fig 2 Project Location 070220



2. Methods

2.1. Literature Review

This Biological Resources Technical Report (BRTR) describes all biological resources considered to be within the scope of the BRTR Standards checklist (CPUC 2019). Prior to conducting field surveys, Heritage conducted a literature review and records search for information on occurrences of special-status species in the vicinity of the Proposed Project. The following databases/resources were reviewed for occurrences within five miles of the area (defined by the CPUC as the Project region):

- CDFW's Special Animals List.
- California Natural Diversity Database (CNDDB).
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants.
- Western Bat Working Group (WBWG) priority species lists.
- National Wetlands Inventory (NWI).
- United States Geological Survey (USGS) 7.5-minute topographical maps of the Project site and vicinity.
- United States Fish and Wildlife Service (USFWS): Critical Habitat for Threatened and Endangered Species.
- USFWS: Information for Planning and Consultation (IPaC) Project Planning Tool.

Species are considered to have special status if they meet at least one of the following criteria:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (50 CFR § 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR § 40, February 28, 1996).
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 CCR § 670.5).
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.).
- Species that meet the definitions of rare and endangered under the California Environmental Quality Act (CEQA) Section 15380.
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (California Rare Plant Rank 1A, 1B, 2A, and 2B) as well as California Rare Plant Rank 3 and 4 plant species.
- Species designated by CDFW as Fully Protected or a Species of Special Concern.
- Species protected under the federal Bald and Golden Eagle Protection Act (BGEPA).
- Birds of Conservation Concern (BCC) or Watch List species.
- Bats considered by the Western Bat Working Group (WBWG) to be "high" or "medium" priority (Western Bat Working Group 2020a).

Sensitive vegetation communities and habitats include:

- Sensitive vegetation communities/habitats identified in local or regional plans, policies, or regulations, or designated by CDFW or USFWS.
- 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 CDFW and USFWS.
- Habitat that supports CDFW Species of Special Concern.
- Areas that provide habitat for rare and endangered species and that meet the definition in CEQA Guidelines Section 15380.
- Existing game and wildlife refuges and reserves.
- Lakes, wetlands, estuaries, lagoons, streams, and rivers.
- Riparian corridors.

The results of the literature review were compiled to create a list of plant and wildlife species and sensitive vegetation communities or habitats that could potentially occur in the Project area. Each species was analyzed for potential to occur in the area (Section 3).

2.2. Biological Resources Survey Area

The Proposed Project site, the proposed access road that exits the site in the southeast corner and runs east along an unnamed dirt farm road then south along Trinity Avenue to Jayne Avenue and the telecommunications line in Jayne Avenue were given a 1,000-foot buffer which is referred to as the Biological Resources Survey Area (Survey Area, as shown on **Figures 3 and 4**). This Survey Area includes all areas of permanent and temporary impacts associated with the construction of the Proposed Project and is the area for which special-status species occurrence potential was analyzed.

2.3. Biological Surveys

On May 22, 2019, Heritage biologists performed a general survey of the Survey Area. This survey was conducted to analyze the potential for occurrence of special-status species plants and animals, sensitive vegetation communities and habitats, and document vegetation cover types and aquatic resources within the Survey Area.

2.3.1. Swainson's Hawk Surveys

The SWHA is listed as a California state-threatened species under the CESA. Consistent with the Swainson's Hawk Technical Advisory Committee's (2000) "Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley", and per the CDFW-approved survey plan, surveys were conducted within a 0.5-mile buffer around the Proposed Project (the 0.5-mile buffer was placed around Gates Substation and the entire parcel that the Proposed Project is located on). A qualified raptor biologist conducted surveys in a manner that maximized the potential to observe adult SWHA and nests within the buffer. All potential nest trees and shrubs within the 0.5-mile radius were surveyed for the presence of SWHA nests. A total

of seven surveys were conducted from April 5 to July 30, 2020. A report detailing the results of the SWHA surveys is in **Appendix C**.

3. Regulatory Setting

Several regulations have been established by federal, state, and local agencies to protect and conserve biological resources. The discussion below provides a brief overview of agency regulations that may be applicable to the resources that could occur within the area of the Proposed Project and their respective requirements. The final determination of whether permits are required is made by the regulating agencies.

3.1. Federal

3.1.1. Federal Endangered Species Act of 1973

The ESA of 1973 (16 United States Code [U.S.C.] 1531–1544), as amended, protects federally listed threatened and endangered species from unlawful take. "Take" under the ESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS regulations define harm to include some type of "significant habitat modification or degradation."

3.1.2. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703 et seq.) makes it unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess; offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried, or received any native migratory bird, part, nest, egg or product. Nearly all North American species are classified as "migratory birds" and are subject to protection under this act, including all species that are discussed in this document. The United States Department of the Interior (USDOI) Office of the Solicitor's memorandum M-37050 clarified USDOI policy with respect to the MBTA and concluded that "the take of birds, eggs or nests occurring as a result of an activity, the purpose of which is not to take birds, eggs or nests, is not prohibited by the MBTA." Under this opinion, incidental take (takings and/or killings that directly and foreseeably result from, but are not the purpose of, an activity) of migratory bird species was not strictly prohibited by the MBTA. The ESA, Bald and Golden Eagle Protection Act (BGEPA), and California state laws and regulations were not changed by M-37050. On August 11, 2020, the United States District Court for the Southern District of New York vacated M-37050 and remanded the U.S. DOI for further proceedings. U.S. DOI has proposed, but not yet finalized, regulations that would codify M-37050. As discussed in further detail in Section 3.2, California's Migratory Bird Protection Act was created in response to M-37050.

3.1.3. Bald and Golden Eagle Protection Act

The BGEPA (16 U.S.C. 668-668c), enacted in 1940 and as amended, prohibits anyone, without a permit issued by the USFWS, from "taking" bald and golden eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." For the purposes of these guidelines, "disturb" means: "to agitate or bother a

bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available:

1. injury to an eagle; or
2. a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior;
3. nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

3.1.4. Clean Water Act

The Clean Water Act (CWA; 33 USC 1251 et seq.), as amended, provides a structure for regulating the discharge of pollutants into the waters of the U.S. Through the CWA, the Environmental Protection Agency (EPA) is given the authority to implement pollution control programs. These include setting wastewater standards for industry and water quality standards for contaminants in surface waters. The discharge of any pollutant from a point source into navigable waters is illegal unless permitted under the act's provisions.

Section 404 of the CWA regulates the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other waters of the US. The U.S. Army Corps of Engineers (ACOE) is the federal agency authorized to issue Section 404 permits for certain activities conducted in wetlands or other waters of the U.S. Section 401 of the CWA grants each state the right to ensure that the state's interests are protected on any federally permitted activity resulting in any discharge into navigable waters within the state. In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing Section 401 of the CWA. For a proposed project that requires an ACOE CWA Section 404 permit, the RWQCB must certify that such discharge complies with state water quality standards through a Water Quality Certification determination under Section 401 of the CWA.

3.2. State

3.2.1. California Endangered Species Act

The CDFW administers the CESA, which prohibits the "taking" of listed species except as otherwise provided in state law. Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under certain circumstances, the CESA applies these take prohibitions to species petitioned for listing (state candidates). Pursuant to the requirements of the CESA, state lead agencies (as defined under CEQA Public Resources Code Section 21067) are required to consult with the CDFW to ensure that any action or project is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. Additionally, the CDFW encourages informal consultation on any proposed project that may impact a candidate species. The CESA requires the CDFW to maintain a list of threatened and endangered species. The CDFW also maintains a list of candidates for listing under the CESA and of species of special concern (or watch list species).

3.2.2. State Fully Protected Species

California Fish and Game Code Sections 3511, 4700, 5050 and 5515 designate 37 species of wildlife as Fully Protected in California. The classification of Fully Protected was the state's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles, birds, and mammals. Most fully protected species have also been listed as threatened or endangered species under ESA and/or CESA. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

3.2.3. California Fish and Game Code Section 1602

Under Section 1602 of the Fish and Game Code, CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. Section 1602 of the Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the CDFW before beginning the project. If the CDFW determines that the project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required.

3.2.4. Native Plant Protection Act

The Native Plant Protection Act (NPPA; California Fish and Game Code Section 1900-1913) prohibits the taking, possessing, or sale within the state of any plant listed by CDFW as rare, threatened, or endangered. An exception to this prohibition allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW at least 10 days prior to the initiation of activities that would destroy them. The NPPA exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way."

3.2.5. California Environmental Quality Act

CEQA requires lead agencies to evaluate the environmental impact associated with a proposed project. CEQA requires that a local agency prepare an Environmental Impact Report (EIR) on any project it proposes to approve that may have a significant effect on the environment or a Mitigated Negative Declaration if the project would not have significant or unmitigable effects. The purpose of a CEQA document is to provide decision-makers, public agencies, and the general public with an objective document that fully discloses the potential environmental effects of a proposed project. The process is specifically designed to objectively evaluate and disclose potentially significant direct, indirect, and cumulative impacts of a proposed project; to identify alternatives that may reduce or eliminate a project's significant effects; and to identify feasible measures that mitigate significant effects of a project.

3.2.6. Porter-Cologne Water Quality Control Act

The Porter-Cologne Act grants the SWRCB and the RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal CWA. Any person proposing to discharge waste to waters of the state within any region must file a report of waste discharge with the appropriate regional board.

3.2.7. California Migratory Bird Protection Act

Assembly Bill (AB) No. 454 is an act to amend, repeal, and add Section 3513 of the California Fish and Game Code, relating to migratory birds. This act, which was approved by the governor on September 27, 2019 relates to the M-37050 memorandum to the federal MBTA. This AB amends Section 3513 to read: "It is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.) before January 1, 2017, any additional migratory nongame bird that may be designated in that federal act after that date, or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act before January 1, 2017, or subsequent rules or regulations adopted pursuant to that federal act, unless those rules or regulations are inconsistent with this code." AB-454 effectively disregards M-37050 of the MBTA in the state of California and continues to follow the pre-January 1, 2017 MBTA regulations.

3.3. Local

The CPUC has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (GO 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 the county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. Because the CPUC has exclusive jurisdiction over the Proposed Project siting, design, and construction, the Proposed Project is not subject to local land use and zoning regulations or discretionary permits. This section identifies local biological resources related plans and regulations for informational purposes.

3.3.1. Fresno County General Plan

The following relevant biological policies from the Fresno County General Plan (Fresno County 2000) were reviewed, and the following summaries are provided for informational purposes only:

- ***Policy OS-E.1:*** The County shall support efforts to avoid the "net" loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of

creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.

- ***Policy OS-E.2:*** The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both on-site habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the USFWS and/or the CDFW.
- ***Policy OS-E.3:*** The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.
- ***Policy OS-E.4:*** The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the CDFW officials and the USFWS.
- ***Policy OS-E.6:*** The County shall ensure the conservation of large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife populations, as long as this preservation does not threaten the economic well-being of the County.
- ***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. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.
- ***Policy OS-E.10:*** The County shall support State and Federal programs to acquire significant fish and wildlife habitat areas for permanent protection and/or passive recreation use.
- ***Policy OS-E.17:*** The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with State and Federal endangered species laws.
- ***Policy OS-E.18:*** The County should preserve areas identified as habitats for rare or endangered plant and animal species primarily through the use of open space easements and appropriate zoning that restrict development in these sensitive areas.
- ***Policy OS-B.2:*** The County shall work closely with agencies involved in the management of forest ecosystems and shall coordinate with State and Federal agencies, private landowners, and private preservation/ conservation groups in habitat preservation and protection of rare, endangered, threatened, and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be

preserved. The County shall encourage State and Federal agencies to give notice to and coordinate with the County on any pending, contemplated, or proposed actions affecting local communities and citizens of the County. The County will encourage State and Federal agencies to address adverse impacts on citizens and communities of Fresno County, including environmental, health, safety, private property, and economic impacts.

- ***Policy OS-F.5:*** The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.
- ***Policy OS-F.8:*** The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.

4. Existing Conditions

4.1. Biological Resource Setting

The Proposed Project is located in the San Joaquin Valley in southwestern Fresno County, California approximately 3.3 miles southwest of the town of Huron and 13 miles east of Coalinga. The Proposed Project is located to the east of the California Southern Coast Range. The Kettleman Hills are located approximately five miles south and southwest of the Proposed Project area. These hills separate the San Joaquin Valley to the east and Pleasant Valley and the Kettleman Plain to the west. The Guijarral Hills are located approximately 4.3 miles west of the Proposed Project. The San Luis Canal, which connects to the California Aqueduct is located approximately four miles to the east of the Proposed Project. The Proposed Project area, Biological Resources Survey Area and a majority of the land within the Project vicinity are dominated by agricultural land (vineyards, orchards, and row crops) and disturbed or developed areas (such as the Gates Substation, solar facilities, heavily disturbed fields, and paved and dirt roads). There are no native habitats within about four miles of the Project site. The nearest native habitats are located within the Kettleman Hills to the south of the Proposed Project. The Proposed Project is located entirely within an active vineyard and the proposed access roads are located on existing and frequently used dirt roads (Trinity Avenue and a private unnamed farm road). There is a vacant area owned by PG&E located immediately south of the Proposed Project and north of Gates Substation that is regularly disturbed (it appears to be disked). All Proposed Project components would be located on existing agricultural (vineyard) and disturbed lands; the Proposed Project is not within any biologically diverse areas. Very few wildlife species were observed during field surveys and all of the common species that were observed in the Survey Area were typical for agricultural and disturbed habitats, including killdeer (*Charadrius vociferus*), western kingbird (*Tyrannus verticalis*), red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), Eurasian collared-dove (*Streptopelia decaocto*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), rock pigeon

(*Columba livia*), great horned owl (*Bubo virginianus*), black-headed grosbeak (*Pheucticus melanocephalus*), common raven (*Corvus corax*), and red-tailed hawk (*Buteo jamaicensis*). Photographs of the Proposed Project and Survey Area are included in **Appendix A**.

4.2. Soils, Topography, and Drainage

Two different soil types are located within the Survey Area (USDA NRCS, 2019). Westhaven loam dominates the area with Kimberlina sandy loam occurring in a very small area south of Gates Substation at the very southern edge of the Survey Area. **Figure 3** shows the soil types within the Survey Area and the vicinity.

The Project region (5-mile buffer) ranges in elevation from 304 to 910 feet above mean sea level (amsl), with the highest points in the Kettleman Hills and lowest near the San Luis Canal. Elevations within the Survey Area are very flat and range from 387 to 406 feet amsl (USGS 2020).

Water flows generally from the southwest and west off the Coast Range towards the San Joaquin Valley floor to the northeast and east. Los Gatos Creek is located approximately 3.1 miles to the northwest of the Proposed Project. This creek drains from the Coast Range south and west of the town of Coalinga to an area north and east of the town of Huron where the creek ends approximately 2.75 miles west of the San Luis Canal. The Zapato Chino Creek joins Los Gatos Creek approximately 3.75 miles west-northwest of the Proposed Project, flowing from the Coast Range to the southwest. There are no natural water features within the Survey Area. The only drainage feature located within the Survey Area is a small roadside agricultural ditch that is located immediately south of Jayne Avenue to the south of the Proposed Project access road (Trinity Avenue). The town of Coalinga (approximately 13 miles east of the Proposed Project) averages 8.25 inches of precipitation per year (U.S. Climate Data 2020). A similar amount of precipitation likely occurs in the Survey Area. Due to the very flat nature of the Proposed Project area, stormwater likely pools beneath vines, orchard trees, and in row crops and disturbed areas and either infiltrates or flows along the dirt and paved roads or between crop rows.

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 3 Soil Types

Fresno County, CA

S Trinity Ave

W Jayne Ave

LEGEND

Project Components

- Primary Telecommunications Line
- Secondary Telecommunications Line
- Access Road
- Site Boundary - Approx. 20 Acres
- Biological Resources Survey Area

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

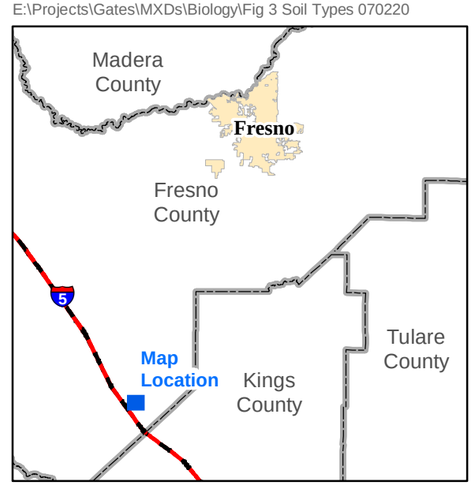
Soil Types

- Excelsior sandy loam, sandy substratum, 0-2% slopes
- Kimberlina sandy loam, 0-2% slopes
- Westhaven loam, 0-2% slopes

0 250 500 750 1,000

Feet

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 3 Soil Types 070220



4.3. Vegetation Communities and Land Cover Types

The approximately 463.8-acre Survey Area only supports non-native vegetation communities , and no native vegetation communities or wildlife habitats exist within about four miles of the Proposed Project. Since there are no natural vegetation communities, no formal vegetation classification system was used. A vacant area owned by PG&E is located immediately south of the Proposed Project and north of the PG&E Gates Substation and is regularly disturbed (it appears to be disked).

The Proposed Project, Survey Area, and a majority of the Project region are dominated by agricultural land (vineyards, orchards, and row crops) and disturbed or developed areas such as the PG&E Gates Substation, solar facilities, heavily disturbed fields, and paved and dirt roads. All components of the Proposed Project would be located on existing agricultural (vineyard) and disturbed lands. Proposed access roads are located on existing and frequently used dirt roads (Trinity Avenue and a private unnamed farm road).

The approximate acreage of each of the vegetation communities and land cover types that were mapped within the Survey Area is summarized in **Table 1**. Brief descriptions of each land cover type are provided following the table. Vegetation community and land cover mapping is shown on **Figure 4**. None of the vegetation communities and land cover types that were mapped with the Survey Area are considered sensitive.

Table 1 – Vegetation Communities and Land Cover Types within the Survey Area

Vegetation Community or Land Cover Type Name	Approximate Acreage in Survey Area	Percent of Total Acreage
Disturbed Habitat	185.8	40%
Agriculture – Row Crops	90.0	19%
Agriculture – Orchard	93.1	20%
Agriculture – Vineyard	94.9	21%
Total	**463.8**	**100%**

Disturbed

Disturbed areas (40 percent of the Survey Area) support no vegetation or sparsely distributed non-native vegetation due to human activities. This cover type includes developed areas such as the Gates Substation, paved roads and compacted dirt roads, and frequently disturbed (disked) lands immediately north and southeast of the PG&E Gates Substation that support only sparse, non-native vegetation communities. No small mammal burrows were observed in this cover type.

Agriculture – Row Crops

Row crops (19 percent of the Survey Area) are comprised entirely of crops including vegetables and alfalfa. These areas are frequently harvested. Row crops are currently found immediately east

of the Proposed Project across South Trinity Avenue as well as immediately south and southeast of the Gates Substation across West Jayne Avenue.

Agriculture – Orchard

Orchards (20 percent of the Survey Area) are comprised entirely of citrus and nut trees. Orchards are currently located immediately east of the Gates Substation and the proposed access road along South Trinity Avenue.

Agriculture – Vineyard

Vineyards (21 percent of the Survey Area) are comprised entirely of grape vines. The Proposed Project is located entirely within the vineyard cover type.

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 4 Vegetation Communities

Fresno County, CA

VINEYARD
VINEYARD
ROW CROPS
ROW CROPS
ROW CROPS
ORCHARD
ORCHARD
DISTURBED
DISTURBED
ORCHARD
ROW CROPS
ROW CROPS
S Trinity Ave
W Jayne Ave

LEGEND

Project Components

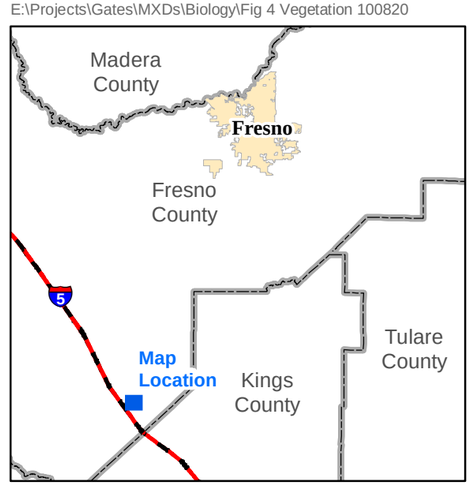
- Primary Telecommunications Line
- Secondary Telecommunications Line
- Access Road
- Site Boundary - Approx. 20 Acres
- Biological Resources Survey Area

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Agricultural Ditch
- Interstate
- Gates Substation
- County Boundary
- Municipality

0 250 500 750 1,000
Feet

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 4 Vegetation 100820



4.4. Special-Status Plants

Special-status plant species are those which are listed, or are candidates to be listed, by the ESA or CESA, listed as rare by the NPPA, and plants considered by the CNPS to be rare, threatened, or endangered in California. All special-status species plants listed in the IPaC (USFWS 2020a), CNPS (CNPS 2020), and CNDDB (CDFW 2020b) occurrence records within the 5-mile Project region were evaluated for their potential to occur within the Survey Area based on the presence of suitable habitat, elevation, and soils (**Table 2**). The IPaC report is provided in **Appendix B**; CNDDB records are shown on **Figure 5**. There is no USFWS critical habitat for special-status species plants mapped within 5 miles of the Proposed Project (USFWS 2020a). Based on the literature review, 8 special-status plant species were evaluated for their potential to occur within the Survey Area (**Table 2**).

No special-status species plants were observed within the Survey Area during biological surveys, although the surveys were not conducted within the blooming or phenological identification period for most species. Due to the high level of disturbance associated with agricultural operations and the PG&E Gates Substation, as well as the lack of native vegetation, it was concluded that the Survey Area does not contain suitable habitat for special-status plant species, and none are expected to occur.

4.5. Special-Status Wildlife

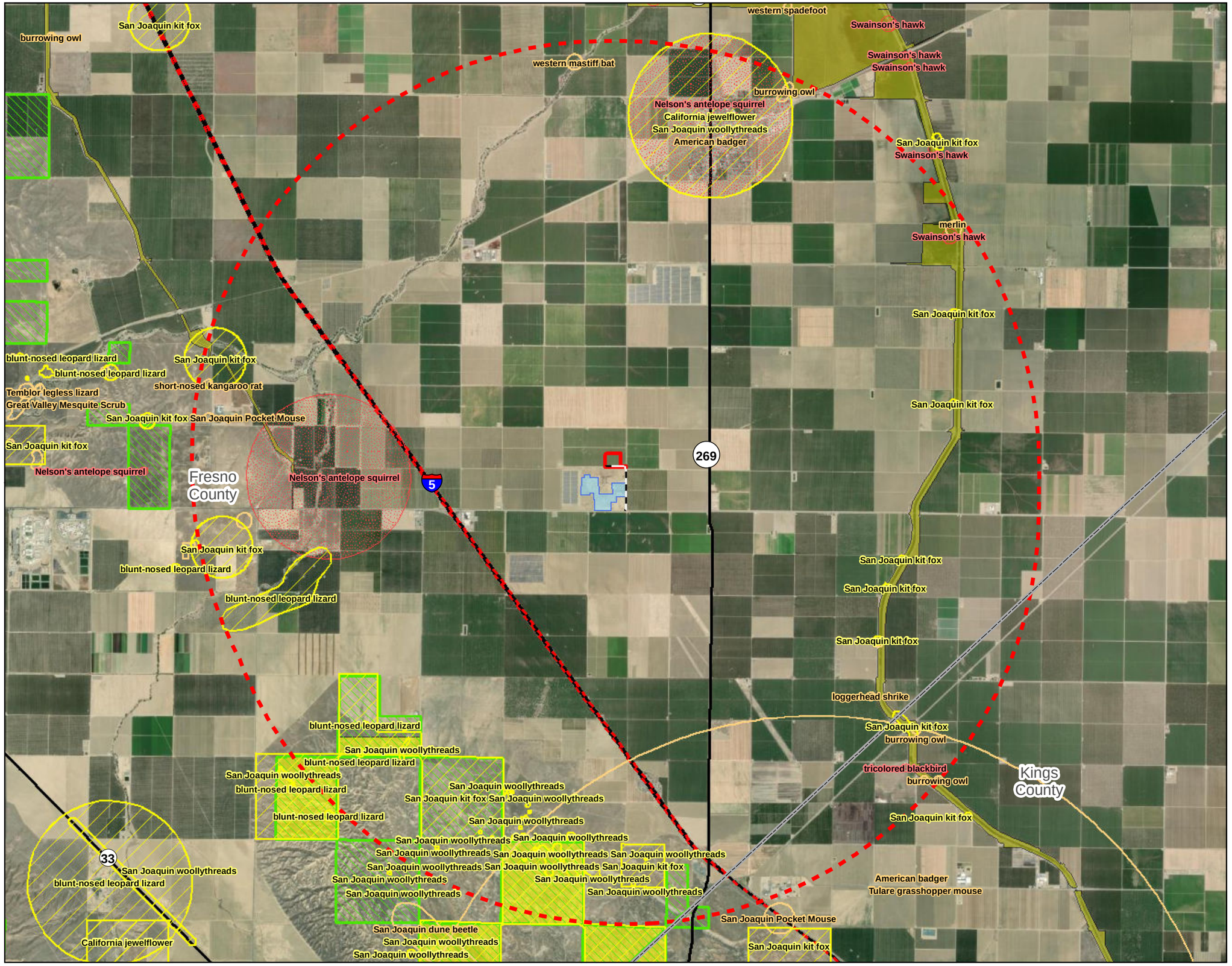
Special-status wildlife species are those that are listed or are candidates to be listed by the ESA or CESA, species protected by the BGEPA, CDFW Fully Protected and Species of Special Concern, Birds of Conservation Concern, Watch List species, and bats considered by the WBWG to be "High" or "Medium" priority (WBWG 2020a). All special-status species wildlife listed in the IPaC (USFWS 2020a), CNDDB (CDFW 2020b) occurrence records within the 5-mile Project region and the WBWG priority bats that were determined to have an overlapping range with the Proposed Project (WBWG 2020b) were evaluated for their potential to occur within the Survey Area based on the presence of suitable habitat (**Table 2**). The IPaC report is provided in **Appendix B**; CNDDB records are shown on **Figure 5**. There is no USFWS critical habitat for special-status species wildlife mapped within five miles of the Proposed Project (USFWS 2020a). Based on the literature review, 17 special-status species mammals, six birds, two reptiles, two amphibians, one fish, and one crustacean were evaluated for their potential to occur within the Survey Area (**Table 2**).

Only one special-status bird (loggerhead shrike, *Lanius ludovicianus,* USFWS Bird of Conservation Concern, CDFW Species of Special Concern) was identified as having moderate or high potential to occur within the Survey Area. Raptors (protected by the MBTA and the California Fish and Game Code) were also identified as having a high potential to occur within the Survey Area. The rest of the species that were analyzed for occurrence in the Survey Area are not expected to occur or are considered to have a low potential to occur. The loggerhead shrike and raptor species that have been or may be encountered within the Survey Area are described in more detail following **Table 2**.

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 5 CNDDB

Fresno County, CA



LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres
- 5-Mile Buffer - Project Region

General Features

- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality
- Area of Critical Environmental Concern

Jurisdictional Land Ownership

- Bureau of Land Management Land
- Bureau of Reclamation Land
- Private Land (No Shading)

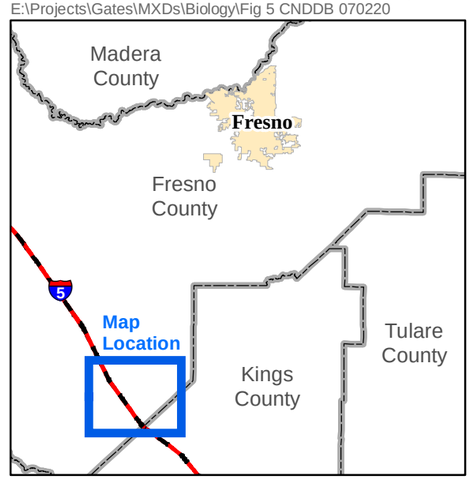
CNDDB

- Endangered Speices
- CA Threatened Species
- CA Species of Concern

0 0.5 1 1.5 2 2.5

Miles

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: BLM, CalTrans, CDFW, ESRI, Fresno Co., USDA.
E:\Projects\Gates\MXDs\Biology\Fig 5 CNDDB 070220



Special Status Species Descriptions

The following special status descriptions are used in **Table 2**.

- **FE** = Federally Endangered
- **FT** = Federally Threatened
- **SE** = State Endangered
- **ST** = State Threatened
- **CSSC** = California Species of Special Concern
- **CFP** = California Fully Protected
- **CFGC** = California Fish and Game Code Protected
- **BCC** = USFWS Bird of Conservation Concern
- **MBTA** = Migratory Bird Treatment Act Protected
- **1B.1**: Plants rare, threatened, or endangered in California and elsewhere, seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- **1B.2**: Plants rare, threatened, or endangered in California and elsewhere, moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
- **4.2**: Plants of limited distribution – a watch list, moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
- **Western Bat Working Group-H (WBWG-H)**: The High (H) 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 (M) designation indicates 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.

Table 2 – Special-Status Species Potential for Occurrence in the Survey Area

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Plants				
Crownscale	*Atriplex coronata var. coronata*	4.2	Usually occurs in wetlands in vernal pool habitats. Occurs in shadscale scrub, valley grasslands, freshwater wetlands, and riparian habitats. Occurs at elevations below 650 feet. This annual herb blooms from March through October (Calflora 2020, Jepson 2020).	Not expected to occur within the Survey Area based on lack of vernal pools or other natural riparian areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Brittlescale	*Atriplex depressa*	1B.2	Occurs in shadscale scrub, valley grasslands, alkali sink, and riparian habitats in saline or alkaline clay soils. Occurs at elevations below 1,000 feet. This annual herb blooms between April and October (Calflora 2020, Jepson 2020).	Not expected to occur within the Survey Area based on lack of suitable habitats and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
California Jewelflower	*Caulanthus californicus*	FE, SE, 1B.1	Occurs in non-native grassland, upper Sonoran subshrub scrub, and juniper woodland. Typically occurs in areas with dense herbaceous cover and in primarily subalkaline, sandy loams. Occurs at elevations between 240 and 2,950 feet. This annual herb blooms from February through May (USFWS 1998, Calflora 2020, Jepson 2020).	Not expected to occur within the Survey Area based on lack of suitable habitats and the high level of disturbance at the site and in surrounding areas. The nearest CNDDB occurrence was recorded approximately 5 miles north of the Proposed Project, but that occurrence has been extirpated (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Lemmon's Jewelflower	*Caulanthus lemmonii*	1B.2	Occurs in grasslands, chapparal and scrub habitats. Occurs at elevations between 260 and 3,280 feet. This annual herb blooms from March through May (Calflora 2020, Jepson 2020).	Not expected to occur within the Survey Area based on lack of suitable habitats and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Recurved Larkspur	*Delphinium recurvatum*	1B.2	Occurs in poorly drained, fine, alkaline soils in shadscale scrub, valley grassland, and foothill woodland. Occurs at elevations between 100 and 2,000 feet. This perennial herb blooms from March through June (Calflora 2020, Jepson 2020).	Not expected to occur within the Survey Area based on lack of suitable habitats and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Kern Mallow	*Eremalche parryi ssp. Kernensis*	FE, 1B.2	Occurs primarily in Valley saltbush scrub habitats where it grows under and around saltbushes. Occurs in alkaline sandy loam or clay soils at elevations between 315 and 900 feet. Only known to occupy a small range near Lokern, CA. This annual herb blooms from March through May (USFWS 1998, Calflora 2020).	Not expected to occur within the Survey Area based on lack of suitable habitats, distance to the only known population (approximately 60 miles southeast of Project), and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Hoover's Eriastrum	*Eriastrum hooveri*	4.2	Occurs in alkali sinks, washes, on slopes, and on ridgetops. Occurs in a wide variety of plant communities between 260 and 920 feet in elevation. This annual herb blooms from March through July (Calflora 2020, Jepson 2020).	Not expected to occur within the Survey Area based on lack of suitable habitats and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
San Joaquin Woolythreads	*Monolopia congdonii*	FE, 1B.2	Occurs in non-native grassland, Valley saltbush scrub, and subshrub scrub. Typically occupies habitats with less than 10% shrub cover and with neutral to subalkaline soils. Occurs at elevations between 300 and 2,300 feet. This annual herb blooms from February through May (Calflora 2020, Jepson 2020)	Not expected to occur within the Survey Area based on lack of suitable habitats and the high level of disturbance at the site and in surrounding areas. The nearest CNDDB occurrences were recorded approximately 5 miles north of the Proposed Project and 4-5 miles south of the Proposed Project in native habitats in the Kettleman Hills (CDFW 2020b).
Mammals				
Giant Kangaroo Rat	*Dipodomys ingens*	FE, SE	Inhabits primarily annual grassland communities with few shrubs, well-drained, sandy-loam soils located on gentle slopes (less than 11 percent) in areas with about 6.3 inches or less of annual precipitation, and free from winter flooding. Develops burrow systems for cover and reproduction (USFWS 1998).	Not expected to occur within the Survey Area based on lack of annual grassland habitats and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
San Joaquin Kit Fox	*Vulpes macrotis mutica*	FE, ST	Inhabits grasslands and scrublands that can have a moderate level of human disturbance, such as active oil fields, wind turbines, and agricultural matrices of row crops, irrigated pasture, orchards, vineyards, and grazed annual grassland. In agricultural areas, San Joaquin kit foxes inhabit grazed, non-irrigated grasslands, but also live next to and forage in tilled or fallow fields, irrigated row crops, orchards, and vineyards. Prefers loose-textured soils for digging but can be found on virtually every soil type (USFWS 1998).	Low potential to occur within the Survey Area based on lack of grassland and rangeland habitat for denning in the vicinity of the Proposed Project. May occasionally traverse the area but is unlikely to den in the Survey Area due to the high level of disturbance. No CNDDB occurrences have been recorded within 3 miles of the Proposed Project, but occurrences have been recorded within 3 and 5 miles of the Proposed Project to the northeast, east, southeast, south, southwest, and west (CDFW 2020b).
Tipton Kangaroo Rat	*Dipodomys nitratoides nitratoides*	FE, SE	Limited to arid-land communities occupying the Valley floor of the Tulare Basin in level or nearly level sites. Sparsely scattered woody shrub cover is associated with high population density, but also occupies annual grassland and grazed annual grassland. Develops burrow systems for cover and reproduction (USFWS 1998).	Not expected to occur within the Survey Area based on the lack of shrubland or annual grassland habitat and the high level of disturbance at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Short-nosed Kangaroo Rat	*Dipodomys nitratoides brevinasus*	CSSC	Generally found on friable soils on flat or gently rolling terrain in grassland or desert shrub vegetation. Uses burrows for cover and reproduction (ESRP 2020).	Not expected to occur within the Survey Area based on lack of grassland or shrubland habitat and the high level of disturbance at the site and in surrounding areas. The nearest CNDDB occurrence was recorded approximately 5 miles west of the Proposed Project in the Guijarral Hills (CDFW 2020b).
American Badger	*Taxidea taxus*	CSSC	Prefers open areas in relatively dry grasslands, open forests and creosote bush scrub, as well as occasionally agricultural land. Prefers areas with sandy/loamy, friable soils where burrowing is easier (CDFW 2020a).	Low potential to occur within the Survey Area. No suitable soils for burrowing exist, but badgers may occasionally traverse the Proposed Project site. The nearest CNDDB occurrences were recorded approximately 4.5 miles north and 5 miles south of the Proposed Project (CDFW 2020b).
Nelson's Antelope Squirrel	*Ammospermophilus nelsoni*	ST	Inhabits the arid grassland, shrubland, and alkali sink habitats of the San Joaquin Valley and surrounding foothills. Uses burrows for cover and reproduction (ESRP 2020).	Not expected to occur within the Survey Area based on the lack of suitable natural habitats and the high level of disturbance on the Project site and in surrounding areas. The nearest CNDDB occurrence was recorded approximately 4.5 miles north of the Proposed Project (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Tulare Grasshopper Mouse	*Onychomys torridus tularensis*	CSSC	Typically inhabits arid shrublands, grasslands, blue oak woodlands, subshrub communities, alkali sink and mesquite shrublands. Prefers hot, arid communities. Uses burrows for cover and reproduction (ESRP 2020).	Not expected to occur within the Survey Area based on the lack of suitable natural habitats and the high level of disturbance on the Project site and in surrounding areas. The nearest CNDDB occurrence was recorded approximately 5 miles south of the Project area (CDFW 2020b).
Western Mastiff Bat	*Eumops perotis californicus*	CSSC, WBWG-H	Primarily a cliff dwelling species where maternity colonies roost under exfoliating rock slabs. These bats have also been found roosting in similar crevices in large boulders or buildings. Forages in large flocks over desert washes, floodplains, grassland and agricultural areas (WBWG 2020b).	Low potential for occurrence within the Survey Area for foraging. No suitable roosting habitat is present, but foraging individuals may occur within vineyards, orchards and row crops in the area. The nearest CNDDB occurrence was recorded approximately 4.5 miles north of the Project area (CDFW 2020b).
Townsend's Big-eared Bat	*Corynorhinus townsendii*	CSSC, WBWG-H	Occurs in a wide variety of habitats including coniferous forests, mixed forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Forages near edge habitats along streams and adjacent to and within a variety of wooded habitats. Requires caves or mines for roosting habitat (WBWG 2020b).	Low potential for occurrence within the Survey Area for foraging. No suitable roosting habitat is present, but foraging individuals may occur within orchards, vineyards, and row crops. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Pallid Bat	*Antrozous pallidus*	CSSC, WBWG-H	Occurs in arid and semi-arid landscapes, primarily found in grasslands, shrub-steppe, and desert environments with rocky outcrops. Utilizes open vegetation for foraging. Most commonly roosts in rock crevices, but buildings, bridges, and trees are also used (WBWG 2020b).	Low potential for occurrence within the Survey Area for foraging. No suitable roosting habitat is present, but foraging individuals may occur within orchards, vineyards and row crops. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Spotted Bat	*Euderma maculatum*	CSSC, WBWG-H	Occurs in a wide variety of habitats from arid, low desert habitats to high elevation coniferous forests. Prominent rock features are a necessary feature for roosting. Forages in close proximity to roost sites (WBWG 2020b).	Not expected to occur within the Survey Area based on the lack of suitable roosting habitats in the vicinity of the Survey Area and because foraging is restricted to areas near roosting sites. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Western Red Bat	*Lasiurus blossevillii*	CSSC, WBWG-H	Prefers riparian woodlands and other forests. Primarily roosts in trees along forest edges adjacent to streams or open fields, but will sometimes use orchards and buildings for day roosts. Forages over open areas near the roosting sites (WBWG 2020b).	Low potential for occurrence within the Survey Area for foraging; could potentially use orchard trees for day roosts. Low likelihood since these bats prefer forested areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Hoary Bat	*Lasiurus cinereus*	WBWG-M	The most widespread bat in the United States. Prefers coniferous and broadleaf trees at the edges of clearings but will also use dense forested areas. Usually roosts in the foliage of trees. Forages in open areas near roosting areas (WBWG 2020b).	Not expected to occur within the Survey Area based on the lack of suitable forest habitats in the vicinity of the Survey Area.
Long-eared Myotis	*Mytois evotis*	WBWG-M	Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests. Roosts under tree bark, in hollow trees, caves, mines, cliff crevices, sinkholes, rocky outcrops, buildings, and under bridges. Forages amongst and along the edges of forested areas (WBWG 2020b).	Not expected to occur within the Survey Area based on the lack of suitable forest habitats in the vicinity of the Survey Area.
Little Brown Myotis	*Myotis lucifugus*	WBWG-M	Widespread and common in mesic, forested areas of temperate North America. Will exploit a wide variety of natural and man-made roost sites in woodland/forested areas where water sources are nearby. Feeds over water and other open areas such as agricultural fields and grasslands (WBWG 2020b).	Not expected to occur within the Survey Area based on the lack of suitable forest habitats in the vicinity of the Survey Area.
Fringed Myotis	*Mytois thysanodes*	WBWG-H	Common in drier woodlands but is found in other habitats such as desert scrub and grassland where forested areas and water sources are nearby. Tends to forage along forest edges. Uses caves, mines and buildings as roost areas (Keinath 2004).	Not expected to occur within the Survey Area based on the lack of suitable forest habitats in the vicinity of the Survey Area.

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Long-legged Myotis	*Myotis volans*	WBWG-H	Primarily occupies coniferous forests but will seasonally use riparian and desert habitats. Uses caves and mine tunnels for hibernaculum. Feeds in and around forest canopies (WBWG 2020b).	Not expected to occur within the Survey Area based on the lack of suitable forest habitats in the vicinity of the Survey Area.
Birds				
Swainson's Hawk	*Buteo swainsoni*	ST, BCC	Overwinters in South America. Habitat in the breeding range consists of open stands of grass dominated vegetation, sparse shrublands, open woodlands, and agricultural lands – primarily those dominated by row, grain, and hay crops. Nests in scattered trees within these landscapes, such as in riparian trees near grasslands or agricultural areas (Bechard et al. 2020).	Low potential to occur within the Survey Area during breeding season. Some potential foraging habitat exists in the row crop fields to the east of the Project area and south of Gates Substation. No Swainson's Hawk nesting habitat, nests, or individuals were observed during protocol-level surveys in 2020. The nearest CNDDB occurrence was recorded approximately 5 miles northeast of the Project area (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
California Condor	*Gymnogyps californianus*	FE, SE	Nesting habitat is typically in cliffs in mountainous areas, but occasionally will use cave-like cavities in large trees such as coast redwood (*Sequoia sempervirens*) and giant sequoia (*Sequoiadendron giganteum*). Forages in relatively open grassland and woodland regions and along coastlines. May range hundreds of miles to forage (Finkelstein et al. 2020)	Low potential to occur within the Survey Area. Foraging is unlikely due to the disturbance levels in the area and the lack of suitable foraging habitat, but potential foraging habitat exists within 5 miles of the Project in the Kettleman Hills to the south. No nesting habitat is present. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Western Burrowing Owl	*Athene cunicularia*	BCC, CSSC	Open habitats with low or sparse vegetation such as prairie pastures, desert or desert scrub, agricultural, and disturbed areas. Especially alongside canals and berms associated with agriculture. Forages over low vegetation and typically will not forage within trees or tall shrubs (Poulin et al. 2020).	Low potential to occur within the Survey Area. Some suitable foraging habitat exists to the east of the Project area and south of Gates Substation in row crop fields, but this species typically does not forage in orchards or vineyards like those present on the Proposed Project site. Some suitable nesting habitat may exist along berms or in the field south of the Proposed Project if burrows are present. No suitable burrows or individuals have been observed during surveys. The nearest CNDDB occurrences were recorded approximately 4.5 miles to the NNE and SE of the Project (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Loggerhead Shrike	*Lanius ludovicianus*	BCC, CSSC	Open country with short vegetation, such as pastures with fence rows, mowed roadsides, golf courses, agricultural fields, riparian areas, and open woodland. Nests are typically located in isolated thorny trees or dense shrubs (Yosef 2020).	Moderate potential to occur within the Survey Area based on suitable foraging habitats existing along roadways, near agricultural fields, and in the disturbed areas north of Gates Substation. Low potential for nesting in orchard trees within the Survey Area. The nearest CNDDB occurrence was recorded approximately 3.75 miles southeast of the Project (CDFW 2020b).
Tricolored Blackbird	*Agelaius tricolor*	BCC, ST	Typically nests in large and dense marshes but in recent decades use of certain agricultural crops and upland shrubs and thistles has increased in the San Joaquin Valley. Annual grasslands with invasive shrubs and weeds are also used. Forages over water, certain agricultural fields, alkali scrub, coast live oak, and other land cover types that support insect prey. Orchards, vineyards and cultivated row crops provide little to no breeding season foraging opportunities (Beedy et al. 2020).	Low potential for occurrence within the Survey Area. Suitable foraging and breeding habitat is limited in extent and quality and may vary contingent on which crops are cultivated in a given year; no suitable agricultural types were observed during field surveys. The nearest CNDDB occurrence was recorded approximately 5 miles southeast of the Project (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
White-tailed Kite	*Elanus leucurus*	CFP	Generally occurs in low elevation grassland, agricultural, wetland, oak-woodland, or savannah habitats. Riparian areas adjacent to open areas are also used. Usually nests in solitary trees but may also nest in larger stands or in shrubs. Prefers foraging over grasslands and near grazed fields, but will also use cultivated land, open woodland, and shrubland (Dunk 2020).	Low potential for occurrence within the Survey Area. White-tailed kites may use row crop fields for foraging, but no suitable habitats for nesting occur. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Raptors		MBTA, CFGC	Various.	High potential for occurrence within the Survey Area. Raptors could be found foraging within vineyards, row crops, and within disturbed areas and perching or nesting on transmission line towers. Red-tailed hawks and active red-tailed hawk nests were observed during Swainson's hawk protocol surveys in 2020. All nests were located on transmission line towers (**Figure 6**).
Reptiles				

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Blunt-nosed Leopard Lizard	*Gambelia sila*	FE, SE	Inhabits open, sparsely vegetated areas of low relief on the floor of the Central Valley and the surrounding foothills. They are generally absent from areas of steep slopes, dense vegetation (such as row crop fields), or areas of seasonal flooding. Requires small mammal burrows for cover and shelter (USWFS 1998).	Not expected to occur within the Survey Area based on the lack of suitable habitat and the high level of disturbance at the site and in surrounding areas. The nearest CNDDB occurrences were recorded approximately 4-5 miles west and southwest of the Project site, primarily near native vegetation within and north of the Kettleman Hills (CDFW 2020b)
Giant Garter Snake	*Thamnophis gigas*	FT, ST	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley with small mammal burrows or other soil crevices to escape floodwaters (USFWS 2016)	Not expected to occur within the Survey Area based on lack of perennial waterways at the site and in surrounding areas. The only water feature in the Survey Area is the agricultural ditch south of Jayne Avenue that is frequently dredged and disturbed and only has flowing water during part of the year. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Amphibians				

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
California Red-legged Frog	*Rana draytonii*	FT, CSSC	Inhabits areas within 1-2 miles of breeding habitats that stay cool and moist through the summer, including pools of slow-moving streams, perennial or ephemeral ponds, and upland sheltering habitat such as rocks, burrows, logs, densely vegetated areas, and man-made structures such as culverts, abandoned sheds, and livestock troughs. Breeds in aquatic habitats (USFWS 2017b).	Not expected to occur within the Survey Area based on the lack of riparian habitat at the site and in surrounding areas. The only water feature in the Survey Area is the agricultural ditch south of Jayne Avenue that is frequently dredged, supports no riparian vegetation, and only has flowing water during part of the year. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
California Tiger Salamander	*Ambostyma californiense*	FT, ST	Inhabits grasslands and low foothills with pools or ponds (primarily natural ephemeral pools or ponds that mimic them, such as stock ponds that are allowed to go dry) for breeding purposes. Spends most of its time underground in small mammal burrows (USFWS 2017a)	Not expected to occur within the Survey Area based on the lack of ephemeral pool or pond habitats at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).
Fishes				
Delta Smelt	*Hypomesus transpacificas*	FT, SE	Delta smelt are a euryhaline (a species that tolerates a wide range of salinities) fish that rarely occur in water with more than 10-12 parts per thousand salinity. They are endemic to the upper Sacramento-San Joaquin estuary (USFWS 2017c).	Not expected to occur within the Survey Area based on the lack of suitable aquatic habitats at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Crustaceans				
Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	FT	These fairy shrimp have an ephemeral lifestyle, and exist only in vernal pools or vernal pool-like habitat; the species does not occur in riverine, marine, or other permanent bodies of water. When the temporary pools dry, offspring persist in suspended development as desiccation-resistant embryos (USFWS 2007).	Not expected to occur within the Survey Area based on the lack of suitable ephemeral pools at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDB records (CDFW 2020b).

Loggerhead Shrike

The loggerhead shrike is the only true shrike that occurs exclusively in North America. It inhabits ecotones, grasslands, and other open habitats and feeds on a variety of invertebrate and vertebrate prey. Throughout most of the southern part of its range in the southern U.S. and Mexico, the loggerhead shrike is a resident, while northern populations are migratory (Yosef 2020). This shrike is a small avian predator that hunts from perches and impales prey on sharp objects such as thorns and barbed-wire fences. The species occupies open country with short vegetation: pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 2020). Breeders usually settle near isolated trees or large shrubs and resident shrikes use the same habitats all year. The loggerhead shrike is listed as a Bird of Conservation Concern by the USFWS and as a Species of Special Concern by the CDFW.

No loggerhead shrikes were observed during the biological survey or any of the SWHA protocol surveys. The nearest known CNDDB occurrence was recorded along the San Luis Canal approximately 3.75 miles to the southeast of the Proposed Project (CDFW 2020b). Loggerhead shrikes have a moderate potential to use the Proposed Project area for foraging. There are barbed wire fences that surround nearby agricultural fields and chain link fences that surround Gates Substation as well as posts throughout the vineyard areas that could provide perching opportunities for hunting loggerhead shrikes. There are also numerous potential prey species in the area such as insects, small mammals, birds, and reptiles that are encountered in the vineyards, orchards, and row crops. Loggerhead shrikes have a low potential to use the Survey Area for nesting. Loggerhead shrikes will usually nest in isolated trees but may use orchard trees or shrubs within disturbed areas for nesting.

Raptors

Per California Fish and Game Code 3503.5, all raptors are protected under state law. Several federal- or state-threatened, USFWS Birds of Conservation Concern, CDFW Fully Protected, or Species of Special Concern raptor species have a low potential to occur within the Survey Area at different times throughout the year. Examples include: Swainson's hawk, burrowing owl, California condor, white-tailed kite, ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), northern harrier (*Circus hudsonius*), and prairie falcon (*Falco mexicanus*). Examples of non-listed raptor species that are known to occur or have a high potential to occur within the Survey Area include: red-tailed hawk, barn owl (*Tyto alba*), great-horned owl, turkey vulture (*Cathartes aura*), and American kestrel (*Falco sparverius*). The raptor species with the highest potential to occur in the Survey Area are those that use and inhabit a wide range of habitats including agricultural and disturbed habitats. Habitat use varies based on species and time of year. Foraging and nesting individuals have the potential to occur within the Survey Area. The Central Valley exhibits high wintering densities of several raptor species, such as American kestrels and red-tailed hawks.

Two active red-tailed hawk nests were observed during SWHA surveys on transmission towers within the 0.5-mile survey area. These nests all had young fledge during the 2020 season. The only other raptor species that was observed during field surveys was a great-horned owl. It is anticipated that raptors would only nest on transmission towers in the area due to the lack of suitable natural

nesting platforms. Not all species nest on transmission structures; the two most likely to nest on transmission structures in the Survey Area include red-tailed hawks and American kestrels.

4.6. Swainson's Hawk Survey Results

SWHA protocol surveys were conducted in 2020 at the request of the CDFW. No SWHA nesting habitat, individuals, or nests were observed within the 0.5-mile buffer. Eight nests of other (non-SWHA) avian species were discovered and were monitored during the survey. All of these nests were located on transmission towers. Four of the nests were active common raven nests (*Corvus corax*), two nests were active red-tailed hawk nests, and two nests were inactive but were assumed to be common raven nests based on size, structure, and raven activity in the vicinity. All of the active nests fledged young prior to the July 6th survey. **Figure 6** shows the 0.5-mile survey area and the locations of all observed nests and the survey report is included in **Appendix C**.

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 6 Swainson's Hawk Survey with Raptor Nest Locations

Fresno County, CA

S Lake Ave

S Trinity Ave

W Phelps Ave

W Jayne Ave

Nest 04

Nest 05

Nest 06

Nest 02

Nest 03

Nest 08

Nest 01

Nest 07

LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

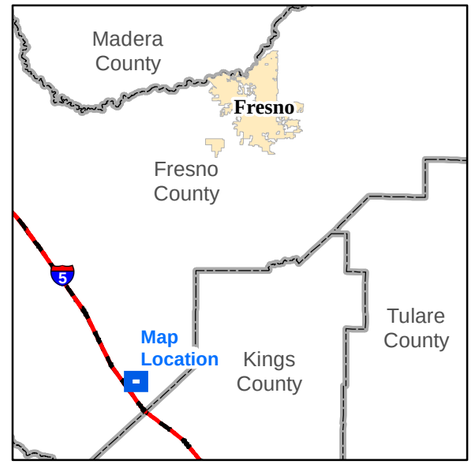
Biological Survey

- Active Common Raven Nest
- Inactive Common Raven Nest
- Active Red-tailed Hawk Nest
- Swainson's Hawk Survey Area

0 500 1,000 1,500 2,000

Feet

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 6 Swainsons Hawk Survey Area with Raptor Nest Locations 072220.mxd



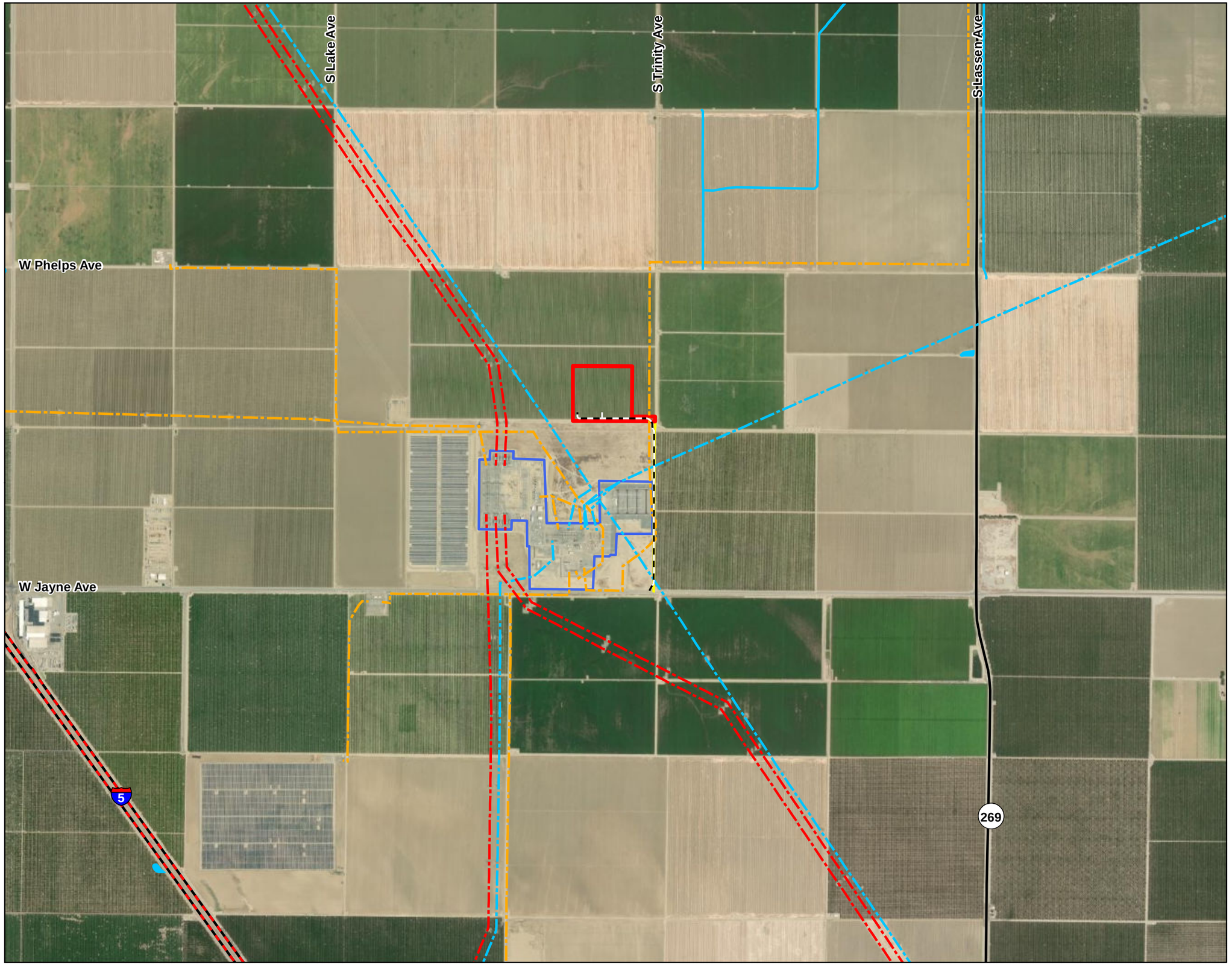
4.7. Aquatic Resources and Jurisdictional Waters

There are no significant aquatic resources or potentially jurisdictional features within the Proposed Project site or the Survey Area. There are two small water conveyance features (agricultural drainage ditches adjacent to the southern and northern sides of West Jayne Avenue (**Figure 4**). These ditches support no riparian vegetation and only have running water occasionally due to run-off from agricultural fields following irrigation events. These features are not expected to be considered jurisdictional by the ACOE, the RWQCB, or CDFW and would not be impacted by construction, operation or decommissioning of the Proposed Project.

NWI maps were reviewed for the area, and the only feature identified by the NWI is located approximately 0.4-mile northeast of the Proposed Project in an agricultural field just north of West Phelps Avenue and east of South Trinity Avenue (**Figure 7**) (USFWS 2020b). This feature was checked during biological surveys and no aquatic resources or potentially jurisdictional waters were present. Row crops cover the entire parcel and no evidence of a canal or feature was observed in the vicinity of the NWI-mapped feature. The Proposed Project will not impact any potentially jurisdictional features or aquatic resources.

4.8. Native Wildlife Migration 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. CEQA guidelines require that project proponents disclose and mitigate for significant impacts on wildlife corridors. Impacts to wildlife corridors, such as 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. Wildlife species migrate through both upland areas and drainage areas, depending on the species. Species that need protective cover from predators (e.g., mammals, reptiles, and smaller avian species) tend to migrate along natural drainages and riparian corridors that have high vegetative cover. These areas also serve as important sources of food resources (e.g., insects and seeds) for these species.



LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 7 NWI Wetlands

Fresno County, CA

LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres
- Trinity Ave. Easement (25 Feet)

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality

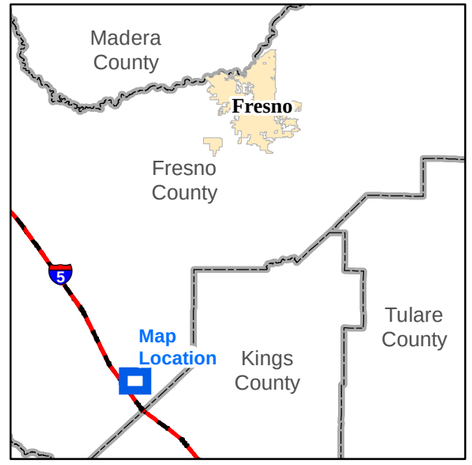
Hydrology

- NWI Wetlands

0 0.1 0.2 0.3 0.4 0.5

Miles

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 7 NWI Wetlands 070220



No riparian corridors or other potential terrestrial wildlife migration corridors exist within the Proposed Project site or Survey Area. Several riparian corridors exist within five miles of the Proposed Project site that could potentially be used by terrestrial wildlife as movement corridors. Los Gatos Creek is located approximately 3.2 miles to the northwest of the Proposed Project. This creek drains from the Coast Range south and west of the town of Coalinga to an area north and east of the town of Huron where the creek ends approximately 2.75 miles west of the San Luis Canal. Zapato Chino Creek joins Los Gatos Creek approximately 3.75 miles west-northwest of the Proposed Project, flowing from the Coast Range to the southwest. The San Luis Canal is located approximately four miles east of the Proposed Project region. These riparian corridors could be used, but none occur near the Proposed Project. The level of disturbance from the existing PG&E Gates Substation, solar facilities, and agricultural operations in the immediate vicinity of the project greatly reduce the possibility of the area being used for migration or as potential nursery sites.

The Guijarral and Kettleman Hills exist approximately 4.3 miles west and five miles south of the Proposed Project, respectively. These are the only natural areas within five miles of the Proposed Project that could potentially be used for nursery sites.

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 lying west of the Rocky Mountains. The Pacific Flyway links breeding grounds to the north with wintering areas to the south and is used by many different species of birds during migration. Many birds use locations in California's Central Valley as a stopover point or wintering area. The Survey Area consists of solely agricultural and disturbed areas, thereby diminishing the potential for avian species to use the area as a stopover point, but some species may fly through or use nearby agricultural fields for foraging purposes during migration.

The Proposed Project site does not provide any potential wildlife nursery sites because of its extensive past and current use for agriculture and developed areas; therefore, the Proposed Project would not affect wildlife nursery sites.

4.9. Designated Critical Habitat Areas

The USFWS designates critical habitat for endangered and threatened species under the ESA. Critical habitat is designated for the survival and recovery of federally listed endangered or threatened species. Protected habitat includes areas for foraging, breeding, roosting, shelter, and movement or migration. There are no designated or proposed critical habitats located within the Survey Area or within the 5-mile Project region (USFWS 2020a).

5. Applicant Proposed Measures and Potential Impacts

5.1. Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, "a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by a proposed project." As stated in Section 15064(b) of the guidelines, the significance of an activity may vary with the setting. The potential significance of impacts caused by the Proposed Project on biological resources were evaluated using the applicable criteria from the CEQA Guidelines (CPUC 2019), as discussed in the following sections.

5.2. Impact Definitions

The following discussion describes the Proposed Project's potential to affect special-status biological resources during construction and ongoing maintenance and operation activities. Direct and indirect impacts may be either permanent or temporary. These impact categories are defined below.

Direct: Direct impacts are caused by a project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources caused by project activities is considered a direct impact. Direct impacts include loss of native habitats, potential jurisdictional waters, wetlands, and special-status species; diverted flows from natural surface waters are also included. Direct impacts could include injury, death, or harassment of listed or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts on plants can include crushing of adult plants, bulbs, or seeds.

Indirect: As a result of project activities, biological resources may also be affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation; decreased water quality; soil compaction; increased human activity; and the introduction of invasive wildlife (domestic cats and dogs) and plants.

Permanent: All impacts that result in the irreversible removal of biological resources are considered permanent. For the purposes of the Proposed Project, impacts are irreversible if filling activities result in an elevation (gradient) change or an impervious surface. Examples include constructing a building or permanent road on an area that contains biological resources.

Temporary: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction or removal of vegetation for pipeline trenching activities, then allowing the natural vegetation to recolonize the impact area.

5.3. Recommended Applicant-Proposed Measures

The following recommended applicant-proposed measures (APMs) will meet existing regulations and requirements or are standard practices to avoid, minimize, or mitigate potential impacts on biological resources that would be less than significant (**Table 3**).

Table 3 – Recommended Applicant-Proposed Measures

APM Number	Description
APM-BIO-1	Speed of vehicles driving along proposed access roads and on the Project site during construction and operation would be limited to 15 miles per hour. In addition, construction and maintenance employees would be advised that care should be exercised when commuting to and from the Project area to reduce accidents and animal road mortality.
APM-BIO-2	Conductors and ground wires would be spaced sufficiently apart so that raptors cannot contact two conductors or one conductor and a ground wire causing electrocution (Avian Power Line Interaction Committee (APLIC) 2006), or raptor protection would be installed subject to PG&E consent for application of such measures to its components of the Proposed Project, such as distribution lines.
APM-BIO-3	Appropriate methods to reduce the risks of avian collisions would be incorporated into Project design (APLIC 2012), subject to PG&E consent for application of such measures to its components of the Proposed Project, such as distribution lines
APM-BIO-4	If feasible, the Applicant would avoid construction during the migratory bird nesting or breeding season. When it is not feasible to avoid construction during the nesting or breeding season, the Applicant would perform a survey 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 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 federal or state-listed species, the Applicant would consult with the USFWS and CDFW as necessary. Monitoring of the nest would continue until the birds have fledged or construction is no longer occurring on the site. If an inactive nest is identified, careful nest removal under the supervision and direction of qualified biologists would occur wherever feasible.
APM-BIO-5	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 monitor would make recommendations to reduce noise or disturbance in the vicinity of the nest.
APM-BIO-6	All excavated holes/trenches that are not filled at the end of a work day would be covered or a wildlife escape ramp would be installed to prevent the inadvertent entrapment of wildlife species.
APM-BIO-7	The use of outdoor lighting during construction and O&M would be minimized whenever practicable.
APM-BIO-8	A Workers Environmental Awareness Program (WEAP) would be implemented to educate all construction and operations workers on site-specific biological and non-

	biological resources and proper work practices avoid harming wildlife during construction or O&M activities.

5.4. Potential Impacts

Potential Project impacts on biological resources were evaluated against the CEQA significance criteria (CPUC 2019) and are discussed in further detail in the following paragraphs.

The impact analysis includes both temporary and permanent impacts associated with construction of the Proposed Project. Permanent impacts would include the following components which in total would impact approximately 9.8 acres:

- STATCOM Substation and ancillary Project components (includes access roads and distribution power line – 8.75 acres).
- Stormwater detention basin and conveyance system – 1.05 acres (detention basin = 0.31 acres; conveyance system = 0.74 acres).

Temporary and short-term impacts associated with Project construction would include the following components:

- STATCOM Substation and ancillary Project components (grading areas, staging areas, and dirt borrow area) – 12.19 acres.
- Primary Telecommunication Line (on West Jayne Avenue) – 1.5 acres.

5.4.1. Impacts to Special-Status Species

5.4.1.1. Special-Status Plant Species and Sensitive Vegetation Communities

No sensitive vegetation communities or suitable habitats for special-status plants occur anywhere in the vicinity of the Proposed Project. The Proposed Project would not cause the loss of sensitive vegetation communities or areas that contain suitable microhabitat conditions for special-status plants. Therefore, direct and indirect impacts on special-status species plants and sensitive vegetation communities are not anticipated.

5.4.1.2. Special-Status Wildlife Species

There were only a small number of special-status wildlife species that were determined to have a moderate or high potential to occur within the area of the Proposed Project: the loggerhead shrike (BCC, CSSC) and raptor species (MBTA, CFGC). Other wildlife species that were determined to have a low potential to occur within the area of the Proposed Project include: San Joaquin kit fox (FE, ST), American badger (CSSC), western mastiff bat (CSSC, WBWG-H), Townsend's big-eared bat (CSSC, WBWG-H), pallid bat (CSSC, WBWG-H), western red bat (CSSC, WBWG-H), Swainson's hawk (BCC, ST), California condor (FE, SE), western burrowing owl (BCC, CSSC), tricolored blackbird (BCC, ST), and white-tailed kite (CFP).

Direct impacts that may be caused by the Proposed Project would come from potential vehicle strikes, entrapment in excavations, collision and electrocution risk from powerlines and other Project structures during construction and operation, and permanent loss of approximately 9.8 acres (8.46 acres of vineyard and 1.35 acres of disturbed), and temporary loss of approximately 13.69 acres (11.41 acres of vineyard and 2.28 acres of disturbed) of potentially suitable foraging habitat for loggerhead shrikes, raptors, and other special-status wildlife species with low potential to occur (such as bats). These impacts would be less than significant before implementation of APMs. These potential direct impacts would be avoided or further minimized by implementation of **APMs BIO-1** (speed limit would reduce the potential for vehicle collisions)**, BIO-2** (electrocutions would be minimized by implementation of Avian Power Line Interaction Committee [APLIC] measures on the distribution line)**, BIO-3** (collisions would be minimized by implementation of APLIC measures on the distribution line)**, BIO-4** (nest avoidance buffers would be applied if necessary)**, BIO-5** (active raptor nests would be monitored to avoid disturbance), **BIO-6** (holes or trenches are filled or covered) and **BIO-7** (outdoor lighting would be minimized).The permanent loss of approximately 9.8 acres of potentially suitable foraging habitat is unavoidable. The high quantity of similar habitat (vineyards) in the region would help minimize the potential for impacts to special-status species caused by this loss of habitat. The number of vehicles during construction would be larger than during operation; very few vehicles would access the Proposed Project site during operation.

Indirect impacts to special-status wildlife species during construction could include decreased suitability of habitat in the vicinity of the Proposed Project caused by factors such as increased noise and light from construction activities and vehicles, as well as increased human activity. Based on the low quality habitat surrounding the Proposed Project, these impacts would be less than significant. Impacts would be avoided or further minimized by the implementation of **APMs BIO-7** (outdoor lighting would be minimized) and **BIO-8** (Workers Environmental Awareness Program [WEAP] training would be given to all workers). Noise from construction activities can affect avian species in multiple ways, such as depressing breeding success by acoustical masking, interfering with intra-specific communication, and interfering with the detection of predators. Construction activities could disrupt breeding and foraging activities, prevent birds from attending to nests, or cause birds to flush from their nests, endangering eggs and chicks. Noise during construction activities is expected to be short-term in nature and minimal and would be even lower during operation. The active nests that were discovered during SWHA surveys (and any other active nests that may be discovered during pre-construction surveys) would be monitored and avoided per **APMs BIO-4** and **BIO-5**. Night lighting associated with construction activities may also temporarily affect avian species' roosting and foraging behavior, especially for avian and bat species that are active after dark. These impacts would be minimized by implementation of **APM BIO-7**.

The current level of disturbance and human activity associated with the existing Gates Substation and agricultural activities in the area is high. All foreseeable direct impacts to special-status species would not increase significantly during construction compared to background levels. The temporary and small-scale nature of the Proposed Project would not significantly increase the levels of disturbance and human activity that may indirectly impact wildlife species. The level of disturbance associated with long-term operation would be much less than that of the adjacent existing Gates substation. There is a large amount of similar habitat in the area (including in the parcels surrounding and north of the Proposed Project) so that the permanent loss of approximately

9.8 acres and temporary loss of 13.69 acres of potentially suitable foraging habitat for loggerhead shrike, raptors, and other low potential species would be less than significant. The APMs are recommended to further reduce any less than significant direct and indirect risks to special-status wildlife species.

5.4.2. Impacts to Aquatic and Jurisdictional Resources

There are no aquatic or jurisdictional resources in the Survey Area; therefore, none will be directly or indirectly impacted by the Proposed Project.

5.4.3. Impacts to Native Wildlife Migration Corridors and Nursery Sites

As discussed, the Proposed Project would be located within the Pacific Flyway, but no other significant migration corridors or nursery sites exist in the Survey Area.

Several tall (135- to 199-foot) take-off towers or lightning shield mast structures would be installed during construction, as well as numerous 135-foot or shorter structures associated with the STATCOM and switchyard. These structures would be located within close proximity to the existing Gates substation, which already contains numerous structures that are as tall or taller. In addition, five existing 500-kV transmission lines currently exit from the north and south of the Gates Substation. The transmission towers associated with these lines stand between 150 and 200 feet tall. There are also multiple smaller transmission lines (<100-kV and 230-kV) that exit Gates Substation in all directions. The existence of these tall substation and transmission structures and lines in the area means that the addition of structures associated with the Proposed Project is unlikely to have an additional impact on migrating birds such as rerouting migration paths. The very small scale of the Proposed Project (~10 acres) would have minimal potential for new impacts to wildlife migration corridors and impacts would be less than significant. Recommended **APMs BIO-1** (speed limit would reduce the potential for vehicle collisions)**, BIO-2** (electrocutions would be minimized by implementation of APLIC measures on the distribution line)**, BIO-3** (collisions would be minimized by implementation of APLIC measures on the distribution line) and **BIO-8** (WEAP training would be given to all workers) would also help to further reduce any potential impacts to migration corridors.

No nursery sites exist in the Survey Area and none would be impacted by the Proposed Project.

5.4.4. Impacts to Designated Critical Habitat Areas

No USFWS designated or proposed critical habitats would be directly or indirect impacted because none of these habitats are located within 5 miles of the Proposed Project.

5.4.5. Conflicts with Local Policies or Ordinance

Because the CPUC has exclusive jurisdiction over its siting, design, and construction, the Proposed Project is not subject to local land use and zoning regulations or discretionary permits. However, local regulations relating to biological resources were reviewed to ensure that the Project will not be in conflict with local policies or ordinances protecting biological resources. One of the Fresno County General Plan Open Space Element Goals (Fresno County 2000) (Section 3.3.1) calls for a Biological Resource Evaluation to be prepared by a qualified biologist prior to approval of

discretionary development permits to determine potential significant impacts on "significant resources and/or special-status plants or animals". A Biological Resources Technical Report was prepared by a qualified biologist for the Project that satisfies the objectives set forth in the plan. Implementation of the Proposed Project would not conflict with local policies or ordinances relating to biological resources. Therefore, no impacts would occur.

5.4.6. Conflicts with an Approved Habitat Conservation Plan

There are no adopted plans applicable to the Proposed Project. The Proposed Project is located approximately 3 miles to the east of the boundary for the Aera Energy Southwest San Joaquin Valley Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP), which is currently in the planning stage and, because of geographic separation, it will not apply to the Proposed Project. There are no adopted NCCPs in Fresno County or in the adjacent Kings County, and no other approved local, regional, or state HCPs that would apply to the Proposed Project. Therefore, no impacts would occur.

6. References

Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, DC and Sacramento, CA.

APLIC. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC. Washington, DC.

Bechard, M.J., C.S. Houston, J.H. Saransola, and A.S. England. 2020. Swainson's Hawk (*Buteo swainsoni*). In Birds of the World (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Beedy, E.C., W.J. Hamilton III, R.J. Meese, D.A. Airola, and P. Pyle. 2020. Tricolored Blackbird (*Agelaius tricolor*). In Birds of the World (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Calflora. 2020. Information on Wild California Plants. Located: http://www.calflora.org/. Accessed: July 20, 2020.

California Department of Fish and Wildlife (CDFW). 2019a. State and Federally Listed Endangered and Threatened Animals of California List. Updated August 7, 2019. Located: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline. Accessed: July 20, 2020.

CDFW. 2019b. Natural Diversity Database Special Animals List. Updated August 2019. 67 pages.

CDFW. 2020a. California Wildlife Habitat Relations (CWHR). Life History Accounts/Range Maps. Located: https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. July 20, 2020.

CDFW. 2020b. California Natural Diversity Database. Located: https://www.wildlife.ca.gov/data/cnddb. Accessed: July 20, 2020.

CDFW 2020c. State and Federally Listed Endangered and Threatened Plants of California List. Updated January 2, 2020. Located: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline. Accessed: July 20, 2020.

California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants of California. Located: http://www.rareplants.cnps.org. Accessed: July 20, 2020.

California Public Utilities Commission (CPUC). 2019. Guidelines for Energy Project Applications Requiring CEQA Compliance: *Pre-filing and Proponent's Environmental Assessments.* November 2019, Version 1.0. 91 pages.

Dunk, J.R. 2020. White-Tailed Kite (*Elanus leucurus*). In Birds of the World (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Endangered Species Recovery Program (ESRP). 2020. Endangered Species Profiles. CSU Stanislaus. Located: https://esrp.csustan.edu/speciesprofiles/. Accessed: July 20, 2020.

Finkelstein, M. Z. Kuspa, N.F. Snyder, and N.J. Schmitt. 2020. California Condor (*Gymnogyps californianus)*. In Birds of the World (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Fresno County. 2000. The 2000 Fresno County General Plan. Located: https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/general-plan-maps. Accessed: July 20, 2020.

Jepson. 2020. The Jepson Herbarium of Eflora. University of California, Berkeley. Located: https://ucjeps.berkeley.edu/. Accessed: July 20, 2020.

Keinath, D.A. 2004. Fringed Myotis (*Myotis thysanodes*): A Technical Conservation Assessment. Prepared for the USDA Forest Service, Rocky Mountain Region. 64 pages.

United States Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2019. Web Soil Survey. Located: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed: July 20, 2020.

Poulin, R.G., L.D. Todd, E.A. Haug, B.A. Millsap, and M.S. Martell. 2020. Burrowing Owl (*Athene cunicularia*). In Birds of the World (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Located: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990&inline. Accessed: July 20, 2020.

U.S. Climate Data. 2020. Climate Data for Coalinga, CA. Located: https://www.usclimatedata.com/climate/coalinga/california/united-states/usca0235. Accessed: July 20, 2020.

United States Department of Fish and Wildlife (USFWS). 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Region 1. Portland, OR. 340 pages.

USFWS. 2007. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office. Sacramento, CA. 76 pages.

USFWS. 2016. Giant Garter Snake (*Thamnopis gigas*). Species Accounts. Sacramento Fish and Wildlife Office. Sacramento, CA. 1 page.

USFWS. 2017a. Recovery Plan for the California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). Region 8 U.S. Fish and Wildlife Service. Sacramento, CA. 75 pages.

USFWS. 2017b. California Red-Legged Frog (*Rana draytonii*). Sacramento Fish and Wildlife Office Species Information. Sacramento, CA.

USFWS. 2017c. Delta Smelt (Hypomesus transpacificus) Species Assessment and Listing Priority Assignment Form. USFWS Region 8. 60 pages.

USFWS. 2020a. Information for Planning and Consultation (IPaC) Resource List (Gates 500kV Dynamic Reactive Support Project). Located: https://ecos.fws.gov/IPaC/. Accessed: July 20, 2020.

USFWS. 2020b. National Wetlands Inventory Surface Waters and Wetlands. Available online at: https://www.fws.gov/wetlands/data/Mapper.html. Accessed July 20, 2020.

United States Geological Survey (USGS). 2020. The National Map. Located: https://viewer.nationalmap.gov/advanced-viewer/. Accessed: July 20, 2020.

Western Bat Working Group (WBWG). 2020a. Species Regional Priority Matrix. Located: http://wbwg.org/matrices/species-matrix/. Accessed: July 20, 2020.

WBWG. 2020b. Western Bat Species Profiles. Located: http://wbwg.org/western-bat-species/. Accessed: July 20, 2020.

Yosef, R. 2020. Loggerhead Shrike (*Lanius ludovicianus*). In Birds of the World (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Appendix A – Photograph Log

Photo 1: Immediately south of the Proposed Project. Direction: North. Shows the Proposed Project which is currently an active vineyard.

Photo 2: Proposed Project area. Direction: North. Shows disturbed soil between vine rows within the Proposed Project.

Photo 3: Immediately south of the Proposed Project. Direction: South. Shows Gates Substation and the disturbed area between the Proposed Project and the Substation.

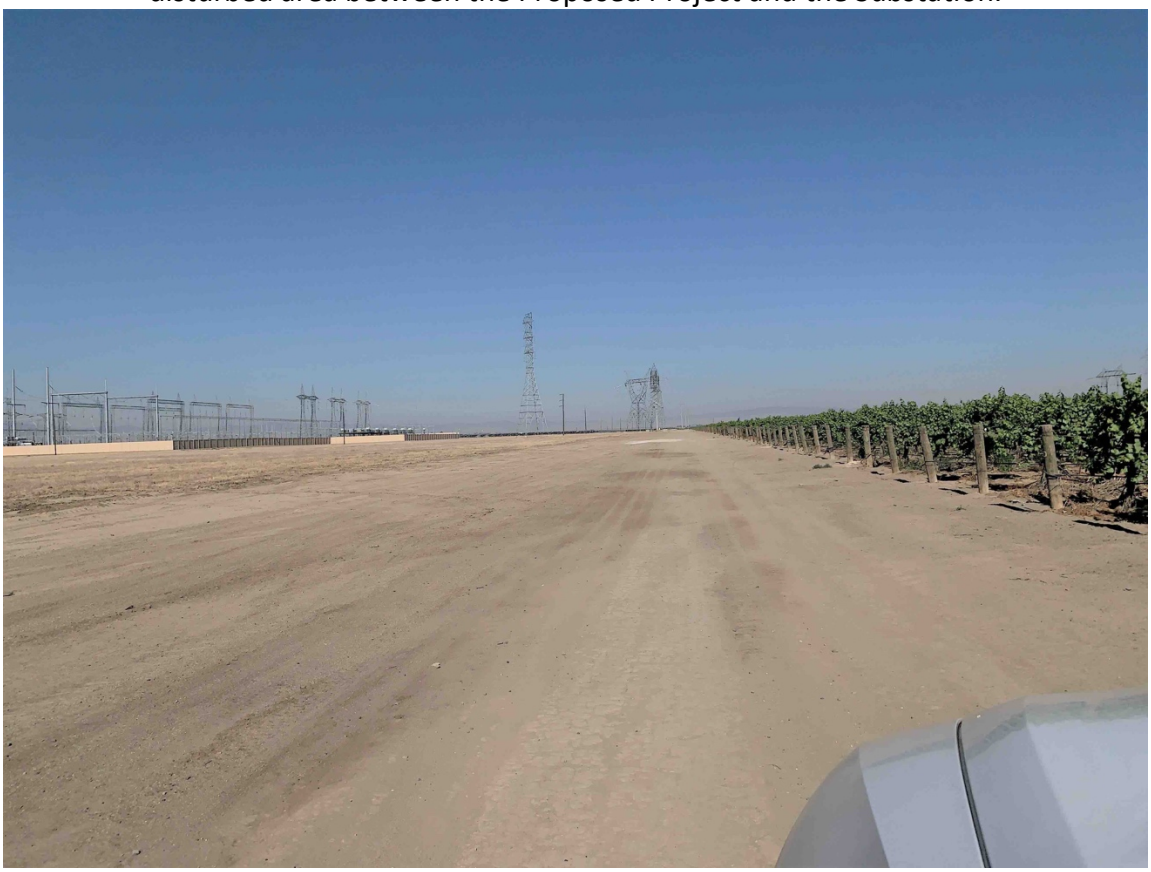


Photo 4: Immediately south of the Proposed Project. Direction: West. Shows Gates Substation and the disturbed area to the south and the Proposed Project in the active vineyard to the north.

Photo 5: Immediately northwest of the Gates Substation. Direction: North. Vineyard on the right side of the photo and row crops on the left with a typical unnamed dirt farm road in the middle. Proposed Project is located approximately 0.5 miles east of this photo.

Photo 6: West of Gates Substation. Direction: South. Row crop field with vineyard in the background. Proposed Project is located approximately 0.75 miles northeast of this photo.

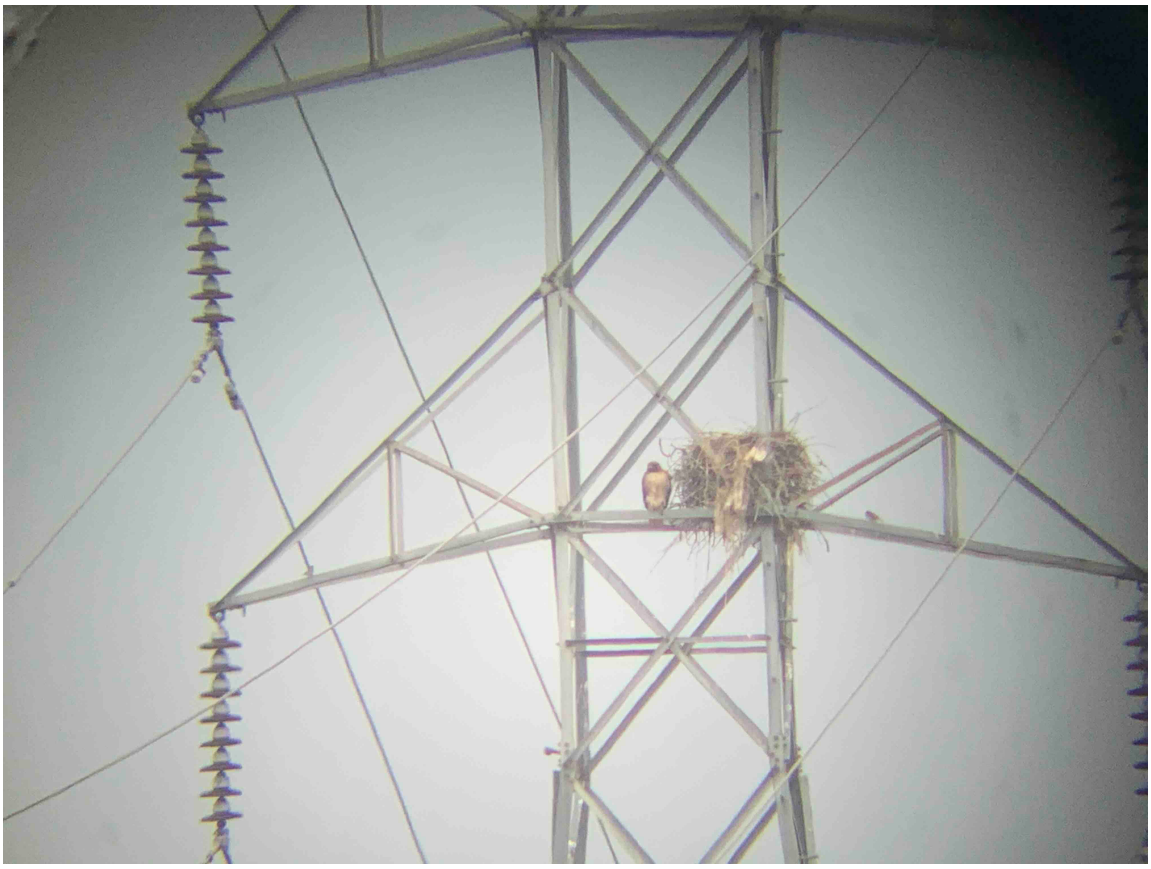


Photo 7. Approximately 700 feet north-northeast of the Proposed Project along Trinity Avenue. Nest 02. Adult red-tailed hawk perched next to an active nest on a transmission structure.

Photo 8. Approximately 0.5 miles east of the Proposed Project. Nest 03. Adult common raven incubating an active nest on a transmission structure.

Photo 9. Approximately 0.5 miles northwest of the Proposed Project. Nest 05. Adult red-tailed hawk incubating an active nest on a transmission structure.

Photo 10: Approximately 0.5 miles northwest of the Proposed Project. Direction: Southwest. Nest 05. Shows Nest 05 on a transmission structure located within an active vineyard.

Photo 11: Approximately 0.5 miles southwest of Gates Substation along W. Jayne Avenue. Direction: Southwest. Nest 07. Shows Nest 07 on a transmission structure within an active orchard.

Photo 12: Approximately 700 feet north-northeast of the Proposed Project along S. Trinity Avenue. Direction: East. Shows Nest 02 on a transmission structure within an active vineyard.

Photo 13: Approximately 0.5 miles east of the Proposed Project. Direction: North. Shows Nest 03 on a transmission structure within an active row crop field.

Appendix B – IPaC Record Search Results

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fresno and Kings counties, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Giant Kangaroo Rat Dipodomys ingens — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6051

San Joaquin Kit Fox Vulpes macrotis mutica — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2873

Tipton Kangaroo Rat Dipodomys nitratoides nitratoides — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7247

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard Gambelia silus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower Caulanthus californicus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4599	Endangered
San Joaquin Wooly-threads Monolopia (=Lembertia) congdonii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3746	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds

guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize

potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C – Swainson's Hawk Survey Report

Gates 500kV Dynamic Reactive Support Project
Swainson's Hawk Survey Report

September 2020

Prepared For:

LS Power Grid California, LLC

Prepared By:

Heritage Environmental Consultants, LLC

Introduction

LS Power Grid California, LLC (LSPGC), a wholly owned subsidiary of LS Power Associates, L.P., established to own transmission projects in California, is proposing the Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project) in unincorporated Fresno County. The Proposed Project is located entirely on Private land. LSPCG holds an option to purchase up to 20 acres within an approximately 75-acre portion of a parcel located directly north and adjacent to the existing PG&E Gates Substation (Proposed Project, **Figures 1 and 2**). The site is located approximately one mile northwest of the intersection of South Lassen Avenue (Rt. 269) and West Jayne Avenue which is approximately 3.5 miles southwest of the City of Huron and approximately 2.5 miles east of Interstate 5 in southwest Fresno County.

Heritage Environmental Consultants (Heritage) submitted a Swainson's Hawk (*Buteo swainsoni*, SWHA) Survey Plan – Gates 500 kV Dynamic Reactive Support Project (**Appendix B**) on March 30, 2020 to the California Department of Fish and Wildlife (CDFW). The plan proposed a 0.5-mile buffer (based on the Swainson's Hawk Technical Advisory Committee 2000 protocol – *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley,* SWHA TAC 2000) for surveys beginning in April 2020. The plan was approved by Carrie Swanberg of CDFW on April 7, 2020. Protocol-level occupancy surveys for SWHA were performed within the Proposed Project area and a 0.5-mile buffer around the Proposed Project (survey area; the 0.5-mile buffer is larger than required since the buffer was placed around Gates Substation and the entire parcel that the Proposed Project is located on due to surveys being commenced prior to the finalization of the Proposed Project location). The survey area is dominated by agricultural plots supporting row crops and citrus orchards, the Gates Substation, and an existing solar facility.

Methods

The Swainson's hawk (*Buteo swainsoni*, SWHA) is listed as a California state-threatened species under the California Endangered Species Act (CESA). Consistent with the Swainson's Hawk Technical Advisory Group's 2000 protocol (SWHA TAC 2000), and per the CDFW-approved survey plan, surveys were conducted within the 0.5-mile buffer survey area. Surveys were conducted between April 12 and July 27, 2020. Raptor Biologist Brian Latta performed slow-speed windshield driving surveys, driving the entire survey area, scanning and listening for any perched or flying raptors and potential nesting habitat. All potential nest trees/shrubs, distribution poles and transmission towers within the survey area were surveyed for the presence of SWHA and other large stick nests. When a raptor or potential nest was located, the biologist used Fujinon 12x32 Image Stabilized binoculars and a Kowa TSN-770 20x60 zoom spotting scope on a window mount to identify the raptor and/or determine occupancy and status of the nest. Surveys were conducted either in the early morning or late afternoon daylight hours according to protocol and were conducted from public and farm roads while achieving 100% coverage of all potential SWHA nesting areas in the survey area. Information recorded included date and time, location information, UTM coordinates, number of adults and young, height/position of nest, and any behavioral observations.

A total of seven (7) surveys were conducted during survey periods III, IV, and V, as described in the 2000 protocol and discussed in more detail below:

***Survey Period I – January – March 20. Pre-Arrival. Survey Time: All day.** Optional survey period that occurs prior to most SWHA arriving in the area and is meant to determine potential nesting sites and historical nest locations.

No surveys were conducted due to timing constraints and as approved in the survey plan.

***Survey Period II – March 20 – April 5. Arrival, staging. Survey Time: Sunrise–1000, 1600-Sunset.** Most SWHA return by April 1 and immediately begin occupying their traditional nest territories. This survey period is meant to identify potential nests before trees leaf out, and observe SWHA involved in territorial and courtship displays.

No surveys were conducted due to timing constraints and as approved in the survey plan.

***Survey Period III – April 5 – April 20. Nest building, copulation. Survey Time: Sunrise-1200, 1630-Sunset**. Activity at the nest site increases significantly with both males and females actively nest building and visiting the selected site frequently. Birds tend to vocalize often and nest sites are most easily identified. Territorial and courtship displays are increased, as is copulation.

Three nest search surveys between April 5 and April 20: Full project area and 0.5-mile buffer survey to identify all potential nests.

***Survey Period IV – April 21 – June 10. Egg Laying, incubation. Survey Time: As needed for nest monitoring.** Females are in brood position, laying eggs, incubating, or protecting the newly hatched and vulnerable chicks. Not a required survey – monitoring known nest locations only.

One nest monitoring survey conducted to monitor potential nests for occupancy and status.

***Survey Period V – June 10 – July 30. Post Fledging. Survey Time: Sunrise-1200, 1600-Sunset.** Young are active and visible and relatively safe without parental protection. Both adults make numerous trips to the nest and are often soaring above, or perched near or on the nest tree.

Three nest monitoring surveys conducted between June 10 and July 30 to monitor potential nests for occupancy and status.

Results

As discussed above, seven (7) surveys were conducted during periods III, IV, and V for the Proposed Project location and a 0.5 mile buffer of the entire Project parcel and the Gates Substation. Survey details are included in **Table 1**. No suitable SWHA nesting habitat, SWHA nests or SWHA were observed during the surveys. Eight (8) medium to large stick nests were discovered and are described in **Table 2,** shown on **Figure 3**, and photographs of each nest are included in **Appendix A**. All nests were located on lattice transmission towers or tubular steel poles (TSP). Two (2) nests were active and occupied by red-tailed hawks (*Buteo jamaicensis*,

RTHA), four (4) nests were active and occupied by common ravens (*Corvus corax*, CORA), and two (2) nests were inactive and are likely CORA based on their size and structure.

Of the two active RTHA nests, Nest 2 produced at least 1 nestling which was not observed after April 20. Nest 5 fledged 2 young which were observed perched on nearby towers during each of the July surveys. Of the four active CORA nests, only two young were observed post-fledging. They were perched on or near the Nest 3 tower. **Table 3** shows the activity observed at each nest during each of the surveys.

Other wildlife observed include killdeer (*Charadrius vociferus*), western kingbird (*Tyrannus verticalis*), red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), Eurasian collared-dove (*Streptopelia decaocto*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), rock pigeon (*Columba livia*), great horned owl (*Bubo virginianus*), and black-headed grosbeak (*Pheucticus melanocephalus*).

Table 1 – Survey Information

Survey Number	Survey Period	Survey Date	Survey Time	Weather/Notes
1	III	04/12/20	1630-1900	76F, winds 5mph NE. 80% clear. Light drizzle.
2	III	04/19/20	0830-1145	56F, winds 3 mph NW. 60% clear. No precipitation.
3	III	04/20/20	1630-1900	57F, winds 3mph NNW, 0% clear. No precipitation.
4	IV	06/05/20	0815-1030	77F, winds 10mph W. 30% clear. No precipitation.
5	V	07/06/20	0815-1030	73F, winds 4mph WNW. 100% clear. No precipitation.
6	V	07/20/20	0830-1030	75F, winds 4 NNW. 100% clear. No precipitation.
7	V	07/27/20	0800-1030	78F, winds 5mph NW. 100% clear. No precipitation.

Table 2 – Nest Information

Nest Number	Species	Status	Structure	UTM (10S)	Approximate Height
1	CORA	Active	Lattice tower	758545E 4003857N	100 feet
2	RTHA	Active	Lattice tower	759005E 4004378N	85 feet
3	CORA	Active	Lattice tower	759750E 4004043N	75 feet
4	CORA	Inactive	Lattice double tower	757697E 4004857N	120 feet

5	RTHA	Active	Lattice double tower	757987E 4004585N	120 feet
6	CORA	Active	Lattice double tower	758228E 4004256N	120 feet
7	CORA	Active	TSP	757680E 4002935N	55 feet
8	CORA	Inactive	TSP	75763E 4003851N	100 feet

Table 3 – Nest Activity by Survey

	Survey Number						
Nest Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Incubating	Incubating	Incubating	Empty	Empty	Empty	Empty
2	Brooding	Nestling	Nestling	Empty	Empty	Empty	Empty
3	Incubating	Incubating	Incubating	Nestlings	Fledged	Fledged	Fledged
4	Pair nearby	Nest building	Nest building	Empty	Empty	Empty	Empty
5	Incubating	Incubating	Incubating	Nestling	Fledged	Fledged	Fledged
6	Incubating	Incubating	Incubating	Empty	Empty	Empty	Empty
7	Nest building	Incubating	Incubating	Nestling	Empty	Empty	Empty
8	N/A	N/A	N/A	N/A	N/A	Empty	Empty

Conclusions

Suitable foraging habitat (alfalfa and row crop fields) exists within the survey area but not on the Proposed Project site (an active vineyard), but suitable nesting habitat is not present. No Swainson's hawks or Swainson's hawk nests were observed during protocol field surveys. The Proposed Project is expected to have no impact on Swainson's hawk.

References

Swainson's Hawk Technical Advisory Committee (SWHA TAC). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. May 31, 2000. 5 pages.

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 1 - General Vicinity

Fresno County, CA

LEGEND

Project Components

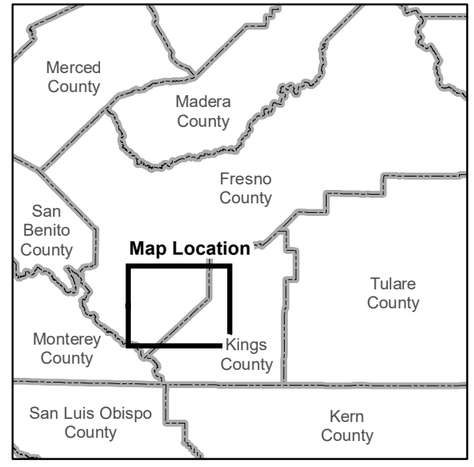
- Project Site Boundary

General Features

- Interstate
- Highway
- Railroad
- Municipal Boundary
- Existing Gates Substation
- County Boundary

0 1 2 3 4 5
Miles

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 1 General Vicinity 072120



Data Sources: ESRI, Fresno Co., USDA, USGS. SPCS NAD83 CA Zone IV Feet. F:...\032819.mxd RNC 5-14-19

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 2 - Project Location

Fresno County, CA

S Lake Ave

S Trinity Ave

S Lassen Ave

W Phelps Ave

W Jayne Ave

5

269

LEGEND

Project Components

- Project Tie Line
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality

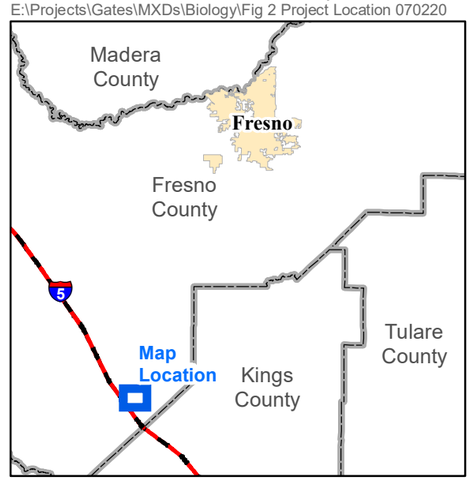
0 0.1 0.2 0.3 0.4 0.5

Miles

SPCS NAD 83, CA Zone IV, US Ft.

Data Sources: CalTrans, ESRI, Fresno County, USDA.

E:\Projects\Gates\MXDs\Biology\Fig 2 Project Location 070220



LSPGC - Gates 500 kV Dynamic Reactive Support Project

Figure 3 - Swainson's Hawk Survey with Raptor Nest Locations

Fresno County, CA

S Lake Ave

S Trinity Ave

W Phelps Ave

W Jayne Ave

Nest 04

Nest 05

Nest 06

Nest 02

Nest 03

Nest 08

Nest 01

Nest 07

LEGEND

Project Components

- Project Tie Line
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

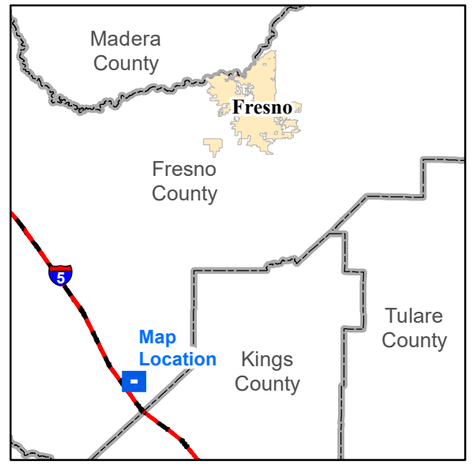
Biological Survey

- Active Common Raven Nest
- Inactive Common Raven Nest
- Active Red-tailed Hawk Nest
- Swainson's Hawk Survey Area

0 500 1,000 1,500 2,000

Feet

SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXDs\Biology\Fig 6 Swainsons Hawk Survey Area with Raptor Nest Locations 072220.mxd



Appendix A – Photo Log

Photo 1: Immediately south of the Proposed Project within the survey area. Direction: North. Shows the Proposed Project which is currently an active vineyard.

Photo 2: Immediately south of the Proposed Project within the survey area. Direction: South. Shows Gates Substation and the disturbed area between the Proposed Project and the Substation.

Photo 3: Immediately northwest of the Gates Substation within survey area. Direction: North. Vineyard on the right side of the photo and row crops on the left with a typical unnamed dirt farm road in the middle.

Photo 4: Approximately 400 feet southwest of the Proposed Project. Nest 01. Adult common raven incubating an active nest on a transmission structure.

Photo 5: Approximately 400 feet southwest of the Proposed Project. Direction: West. Nest 01. Shows Nest 01 on a lattice transmission tower within disturbed habitat.

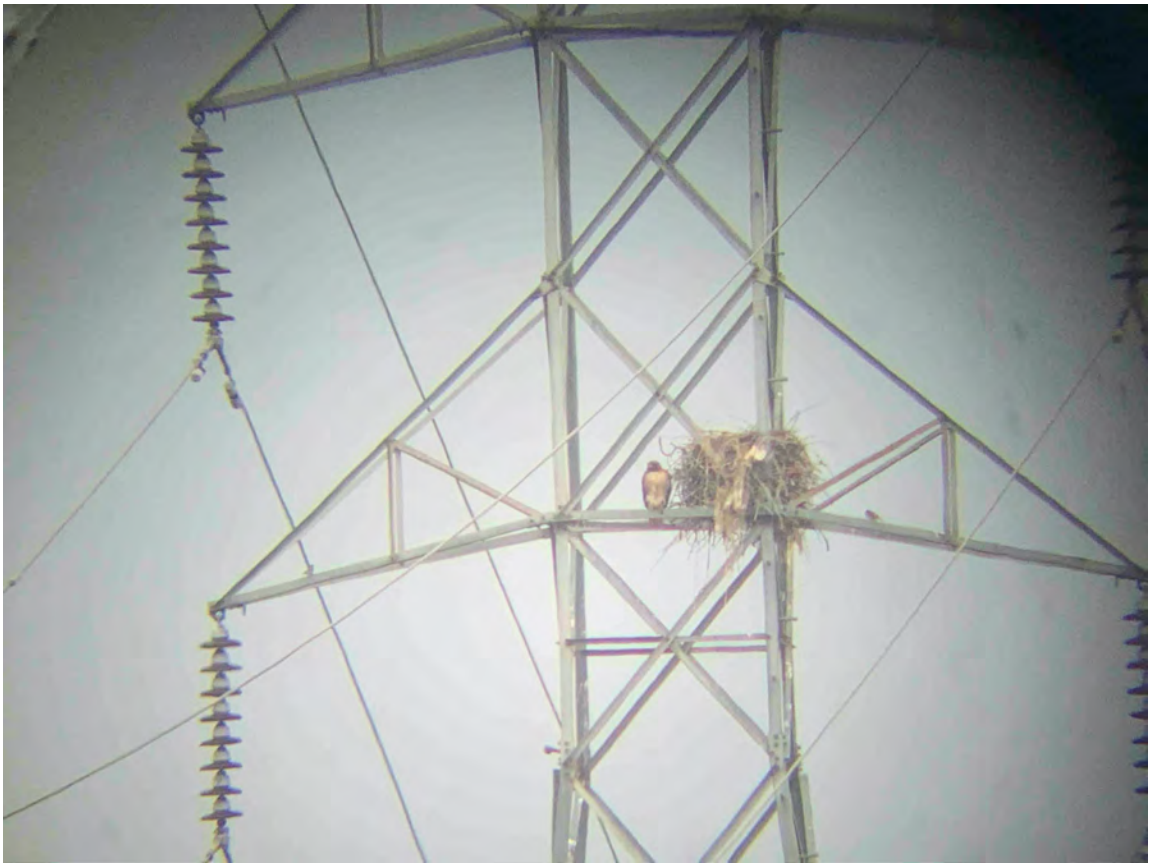


Photo 6. Approximately 700 feet north-northeast of the Proposed Project along Trinity Avenue. Nest 02. Adult red-tailed hawk perched next to an active nest on a transmission structure.

Photo 7: Approximately 700 feet north-northeast of the Proposed Project along S. Trinity Avenue. Direction: East. Shows Nest 02 on a transmission structure within an active vineyard.

Photo 8. Approximately 0.5 miles east of the Proposed Project. Nest 03. Adult common raven incubating an active nest on a transmission structure.

Photo 9: Approximately 0.5 miles east of the Proposed Project. Direction: North. Shows Nest 03 on a transmission structure within an active row crop field.

Photo 10. Approximately 0.75 miles northwest of the Proposed Project. Nest 04. Inactive common raven nest on transmission structure.

Photo 11. Approximately 0.75 miles northwest of the Proposed Project. Direction: North. Nest 04. Inactive common raven nest on transmission structure.

Photo 12. Approximately 0.5 miles northwest of the Proposed Project. Nest 05. Adult red-tailed hawk incubating an active nest on a transmission structure.

Photo 13: Approximately 0.5 miles northwest of the Proposed Project. Direction: Southwest. Nest 05. Shows Nest 05 on a transmission structure located within an active vineyard.

Photo 14. Approximately 0.25 miles west-northwest of the Proposed Project. Direction: Southwest. Nest 06. Active common raven nest on a transmission structure within a vineyard.

Photo 15. Approximately 0.25 miles west-northwest of the Proposed Project. Nest 06. Adult common raven incubating an active nest on a transmission structure.

Photo 16: Approximately 0.5 miles southwest of Gates Substation along W. Jayne Avenue. Direction: Southwest. Nest 07. Shows Nest 07 on a transmission structure within an active orchard.

Photo 17. Approximately 0.5 miles southwest of Gates Substation along W. Jayne Avenue. Nest 07. Shows an adult common raven incubating an active nest on a transmission structure.

Photo 18. Approximately 0.5 miles west of the Proposed Project. Nest 08. Shows Nest 08 on a transmission structure within disturbed habitat.

Photo 19. Approximately 0.5 miles west of the Proposed Project. Nest 08. Inactive nest on a transmission structure.

Appendix B – SWHA Survey Plan

Swainson's Hawk Survey Plan
Gates 500 kV Dynamic Reactive Support Project

Introduction

The Swainson's hawk (*Buteo swainsoni,* SWHA) is listed as a California state threatened species under the California Endangered Species Act (CESA). The species is not listed as threatened or endangered under the federal Endangered Species Act. This plan summarizes survey and monitoring efforts that will be carried out during the spring/summer of 2020 in support of the Gates 500 kV Dynamic Reactive Support Project. This study plan was designed based on the recommendations from the Swainson's Hawk Technical Advisory Group's 2000 "Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley" (SWHA Technical Advisory Group 2000).

SWHA are known to nest in scattered trees within shrublands, grasslands, riparian woodlands, agricultural landscapes, ornamental roadside trees, and windrow or perimeter trees in active or historical agricultural areas (Bechard et al. 2020). In California's Central Valley, nests are typically at the edge of narrow bands of riparian vegetation, in isolated oak woodland, and in lone trees, roadside trees, or farmyard trees, as well as in adjacent urban residential areas with suitable nest trees (England et al. 1995). SWHA typically nest in the top 1/3 of medium to tall solitary trees, but will sometimes use lower shrubs as long as they can support their fairly large-sized stick nests (Bradbury 2009). SWHA typically will not nest in close vicinity to urban areas, on power poles/structures, or in mature orchards (Bloom 1980, Bradbury 2009 and Battistone 2019). SWHA prefer foraging on open grasslands, shrub steppe, and agricultural areas (Bechard et al. 2020). Alfalfa or similar row or hay crop fields are preferred among agricultural areas since they remain in place for years without being disturbed, contributing to a large prey-base of rodents, reptiles, and invertebrates (Bechard et al. 2020).

Consistent with the 2000 protocol, surveys will be conducted for the proposed project area and a 0.5-mile buffer around the project location. The project area and 0.5-mile buffer are dominated by agricultural plots supporting row crops, the Gates Substation, and adjacent solar facility.

Methodology

Swainson's hawk surveys will be conducted by a qualified raptor biologist in a manner that maximizes the potential to observe the adult SWHA and the nest/chicks via visual and audible cues within a 0.5-mile radius of the project. All potential nest trees/shrubs within the 0.5-mile radius will be surveyed for the presence of SWHA nests. Biologists will perform ground-based surveys in the 0.5-mile buffer combining slow-speed windshield driving surveys and pedestrian walking surveys, if necessary. Biologists will drive the entire 0.5-mile buffer area, scanning and listening for any flying raptors and potential nesting habitat. When a potential nest is discovered, biologists will use high-quality binoculars or a spotting scope to attempt to determine occupancy and status. All potential raptor nests will be recorded during surveys. Information will be recorded including: date and time, location information, UTM coordinates, number of adults and young, height/position of nest, and any behavioral observations. Surveys will be conducted from

public roads with the goal of achieving 100% coverage of all potential SWHA nesting areas in the proposed project area and the 0.5-mile buffer.

Survey Timing/Explanations

A total of up to seven (7) surveys are proposed from April 5 – July 30, 2020. As described in the 2000 protocol, surveys are to be conducted during five survey periods, which coincide with important biological factors and nesting phenology for SWHA.

***Survey Period I – January – March 20. Pre-Arrival. Survey Time: All day.** Optional survey period that occurs prior to most SWHA arriving in the area and is meant to determine potential nesting sites and historical nest locations.
No surveys were conducted due to timing constraints.

***Survey Period II – March 20 – April 5. Arrival, staging. Survey Time: Sunrise–1000, 1600-Sunset.** Most SWHA return by April 1 and immediately begin occupying their traditional nest territories. This survey period is meant to identify potential nests before trees leaf out, and observe SWHA involved in territorial and courtship displays.
No surveys to be conducted due to timing constraints.

***Survey Period III – April 5 – April 20. Nest building, copulation. Survey Time: Sunrise-1200, 1630-Sunset**. Activity at the nest site increases significantly with both males and females actively nest building and visiting the selected site frequently. Birds tend to vocalize often and nest sites are most easily identified. Territorial and courtship displays are increased, as is copulation.
Three nest search surveys between April 5 and April 20: Full project area and 0.5-mile buffer survey to identify all potential nests.

***Survey Period IV – April 21 – June 10. Egg Laying, incubation. Survey Time: As needed for nest monitoring**. Females are in brood position, laying eggs, incubating, or protecting the newly hatched and vulnerable chicks.
One nest monitoring survey may be conducted if nests are found. Monitoring potential nests for occupancy and status.

***Survey Period V – June 10 – July 30. Post Fledging. Survey Time: Sunrise-1200, 1600-Sunset.** Young are active and visible and relatively safe without parental protection. Both adults make numerous trips to the nest and are often soaring above, or perched near or on the nest tree.
Three nest monitoring surveys (if nests are found) to be conducted between June 10 and July 30. Monitoring potential nests for occupancy and status.

Survey Report

A survey report will be prepared for CDFW and will include status, species, and occupancy information for all SWHA and other raptor nests that are discovered, location information and maps for each nest, and photographs of each nest or nest location and general photos of the project area.

References

Battistone, C.L., B.J. Furnas, R.L. Anderson, J.L. Dinsdale, K.M. Kripe, J.A. Estep, C.S.Y. Chun, S.G. Torres. 2019. Population and Distribution of Swainson's Hawks (*Buteo swainsoni*) in California's Great Valley: A Framework for Long-Term Monitoring. Journal of Raptor Research, 53(3):253-265.

Bechard, M. J., C. S. Houston, J. H. Saransola, and A. S. England (2020). Swainson's Hawk (*Buteo swainsoni*), version 1.0. In Birds of the World (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Bloom, P.H. 1980. The Status of the Swainson's Hawk in California, 1979. Federal Aid in Wildlife Restoration, Project W 54 R 12, Nongame Wildlife Investigations. Job Final Report 11 8.0. California Department of Fish and Game, Sacramento, CA, USA

Bradbury, M.D. 2009. Conservation Strategy for Swainson's Hawks in California. Friends of the Swainson's Hawk. 32 pp.

England, A. S., J. A. Estep and W. R. Holt. (1995). Nest-site selection and reproductive performance of urban-nesting Swainson's Hawks in the Central Valley of California. Journal of Raptor Research 29:179-186.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Accessed at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990&inline