

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of LS Power Grid California, LLC for a
Permit to Construct the Gates 500 kV Dynamic Reactive
Support Project.

Application
(Filed _____, 2021)

**APPLICATION OF LS POWER GRID CALIFORNIA, LLC
FOR A PERMIT TO CONSTRUCT THE GATES 500 kV
DYNAMIC REACTIVE SUPPORT PROJECT**

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February 19, 2021

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Pursuant to General Order (GO) 131-D and Rules 2.1 through 2.5 of the Commission's Rules of Practice and Procedure, LS Power Grid California, LLC (LSPGC) submits this Application for a Permit to Construct (PTC) the Gates 500 kV Dynamic Reactive Support Project (Gates Project).

I. INTRODUCTION

The Gates Project is a reliability-driven upgrade to the transmission system operated by the California Independent System Operator (CAISO). The CAISO identified the need for the Gates Project in its 2018-2019 Transmission Plan, approved by the CAISO's Board of Governors on March 29, 2019. The Gates Project will provide dynamic reactive power support at the 500 kV bus of the Gates substation owned by Pacific Gas and Electric Company (PG&E). The analyses performed as part of the CAISO's 2018-2019 Transmission Planning Process found thermal overloads and high voltages on the Central California 500 kV system after PG&E retires the Diablo Canyon nuclear power plant units in 2024 and 2025. Adding dynamic reactive support at the Gates substation will alleviate these problems.

The Gates Project consists of a dynamic reactive support substation and two 500kV tie lines. The substation component will include two blocks of a minimum of ± 424 million volt-amperes, reactive (MVAR) (for a total of a minimum of ± 848 MVAR) units and all supporting apparatus, equipment and devices. The substation will include three, three-phase main power transformers, one of which will be a preinstalled spare transformer shared between the two blocks and separated by fire-blast walls. The tie lines will connect the dynamic reactive support substation to dead-end structures located on PG&E's property.

The CAISO solicited bids for development the Gates Project through an open, competitive solicitation conducted in compliance with its tariff, as approved by the Federal Energy Regulatory Commission (FERC). On January 17, 2020, the CAISO announced that LSPGC had been selected to develop the project. The CAISO and LSPGC entered into an Approved Project Sponsor Agreement (APSA), attached as Appendix A, on May 19, 2020.

The APSA requires the Gates Project to be in service by no later than June 1, 2024. To meet this deadline, LSPGC respectfully asks the Commission to issue its final decision on this application no later than December 31, 2021.

Once constructed, the Gates Project will become part of the transmission system controlled by the CAISO. LSPGC will finance, develop, construct, own, operate, and maintain the Gates Project, and will become a Participating Transmission Owner in accordance with the CAISO's Tariff. The costs of the Gates Project will be recovered solely through transmission rates as part of the CAISO's Transmission Access Charge, following approval by the FERC, which exercises jurisdiction over rates for interstate transmission service.

LSPGC respectfully asks the Commission, after reviewing this Application, to grant LSPGC a Permit to Construct the Gates Project and to certify an appropriate environmental

document under the California Environmental Quality Act (CEQA). LSPCG also respectfully asks the Commission, in its order, to declare that LSPGC is an electrical corporation and a public utility under section 216(a) of the Public Utilities Code. LSPGC further asks for exemption from certain of the Affiliate Transaction Rules and from reporting requirements that are inapplicable to LSPGC in this context.

II. SUPPORTING DOCUMENTS

The following Appendices are attached to this Application:

Appendix	Title
A	Approved Project Sponsor Agreement
B	Map of the Project
C	Siting Analysis
D	Proponent's Environmental Assessment
E	Electric and Magnetic Fields Management Plan
F	Form of notice under Section XI.A of General Order 131-D
G	Certificate of Formation and Certificate of Qualification to Do Business in California

III. PROJECT OVERVIEW

A. CAISO Transmission Planning

As part of the 2018-2019 Transmission Planning Process, the CAISO staff undertook a comprehensive evaluation of the CAISO transmission grid to address grid reliability requirements and to ensure compliance with applicable North American Electric Reliability Corporation (NERC) reliability standards and CAISO planning standards and tariff requirements. The CAISO staff performed this analysis for a 10-year planning horizon, modeled a range of on-peak and off-peak system conditions, and considered facilities under CAISO operational control with voltages ranging from 60 kV to 500 kV. Where this analysis found reliability concerns, the CAISO identified transmission solutions to address these concerns. The 2018-2019 Transmission Plan identified 11 reliability-driven transmission projects, all of which are located

in PG&E's service territory. The identified projects included two dynamic voltage support projects, designated as the Gates Dynamic Reactive Support and the Round Mountain Dynamic Reactive Support projects, that were eligible for a competitive solicitation under the CAISO's Tariff.

The Transmission Plan summarizes some of the conclusions of the study:

Additional reactive support is required, preferably dynamic to both absorb reactive power under normal system conditions and supply reactive power with contingencies as needed. Dynamic reactive support in the northern part of the PG&E system also may be needed to avoid under-voltage load tripping in southern Oregon with three-phase faults in northern PG&E that was observed in dynamic stability studies. Dynamic reactive support in southern PG&E also may be needed to prevent momentary cessation of the inverters on the solar PV generators that was identified in the Gates area in the studies of momentary cessation of inverters.¹

* * *

In addition to the identified thermal overloads, high voltages were observed on the 500 kV system in Central California after Diablo Canyon Power Plant retires. In the northern part of the 500 kV system high voltages were observed under normal system conditions, and low voltages observed with contingencies. To address voltage issues identified in central and northern PG&E bulk system two projects are recommended for approval.

- Gates 500 kV Dynamic Voltage Support
- Round Mountain 500 kV Dynamic Voltage Support.²

The studies identified high voltages on the 500 kV Diablo and Gates buses after PG&E retires the Diablo Canyon Power Plant, currently scheduled to be completed in 2025.³ After the Diablo Canyon retirement, voltage on the Diablo 500 kV bus might become as high as

¹ 2018-2019 Transmission Plan, p. 80. The Board-approved Transmission Plan and other materials related to the 2018-2019 Transmission Planning Process are available at <http://www.caiso.com/planning/Pages/TransmissionPlanning/2018-2019TransmissionPlanningProcess.aspx>.

² 2018-2019 Transmission Plan, p. 93.

³ 2018-2019 Transmission Plan, pp. 82-83.

550 kV under normal system conditions, which is above the required limit. The studies also identified dynamic stability issues with three-phase faults and induction motor stalling and tripping, particularly if the faults are close to the Gates or Midway substations.⁴

The Plan concluded, “Adding voltage support in the area will mitigate both high voltages after the Diablo Canyon Power Plants retires [*sic*] as well as high voltages under off-peak conditions prior to its retirement, and will also mitigate dynamic stability issues with three-phase faults and induction motor stalling and tripping.”⁵

B. Competitive Solicitation

Following approval of the Transmission Plan, the CAISO opened a bid solicitation window on April 22, 2019, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the Gates 500 kV Dynamic Reactive Support Project. The CAISO identified the following as the key selection factors:

- The Project Sponsor’s existing rights of way and substations that would contribute to the transmission solution in question.⁶
- The proposed schedule for development and completion of the transmission solution and demonstrated ability to meet that schedule of the Project Sponsor and its team.⁷
- Demonstrated cost containment capability of the Project Sponsor and its team, specifically, binding cost control measures the Project Sponsor agrees to accept, including any binding agreement by the Project Sponsor and its team to accept a

⁴ 2018-2019 Transmission Plan, p. 83.

⁵ 2018-2019 Transmission Plan, p. 83.

⁶ CAISO Tariff, § 24.5.4(b).

⁷ CAISO Tariff, § 24.5.4(d).

cost cap that would preclude costs for the transmission solution above the cap from being recovered through the CAISO's Transmission Access Charge.⁸

The CAISO evaluated ten applications from four project sponsors. The CAISO found that all four project sponsors and their ten validated proposals met the minimum qualification criteria as set forth in Section 24.5.3 of the CAISO Tariff. In selecting the approved project sponsor, the CAISO undertook a comparative analysis of the project sponsors' proposals with regard to the qualification criteria described in CAISO Tariff Section 24.5.3.1 and the selection factors in Section 24.5.4.

In addition to the key selection factors mentioned above, the CAISO considered:

- The current and expected capabilities of the Project Sponsor and its team to finance, license, and construct the facility and operate and maintain it for the life of the solution;
- The experience of the Project Sponsor and its team in acquiring rights of way, if necessary, that would facilitate approval and construction;
- The financial resources of the Project Sponsor and its team;
- The technical and engineering qualifications and experience of the Project Sponsor and its team;
- The previous record regarding construction and maintenance of transmission facilities, including facilities outside the CAISO-controlled grid of the Project Sponsor and its team;
- The demonstrated capability of the Project Sponsor and its team to adhere to standardized construction, maintenance and operating practices;

⁸ CAISO Tariff, § 24.5.4(j).

- The demonstrated ability to assume liability for major losses resulting from failure of facilities of the Project Sponsor; and
- Any other strengths and advantages the Project Sponsor and its team may have to build and own the specific transmission solution, as well as any specific efficiencies or benefits demonstrated in their proposal.⁹

Through this competitive solicitation process, the CAISO selected LS Power Grid California, LLC, a wholly owned subsidiary of LS Power Associates, L.P., as the approved project sponsor to finance, construct, own, operate, and maintain the Gates 500 kV Dynamic Reactive Support Project.¹⁰

IV. REQUIREMENTS OF GENERAL ORDER 131-D

Section IX.B and Section X of General Order 131-D set forth the requirements for applications for a Permit to Construct. These requirements are addressed in the following sections.

A. Description of the Project (Section IX.B.1.a)

The Gates Project includes a +/-848 MVAR dynamic reactive device to be installed in a minimum of two equally sized Static Synchronous Compensator (STATCOM) units that would be independently interconnected to the existing PG&E Gates 500 kV Substation by two new single-circuit 500 kV transmission lines.

The main components of the Project system are two new STATCOM units that would be radially connected to the existing, adjacent PG&E Gates Substation by overhead conductors to be installed and owned by PG&E. The STATCOM Substation facility would have

⁹ CAISO Tariff, § 24.5.4.

¹⁰ The CAISO's full Project Sponsor Selection Report is available at <http://www.caiso.com/Documents/Gates500kVDynamicReactiveSupport-ProjectSponsorSelectionReport.pdf>.

a rated real power output of zero megawatts (MW) and a nominal terminal voltage of 500 kV. The STATCOM Substation facility would support the regional transmission system by providing voltage support and grid stability at the Gates Substation 500 kV buses. This support would facilitate the reliable operation of the extra-high voltage transmission system in the electrical proximity of the PG&E Gates Substation after the retirement of the Diablo Canyon nuclear generating units, now scheduled to be completed in 2025.

The STATCOM units would be interconnected with the PG&E Gates Substation by two 500 kV transmission lines (installed and owned by PG&E), approximately 550 feet long, that would connect to future PG&E-owned tubular steel poles or lattice steel dead-end structures. PG&E would extend the conductor for each interconnection line to the new Gates 500 kV bus positions. PG&E would take ownership of these spans because they cross PG&E assets within the PG&E Gates Substation. The point of ownership demarcation for the conductor would be the connection to LSPGC's take-off towers on LSPGC property. All facilities would be installed during the initial buildout; therefore there is no anticipated ultimate buildout scenario beyond the completion of the Project. Based on PG&E's Draft Facility Study Report, LSPGC does not anticipate that PG&E would require additional transmission upgrades at the Gates Substation, subject to further studies to be performed by PG&E.

The Project site is approximately 20 acres in size, located directly north and adjacent to the PG&E Gates Substation in Fresno County. The 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 I-5 in southwest Fresno County. The Project site is located within the northeast quarter of Public Land Survey System (PLSS) Section 33 of Township 20

South and 17 East. The Project site is zoned, agricultural and is actively used and surrounded by active agriculture.

LSPGC estimates that construction of the Project would take approximately 17 months to complete, depending upon unforeseen or unpredictable factors such as weather. Construction is scheduled to begin in March 2022 and run through December 2023.¹¹

B. Map of the Project (Section IX.B.1.b)

A map of the proposed Gates Project is attached as Appendix B. Appendix B is at a scale that shows the Project in relation to the closest parks and open spaces. A map showing transmission lines and other facilities within 300 feet of the Project is shown at Figure 3-4 of the Proponents Environmental Assessment, Appendix D.

C. Reasons for Selecting the Site (Section IX.B.1.c)

The primary reason for selecting the site is its proximity to PG&E's Gates substation. The site's boundary is adjacent to the boundary of the Gates substation, and as a result the required tie lines between the dynamic reactive power project and the Gates substation are short. In addition, the site is on previously disturbed agricultural land, which reduces the environmental impacts of the Gates Project. Appendix C contains a more detailed analysis of the siting considerations for the Gates Project, including a comparison of alternative siting areas to the selected site.

D. List of Reviewing Government Agencies (Section IX.B.1.d)

LSPCG met with several governmental agencies to solicit input on Project design and potential resource and land use issues in the vicinity of the Gates Project site. While none of the governmental agencies provided written position statements on the proposed Project location,

¹¹ The construction schedule is also dependent on PG&E's completion of its associated facilities.

the following summaries of LSPGC's coordination with the governmental agencies provide LSPGC's understanding of each agency's position with respect to the Project's location:

- **California Department of Fish and Wildlife (CDFW).** On March 19, 2020, LSPGC met with CDFW staff to review the proposed Project location and description, potential permit requirements, and the need for biological surveys. CDFW expressed no objections to LSPGC's proposed siting of the Project. Based on the disturbed nature of the proposed Project site, CDFW recommended that LSPGC focus on avian issues. CDFW advised that its main recommendation is to conduct a Swainson's hawk survey. Based on this information, LSPGC conducted the surveys in the spring of 2020, the results of which are included in the Section 4.4, Biological Resources, of the Proponent's Environmental Assessment (PEA) , attached as Appendix D.
- **Fresno County.** On June 26, 2019 and August 19, 2020, LSPGC met with Fresno County staff to review the proposed Project location and description and to discuss the appropriate procedures for addressing the Williamson Act and Subdivision Map Act. County staff expressed no objections to LSPGC's proposed siting of the Project. LSPGC will continue its coordination with Fresno County via the electric transmission facility review process pursuant to Section 875 of the Ordinance Code of the County of Fresno.
- **Native American Heritage Commission (NAHC).** On June 30, 2020, LSPGC initiated coordination with the NAHC by submitting a Sacred

Lands File (SLF) search request that included Project area locational information. On July 1, 2020, the NAHC responded with a coordination letter explaining that no specific site information applicable to the Project site is present in the SLF; however, the NAHC provided a list of 13 Native American tribal representatives and recommended that LSPGC contact these representatives to request additional information on the Project's potential effects on cultural resources. The details of the NAHC consultation, including copies of all correspondence provided by LSPGC, are provided in Appendix 4.18 of the PEA attached as Appendix D. On July 2, 2020, LSPGC distributed letters and Project maps via email and U.S. mail to the representatives of the 13 Native American tribes, requesting that the representatives supply information pertinent to the Project area or recommend others with specific knowledge. LSPGC made follow-up contact with all 13 tribes during July 2020 via phone and email. Of the 13 tribal representatives contacted, one deferred to tribes closer to the Proposed Project area; one had no comments but requested to be informed of any discoveries associated with the Project; and one (Dumna Wo-Wah Tribal Government Chairman Robert G. Ledger, Sr.) provided confidential tribal knowledge that was incorporated in Section 4.18 of the PEA included as Appendix D. Additionally, Chairman Ledger indicated a preference to have a tribal monitor on site during ground disturbing activities, and a preference to participate in official consultation regarding the proposed Project. Throughout the coordination

process described above, no objections to the siting of the Project were expressed by the NAHC or the tribes.

E. Proponent's Environmental Assessment (Section IX.B.1.e)

A copy of the Proponent's Environmental Assessment is attached as Appendix D.

F. Measures Taken to Reduce Exposure to Electric and Magnetic Fields (Section X)

The Commission has periodically considered the impact of exposure to electric and magnetic fields (EMF). In D.93-11-013, the Commission adopted an EMF policy for electric utility facilities and power lines. Because the Commission concluded there was no reliable scientific basis to conclude that adverse health effects resulted from exposure to power frequency EMF, the Commission declined to adopt a specific numerical standard for EMF exposure.¹² The Commission instead established an EMF policy for California's regulated electric utilities that required new and upgraded facilities to implement no-cost or low-cost (4% or less of the total project cost) measures to mitigate EMF to the extent such measures were approved as part of the Commission's review process.

In D.06-01-042, the Commission affirmed its earlier finding that no direct link between exposure to EMF and adverse health effects had been proven despite numerous studies, including a research program ordered by the Commission and conducted by the California Department of Health Services.¹³ The Commission reaffirmed its policy of requiring only low-cost/no-cost measures to mitigate EMF exposure for utility transmission and substation projects and set a target for low-cost mitigation measures: low-cost mitigation measures were to be designed to reduce exposure to EMF by 15% or more at the utility right-of-way.¹⁴ The decision

¹² D.93-11-013.

¹³ D.06-01-042, p. 19 (Finding of Fact 5).

¹⁴ D.06-01-042, pp. 10, 21 (Finding of Fact 20).

also addressed the mitigation measures to be required in different land use contexts and determined that low-cost measures were not required in agricultural or undeveloped areas. Only no-cost mitigation measures are required in those areas.¹⁵

The Commission has also adopted EMF design guidelines for utilities in California.¹⁶

Section X(A) of General Order 131-D requires all applications for a PTC to include a description of the measures taken or proposed to reduce the potential for exposure to EMF generated by a proposed project. LSPGC evaluated EMF mitigation measures in its design and construction plan and adopted certain no-cost mitigation measures. LSPGC's management plan addressing the no-cost EMF mitigation measures that will be incorporated into the design of the Gates Project is attached as Appendix E. LSPGC respectfully asks the Commission to approve the proposed management plan in its decision approving this Application.

G. Safety Is a Priority

LS Power and its affiliates continuously strive to establish and maintain a culture of safety throughout the organization. LSPGC holds safety paramount and considers safety practices and records as key selection criteria for contractors. LSPGC's contractors will be responsible for developing a Project-specific safety plan and ensuring adequate safety training is implemented. LSPGC will continuously monitor contractor safety measures to ensure they are adequate for the Project and protective of all site personnel. All project employees, contractors, and visitors must be committed to conduct themselves in a safe and responsible manner. All employees and contractors have the responsibility to follow established safety, health, and environmental requirements as well as enforcing accident prevention procedures within their

¹⁵ D.06-01-042, pp. 9, 20 (Finding of Fact 18).

¹⁶ <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=4884> .

function or responsibility. If a situation arises that would cause harm to personnel, loss of property, or damage to the environment, the first person, whether LSPGC personnel, construction contractor, or subcontractor, to realize such a situation is authorized and required to stop the work until the safety concerns have been addressed. If there is knowledge of any practice, condition, or information that is contrary to the policies and procedures authored by the construction contractor or subcontractors, it will be reported immediately to the appropriate supervisor and LSPGC representatives.

H. Notice (Section XI.A)

Applicants for a Permit to Construct are required to give notice of the Application within 10 days of filing by direct mail, newspaper advertisement, and posting on- and off-site. LSPGC's proposed form of notice is attached as Appendix F.

V. REQUIREMENTS OF RULE 2

A. Statutory Authority

This Application is filed pursuant to the provisions of General Order 131-D and Public Utilities Code sections 701, 702, 761, 768, and 770, the relevant statutes that provide the statutory basis for GO 131-D.

B. Applicant

Applicant is LS Power Grid California, LLC, whose principal place of business is in Chesterfield, Missouri. LSPGC is organized under the laws of the State of Delaware.

C. Communications

Communications regarding this application should be directed to:

LS Power Grid California, LLC
Attn: Project Director
16150 Main Circle Drive, Suite 310
Chesterfield, MO 63017
Telephone: (636) 532-2200
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With a copy to:

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D. Category, Need for Hearing, Issues, and Proposed Schedule

1. Category

LSPGC proposes to categorize this Application as a ratesetting proceeding. This Application does not involve an enforcement investigation or a complaint and thus does not meet the definition of an “adjudicatory” proceeding under Rule 1.3(a). This Application also does not establish policy or rules affecting a class of regulated entities and thus does not meet the definition of a “quasi-legislative” proceeding under Rule 1.3(e). FERC will set rates and determine the cost recovery for the Gates Project through its approval of the Transmission Access Charge; because the Commission will not set rates or establish a mechanism that sets rates for LSPGC, this proceeding does not clearly fit within the “ratesetting” definition under

Rule 1.3(f). Under Rule 7.1(e)(2), when a proceeding does not clearly fit into any of the categories in Rules 1.3(a), (e), and (f),¹⁷ the proceeding will be conducted under the rules applicable to the ratesetting category. LSPGC therefore proposes that this Application should be categorized as ratesetting.

2. Need for Hearing

LSPGC does not anticipate that hearings will be needed for this proceeding. LSPGC nevertheless proposes a schedule below that allows time for hearings, if needed, following issuance of a draft Negative Declaration or other required environmental document by Commission staff.

3. Issues

When the Commission adopted GO 131-D, it stated that “the permit-to-construct review focuses solely on environmental issues.”¹⁸ Based on Commission precedent, the issues to be considered in this proceeding are:

- whether the Commission should authorize the construction of the Gates Project;
- whether the Negative Declaration or other required environmental document has been prepared in compliance with CEQA;
- whether there are significant environmental impacts of the proposed Project;
- whether there are feasible mitigation measures that will eliminate or lessen the significant environmental impacts;

¹⁷ Rule 7.1(e)(2) refers to Rule 1.3 (a), (d), and (e) (rather than Rule 1.3(a), (e), and (f)) and does not reflect a renumbering that occurred when Rule 1.3 was revised in 2018.

¹⁸ D.94-06-014, 55 CPUC2d 87, 93.

- whether the Gates Project is designed in compliance with the Commission's policies governing the mitigation of electric and magnetic fields effects using low-cost and no-cost measures; and
- if the PTC is granted, whether the exemptions from affiliate transaction rules and from reporting requirements set forth in the Commission's General Orders should be granted, as requested by LSPGC in this Application.

4. Proposed Schedule

Below is LSPGC's proposed schedule for the proceeding.

<u>EVENT</u>	<u>DATE</u>
Application Filed; PEA submitted	Feb. 19, 2021
Publication in Daily Calendar	Feb. 22, 2021
Application deemed complete	March 22, 2021
Last Day for Protests and Responses	March 24, 2021
Reply to Protests and Responses	April 5, 2021
Prehearing Conference	April 19, 2021
Scoping Ruling and Memo	May 3, 2021
Negative Declaration/EIR issued	Aug. 20, 2021
Opening Testimony (if needed)	Aug. 31, 2021
Reply Testimony (all parties)	Sept. 13, 2021
Hearings (if needed)	Sept. 27, 2021
Opening Briefs	Oct. 8, 2021
Reply Briefs	Oct. 15, 2021

Proposed Decision	Nov. 16, 2021
Commission Decision	Dec. 16, 2021

E. Organization and Qualification

Copies of LSPGC’s certificate of formation and certificate of qualification to do business in California are attached as Appendix G.

F. Financial Statements

LSPGC’s parent, LS Power, is a closely held private company that does not publish financial information and does not maintain a credit rating. As LS Power’s subsidiary, LSPGC also does not publish financial information. However, LS Power’s financial stability is demonstrated by the fact that LS Power has raised over \$46 billion of debt and equity capital to support its business activities, including raising over \$2 billion in the last ten years for new high-voltage transmission facilities.

In connection with the CAISO solicitation, LSPGC provided confidential LS Power financial information and a written guarantee upon execution of the APSA, providing CAISO with certainty that adequate capital is available to implement the Project. LSPGC explained to CAISO that since the capital required to energize the Project is available through existing credit facilities and cash on hand, there is no financial Project implementation risk to CAISO.

In its Selection Report , CAISO concluded that “all four project sponsors [including LSPGC] exhibit sufficient financial strength and resources to complete this particular project.”¹⁹ CAISO added that, “Having the financial capacity to continue to bid on, win, and finance projects, although dependent in part on the financial resources of a company, also

¹⁹ Gates 500 kV Dynamic Reactive Support Project, Project Sponsor Selection Report, p. 36.

depends on the breadth and strength of a company's partners and banking relationships. Recent and past project financing experience indicates that . . . LSPGC [has] developed banking relationships as evidenced by various banks providing support for this project. Consequently, the ISO considers LSPGC . . . to have sufficient financial resources to complete this project.”²⁰

The Commission can rely on the financial diligence performed by CAISO prior to awarding three competitive transmission projects to affiliates of LS Power in recent years, and the successful completion of LS Power affiliate DesertLink's Harry Allen to Eldorado 500 kV Transmission Project in 2020. However, if the Commission requires additional financial information, LS Power's confidential financial information could be provided under seal for review with appropriate protections of the confidentiality of this sensitive information.

G. Compliance with CEQA

LSPGC is submitting a Proponent's Environmental Assessment with this Application and is tendering the original and three copies of the PEA to the Docket Office with this Application. The environmental review required by CEQA will be overseen by the Commission's Energy Division.

H. Deposit for Costs for Environmental Review

With this Application, LSPGC will tender its deposit of \$68,300.00, calculated according to the formula set forth in Rule 2.5. Although Rule 2.5 allows applicants to pay the total deposit in three installments, LSPGC has elected to pay the full deposit with the filing of this Application.

²⁰ Gates 500 kV Dynamic Reactive Support Project, Project Sponsor Selection Report, p. 36.

VI. A PERMIT TO CONSTRUCT IS THE APPROPRIATE PERMIT FOR THIS PROJECT

In 1994, the Commission adopted GO 131-D, which prescribed comprehensive rules governing the planning and construction of electric generation, transmission and distribution line facilities and substations in California. GO 131-D also established different procedures for different categories of transmission lines and substations. “[M]ajor electric transmission line facilities which are designed for immediate or eventual operation at 200 kV or more” were required to obtain a Certificate of Public Convenience and Necessity (CPCN) from the Commission. For “electric power line facilities or substations which are designed for immediate or eventual operation at any voltage between 50 kV or 200 kV or new or upgraded substations with high side voltage exceeding 50 kV,” a different authorization, called a Permit to Construct (PTC) was required.

GO-131-D focused on two types of facilities: (1) lines used for the transmission and distribution of electricity and (2) substations. But the transmission system includes a variety of facilities that are neither transmission or distribution lines nor substations. The Commission’s treatment of facilities that are neither transmission lines nor substations has been uneven, raising the question whether a dynamic reactive support facility is closer in concept to a substation (PTC) or a major transmission line facility operating at 200 kV or more (CPCN). The following discussion presents the reasons a PTC is the appropriate permit for the Gates Project.

A. The Project’s Function Is Similar to that of a Substation

First, the Project does not actually transmit power from power sources to consumers, the primary function of transmission and distribution lines. The lines connecting the Gate Project to the Gates substation are short (about 550 feet long), and the Commission has

ruled that short lines are not “major transmission line facilities,” even if their voltage is over 200kV.

Second, the description of the Project Details in the APSA with the CAISO describes the Project’s two components: the Dynamic Reactive Power Support Substation and the Dynamic Reactive Power Support Tie Lines (emphasis added).²¹

Third, the project includes step-up transformers that change the voltage of the current, similar to the function of a substation.

For these reasons, the Gates Project should be treated as a “new or upgraded substation[] with high side voltage exceeding 50 kV”²² and is eligible to receive the Commission’s authorization by means of a PTC.

B. The Project’s Tie Lines Are Not Major Transmission Line Facilities

The Commission has considered short lines that are ancillary to substation projects not to be “major transmission line facilities,” even if their voltages exceed 200 kV.²³ Under GO 131-D, Section III.B, the PTC procedure applies to new or upgraded substations with high-side voltages in excess of 50 kV, which includes substations with a high-side voltage in excess of 200 kV. Because substations with high-side voltages in excess of 200 kV will also require construction of an interconnecting transmission line segment in excess of 200 kV, substation projects that include minor connecting transmission line segments in excess of 200 kV are also eligible for the PTC procedure. Otherwise, any substation with a high-side voltage in excess of 200 kV would automatically require a CPCN, contrary to the plain language of GO 131-D.

²¹ See Appendix A, APSA, p. 38.

²² GO 131-D, § III.B.

²³ *E.g.*, D.17-02-015, D.11-07-020, D.11-07-055, D.07-03-009.

For the Gates Project, two approximately 550-foot spans of 500 kV conductor will connect the Gates Project to the adjacent PG&E Gates Substation. As the Commission has clarified, short connecting lines are not “major electric transmission line facilities,” and a PTC is the appropriate vehicle for the Commission to authorize construction of the Project.²⁴

C. The Need for and Cost of the Project Are Reviewed Elsewhere

When the Commission adopted GO 131-D, it contemplated that the PTC process would provide a streamlined environmental review of projects in which a utility would not need to establish the need for the project or the reasonableness of the proposed project’s cost.²⁵ For the Gates Project, this streamlined environmental review is appropriate, because the need for the Project and the reasonableness of the costs of the Project are reviewed by other entities.

The need for the Gates Project was determined as part of the CAISO’s Transmission Planning Process. As outlined above, the Transmission Planning Process is a two-year review of the needs of the CAISO-controlled transmission grid, and the 2018-2019 Transmission Plan determined that a dynamic reactive support facility was needed near the Gates substation to mitigate excessive high voltage and dynamic stability issues that would otherwise result after PG&E retires the Diablo Canyon Nuclear Power Plant.

The reasonableness of the cost of the Gates Project will be reviewed by the FERC before it authorizes recovery of those costs through the Transmission Access Charge. But even before that review takes place, the reasonableness of the costs of the Gate Project is supported by the fact that LSPGC’s proposal was selected in a competitive solicitation. Moreover, LSPGC’s proposal includes binding cost guarantees for the project, a binding return on equity cap, a

²⁴ See D.11-07-020, pp. 1-2.

²⁵ D.94-06-014, p. 22 (“As compared with the procedures for a CPCN currently required for over-200-kV transmission lines, the permit to construct procedure is more streamlined, since it does not address the need for and economic cost of a proposed facility”).

binding equity percentage cap, and a binding annual revenue requirement cap.²⁶ These binding cost caps will protect ratepayers from cost overruns. As the CAISO concluded:

One of the key selection factors for which the ISO identified material differences among the project sponsors' proposals is the cost containment selection factor, particularly the project sponsors' commitments to binding cost containment measures. As discussed above, this factor is one of the three key selection factors identified by the ISO at the outset of this procurement process. LSPGC proposed the strongest binding cost containment commitment proposal. In particular, it proposed more robust capital/construction cost, return on equity, and equity percentage caps that should result in lower costs and present less risk compared to the proposals of the other three project sponsors, for their nine proposals, thus benefitting ratepayers. Further, LSPGC proposed a robust, 15-year annual revenue requirement cap that will provide lower cost, greater rate certainty, and less cost risk than the proposals of the other project sponsors.²⁷

Thus, the Gates Project is ideally suited for a streamlined environmental review that the Commission intended for projects qualifying for a PTC.

D. LSPGC Will Become a Public Utility When the PTC Is Granted

In previous proceedings on applications for a PTC, some parties have argued that the PTC process is available only to entities that are *existing* public utilities. This interpretation ignores the introductory paragraph of GO 131-D, which states that the provisions of the General Order apply both to existing electric public utilities and to any entity that “hereafter may become subject, to the jurisdiction of this Commission.” This point was emphasized by the Administrative Law Judge (ALJ) in A.15-08-027, on NextEra Energy Transmission (NEET) West’s Suncrest project, in a ruling that confirmed that entities that might become subject to Commission jurisdiction are required (and, by extension, eligible) to file an application for a PTC for their first Commission-jurisdictional project. That ruling added emphasis to the

²⁶ Gates 500 kV Dynamic Reactive Support Project, Project Sponsor Selection Report, p. 100.

²⁷ Gates 500 kV Dynamic Reactive Support Project: Project Sponsor Selection Report, p. 136.

language of Section I of GO 131-D: “Section I of GO 131-D is clear that ‘no electric public utility, now subject, **or which hereafter may become subject**, to the jurisdiction of this Commission, shall begin construction in this state . . . of new, upgraded or modified substations without first complying with the provisions of this General Order [emphasis added].’”²⁸ The ALJ’s emphasis clarifies that NEET West did not need an order granting it public utility status before it filed an application for a PTC for its Estrella Project. GO 131-D applies equally to currently existing electric public utilities and those which will become subject to the Commission’s jurisdiction if their applications are granted.

A related issue is when an entity becomes a public utility. The Commission has stated that an entity becomes a public utility once a CPCN is issued to it.²⁹ Because a PTC was developed as an alternative mechanism to a CPCN to provide a faster path for the Commission’s authorizing an entity to construct certain electric plant, an entity should likewise become a public utility once the Commission issues it a PTC.

VII. REQUESTS FOR EXEMPTIONS

A. Affiliate Transaction Rules

LSPGC has no direct employees and relies on services provided by LS Power. Consistent with LSPGC’s formula rate filing in FERC Docket ER21-195, LSPGC intends to use resources and facilities within the LS Power corporate organization to facilitate the efficient and cost-effective financing, development, construction, ownership, operation, and maintenance of the Gates Project. LSPGC is able to draw on talented and committed personnel from across the

²⁸ *Administrative Law Judge’s Ruling Denying Motions for 1) Interim Decision Granting Public Utility Status and 2) Ruling Identifying the Issues and Establishing a Procedural Schedule to Consider Motion for Interim Decision*, A.15-08-027 (April 8, 2016), p. 3.

²⁹ D.11-07-036, pp. 7-8; see D.00-05-048, p. 1.

LS Power organization, and subject to the Commission's approval, LSPGC hopes to continue to draw on this expertise.

In particular, LSPGC proposes to use LS Power affiliate support for activities such as treasury and finance, accounting and financial reporting, tax accounting, legal, human resources, information technology, engineering and project oversight, executive management, operations and maintenance, and regulatory compliance. Services provided by affiliates will be provided to LSPGC at cost as detailed in FERC Docket ER21-195.

Allowing continued use of these shared resources will give LSPGC access to the highly experienced personnel within the LS Power organization and will allow LSPGC to provide service in the most cost-efficient manner possible.

In D.18-09-030, the Commission granted exemptions from Section V.C, Section V.E, and Section V.G of the affiliate transaction rules to NEET West in connection with the Suncrest Dynamic Reactive Support Project. However, the Commission also declared that "exemptions from the affiliate transaction rules in this proceeding do not guarantee that such waivers for other similarly structured and approved transmission projects in California as each request for waiver must be individually considered in the appropriate proceeding." For that reason, LSPGC presents detailed justification for exemptions in this Application.

The Commission has established two sets of affiliate transaction rules. One set, referred to as the Original Rules, applies to public utility electrical corporations that have gross annual operating revenues in California of one billion dollars or less.³⁰ LSPGC's gross annual operating revenues in California are not expected to equal or exceed one billion dollars and the

³⁰ Adopted in D.97-12-088 and amended in D.98-08-035 and D.98-12-075, these rules are the Original Rules. The Commission adopted revised affiliate transaction rules that apply only to the major electric utilities with gross annual operating revenues of more than one billion dollars in D.06-12-029.

Original Rules on affiliate transaction would ordinarily apply to LSPGC. However, exemption LSPGC from the affiliate transaction rules is justified because the Gates Project already meets the two goals of the affiliate transaction rules: to foster competition and protect consumers' interests.³¹

Fostering competition has been addressed by LSPGC's successful participation in the CAISO's competitive solicitation. As noted above, the Gates Project was subject to a highly competitive solicitation at the CAISO. The CAISO selected LSPGC as the Approved Project Sponsor to finance, develop, construct, own, operate, and maintain the Gates Project. The Gates Project will become part of the CAISO-controlled transmission system that is open to access and use by transmission customers under the terms of the CAISO Tariff. By enhancing the operation of the transmission grid, the Gates Project will promote the competitive elements of the CAISO's market mechanisms.

With regard to the Commission's goal of protecting consumer interests, no harm will result to consumers from waiver of the affiliate transaction rules in this instance. LSPGC will not have any retail customers in California, and the CAISO Transmission Access Charge (TAC) through which it will exclusively recover its costs is regulated by FERC. LSPGC will be able to recover only the costs that are approved by FERC in accordance with FERC's jurisdiction over rates for interstate transmission service. Moreover, LSPGC has committed to cost containment measures limiting the amount LSPGC will seek to recover from FERC. These protections ensure that LSPGC cannot operate its facilities in a manner that improperly benefits its affiliates to the detriment of California ratepayers. As a FERC-regulated public utility, LSPGC also will comply with FERC's standards of conduct for transmission utilities.

³¹ D.97-12-088, p. 9.

Because the costs of the Gates Project are subject to strict cost containment provisions, and because those costs will be reviewed for reasonableness by the FERC, the interests of California ratepayers are protected from the potential affiliate abuses that could result in higher retail rates. In this situation, the purposes of the affiliate transaction rules have been met, and further restrictions are unnecessary.

For these reasons, LSPGC respectfully requests the Commission to exempt it from the affiliate transaction rules.

However, if a complete exemption from the affiliate transaction rules is not granted, LSPGC requests exemption from certain provisions of the affiliate transaction rules, as set forth below.

Section V.C. of the rules provides: “A utility shall not share office space, office equipment, services, and systems with its affiliates, nor shall a utility access the computer or information systems of its affiliates or allow its affiliates to access its computer or information systems” Section V.E. of the rules also prohibits a utility from sharing with its affiliates support services in the areas of engineering and system operations, among other prohibited areas. LSPGC respectfully requests exemption from Section V.C. and Section V.E., to allow the Gates Project to benefit from the expertise of LSPGC’s affiliates.

Section V.G. of the rules provides:

[A] utility and its affiliates shall not jointly employ the same employees. This Rule prohibiting joint employees also applies to Board Directors and corporate officers, except for the following circumstances: In instances when this Rule is applicable to holding companies, any board member or corporate officer may serve on the holding company and with either the utility or affiliate (but not both)

As described above, because it has no direct employees, LSPGC proposes to use a variety of shared services from certain of its affiliates. Additionally, certain corporate officers

who perform oversight activities for LSPGC's transmission assets perform similar oversight activities for LSPGC's affiliates, and certain officers with engineering duties are employed by an affiliate and work as shared service employees to support LSPGC. To permit LSPGC to continue this approach after public utility status has been obtained, LSPGC respectfully requests exemption from Section V.G.

Granting these requested exemptions to LSPGC would not undermine the objectives of the affiliate transaction rules. The Commission's goals of fostering competition and protecting consumer interests would not be hindered by exempting LSPGC from Section V.C., Section V.E., and Section V.G. of the affiliate transaction rules.

In addition, to the extent the Commission has granted other exemptions of the affiliate transaction rules to other similarly situated public utilities in California, LSPGC requests that it be granted similar exemptions.

B. Reporting Requirements

LSPGC also requests exemptions from certain reporting requirements that are not necessary for a public utility that is subject to both rate regulation by FERC and strict restrictions on the costs that may be recovered in the TAC. Specifically, LSPGC requests exemptions from General Order 65-A, General Order 77-M, and General Order 104-A.

General Order 65-A requires submission of "each financial statement prepared in the normal course of business" and the annual report and other financial statements issued to stockholders. Although these reports might be useful for the Commission's oversight of the operations of utilities subject to cost-based rate regulation, they are not warranted for LSPGC because the TAC, the exclusive means for LSPGC to recover the costs of the Gates Project, is subject to approval and oversight by FERC, and the Approved Project Sponsor Agreement for the Gates Project includes a cap on the costs that can be recovered through the TAC. Because

the Commission does not set rates for LSPGC, the objectives served by General Order 65-A do not apply.

General Order 77-M requires submission of data on the compensation of officers and employees, dues and donations, and legal fees. Again, although this information might for the Commission's oversight of utilities subject to cost-based rate regulation, submission of this information is not warranted for LSPGC, because the costs associated with the Gates Project will be recovered only through the TAC that is subject to approval by FERC. Moreover, the strict cost containment provisions for the Gates Project preclude LSPGC from including excessive costs into the TAC for the Gates Project.

General Order 104-A requires the filing of an annual report, and the form supplied by the Commission's Energy Division requires information that informs the regulation of cost-based rates by the Commission, such as information on income statements, sales to residential customers (LSPGC has none), and similar topics. LSPGC will provide annual reports and other financial information to FERC, and this information will be publicly available through FERC's processes. LSPGC therefore requests exemption from the General Order 104-A requirement to file an annual report.

In D.00-12-030, the Commission granted exemptions from General Order 65-A and General Order 77-K to Wild Goose Storage Inc. (Wild Goose), and limited Wild Goose's filing requirements under General Order 104-A. Because Wild Goose operated under a regime of market-based rates and was not subject to cost-based ratemaking, many of the requirements of the annual reports served little purpose for the Commission's regulation of Wild Goose. The Commission explained that Wild Goose was not subject to a traditional cost-of-service, rate-of-return regulatory framework, that ratepayers bore no risk for Wild Goose's investment and

operations, that Wild Goose operated at complete risk to its shareholders, that Wild Goose had no market power and negligible ability to engage in predatory pricing, and that it was unnecessary to place a high regulatory burden on a new entrant.³²

In D.18-09-030 the Commission excused NEET West from these reporting requirements in connection with the Suncrest Dynamic Reactive Power Support Project.³³

For the same reasons the Commission determined that the reporting requirements were not warranted for Wild Goose or NextEra Energy Transmission West, the Commission should exempt LSPGC from these reporting requirements because:

- the TAC through which LSPGC will recover costs associated with the Gates Project is subject to FERC's approval and oversight,
- LSPGC has committed to binding cost caps that limit the costs that LSPGC can recover through the TAC,
- LSPGC does not serve retail customers in California and has no ability to recover costs directly from retail customers in California, and
- LSPGC does not have market power and does not have the ability to control access to its facilities or engage in predatory pricing for use of its facilities.

³² D.00-12-030, pp. 4-5. After Wild Goose expanded its operations, the Commission withdrew the exemptions because it could no longer clearly determine whether Wild Goose possessed the ability to exercise market power. The Commission decided that re-imposing these reporting requirements would allow the Commission to monitor the situation more fully in the future. (D.02-07-036.) Because LSPGC does not and cannot exercise market power and cannot engage in predatory pricing, the Commission's original reasoning is relevant to LSPGC's request for exemption from these reporting requirements.

³³ D.18-09-030, p. 48.

VIII. CONCLUSION

For the reasons stated in this Application, LS Power Generation California, LLC respectfully requests the Commission to issue a decision:

- granting LSPGC a Permit to Construct the Gates 500 kV Dynamic Reactive Support Project, as described in this Application and supporting documents;
- certifying the Negative Declaration or other environmental documents prepared in compliance with CEQA;
- declaring that LSPGC is an electrical public utility;
- granting the exemptions requested in this Application; and
- granting such other and further relief as the Commission deems proper.

Respectfully submitted this 19th day of February, 2021 at San Francisco, California.

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APPENDIX A

**APPROVED PROJECT SPONSOR AGREEMENT (APSA)
BETWEEN**

LS POWER GRID CALIFORNIA, LLC

AND

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR
CORPORATION**

GATES 500 KV DYNAMIC REACTIVE SUPPORT PROJECT

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**APPROVED PROJECT SPONSOR AGREEMENT****LS POWER GRID CALIFORNIA, LLC****CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

THIS APPROVED PROJECT SPONSOR AGREEMENT ("Agreement") is made and entered into this 19th day of May, 2020, between LS Power Grid California, LLC, is a limited liability company organized and existing under the laws of the State of Delaware ("Approved Project Sponsor"), and the California Independent System Operator Corporation, a California nonprofit public benefit corporation organized and existing under the laws of the State of California ("CAISO"). Approved Project Sponsor and the CAISO each may be referred to as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, the CAISO exercises Operational Control over the CAISO Controlled Grid; and

WHEREAS, the Approved Project Sponsor intends to construct, finance, and own the Gates 500 kV Dynamic Reactive Support Project ("Project") consisting of transmission facilities identified in Appendix A to this Agreement; and

WHEREAS, if applicable, the Approved Project Sponsor will seek interconnection of the Project from the Interconnecting PTO or other entity in accordance with the requirements provided in this Agreement; and

WHEREAS, the Parties agree that the Approved Project Sponsor will enter into the Transmission Control Agreement to become a Participating Transmission Owner ("Participating TO"), if it is not already a Participating TO, effective upon energization of the Project, and will turn the Project over to the Operational Control of the CAISO; and

WHEREAS, the Parties recognize that the Approved Project Sponsor has certain rights and obligations related to the Project that arise prior to the date upon which the Approved Project Sponsor will place the facilities under the CAISO's Operational Control and, if not already a Participating TO, will become a Participating TO and which may remain in effect for a discrete period of time after the Approved Project Sponsor enters into the Transmission Control Agreement; and

WHEREAS, the Approved Project Sponsor and the CAISO thus have agreed to enter into this Agreement for the purpose of identifying rights and obligations associated with the Project that arise prior to the effective date of the Approved Project Sponsor's execution of the Transmission Control Agreement;



NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

ARTICLE 1. DEFINITIONS

When used in this Agreement, a term with initial capitalization shall have the meaning set forth in this Article 1 or the recitals, or if not defined in this Article 1 or the recitals, shall have the meaning specified in the Article in which it is used or in the CAISO Tariff, Appendix A.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state, and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits, and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the Western Electricity Coordinating Council or its successor.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Balancing Authority Area of the Interconnecting PTO's Transmission System to which the Project is directly connected, including requirements adopted pursuant to Section 215 of the Federal Power Act.

Breach shall mean the failure of a Party to perform or observe any material term or condition of this Agreement.

Breaching Party shall mean a Party that is in Breach of this Agreement.

Confidential Information shall mean any confidential, proprietary, or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy, or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise, subject to Article 19.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 14 of this Agreement.

Effective Date shall mean the date on which this Agreement becomes effective as specified in Article 2.

Environmental Law shall mean Applicable Laws and Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, earthquake, or explosion, any order, regulation, or restriction imposed by governmental, military, or lawfully established civilian authorities, or any other cause beyond the reasonable control of the Parties that could not have been avoided through the exercise of Good Utility Practice. A Force Majeure event does not include (1) acts of negligence or intentional wrongdoing by the Party claiming Force Majeure; (2) economic conditions that render a Party's performance of this Agreement unprofitable or otherwise uneconomic; (3) economic hardship of either Party; or (4) failure or delay in granting of necessary permits for reasons not caused by Force Majeure.

Governmental Authority shall mean any federal, state, local, or other governmental, regulatory, or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Approved Project Sponsor, the CAISO, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials, or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants," or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material, or substance, exposure to which is prohibited, limited, or regulated by any applicable Environmental Law.

Interconnecting PTO shall mean any Participating TO, other than the Approved Project Sponsor, that owns or is building transmission facilities to which the Project will interconnect.

Interconnection Handbook shall mean a handbook, developed by the Interconnecting PTO and posted on the Interconnecting PTO's web site or otherwise made available by the Interconnecting PTO, describing technical and operational requirements for controls and protection equipment for transmission connected to the Interconnecting PTO's portion of the CAISO Controlled Grid, as such handbook may be modified or superseded from time to time. Interconnecting PTO's standards contained in the Interconnection Handbook shall be deemed consistent with Good Utility Practice.

Loss shall mean any and all damages, losses, and claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties.

Metering Equipment shall mean all metering equipment installed or to be installed for measuring the Balancing Authority Area boundary pursuant to this Agreement at the metering points, including instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

Party or Parties shall mean the CAISO, the Approved Project Sponsor, or the applicable combination of the above.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under this Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

System Protection Facilities shall mean equipment, including necessary protection signal communications equipment, that protect (1) the Interconnecting PTO's Transmission System, Interconnecting PTO's Transmission Interconnection Facilities, CAISO Controlled Grid, and Affected Systems from faults or other electrical disturbances and (2) the Approved Project Sponsor's Transmission System from faults or other electrical system disturbances occurring on the CAISO Controlled Grid, Interconnecting PTO's Transmission Interconnection Facilities, and Affected Systems or on other delivery systems or other generating systems to which the CAISO Controlled Grid is directly connected.

Transmission Interconnection Facilities shall mean the Interconnecting PTO's or other entity's transmission facilities, including any modification, additions, or upgrades, that are necessary to physically and electrically interconnect the Project to the Interconnecting PTO's Transmission System.

Transmission Interconnection Service shall mean the service defined in Section 4.2 of this Agreement.

ARTICLE 2. EFFECTIVE DATE, TERM, AND TERMINATION

2.1 Effective Date. This Agreement shall become effective upon execution by all Parties, subject to acceptance by FERC (if applicable). The CAISO shall promptly file this Agreement with FERC upon execution in accordance with Section 3.1, if required.

2.2 Term of Agreement. This Agreement shall remain in effect until termination consistent with Section 2.3.



2.3 Agreement Termination.

- 2.3.1** Except for the obligations set forth in Sections 5.6, 5.10, 10.1.1, 10.3, and 15.3, this Agreement shall terminate when the Project has been turned over to CAISO Operational Control.
- 2.3.2** A Party may terminate this Agreement in accordance with Section 5.8 or Article 14.
- 2.3.3** Notwithstanding Sections 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination and, if applicable, FERC has accepted the notice of termination.

ARTICLE 3. REGULATORY FILINGS AND CAISO TARIFF COMPLIANCE

- 3.1 Filing.** The CAISO shall file this Agreement (and any amendment hereto) with the appropriate Governmental Authority, if required. The Approved Project Sponsor may request that any information included in such filing be subject to the confidentiality provisions of Article 19. If the Approved Project Sponsor has executed this Agreement, or any amendment to this Agreement, the Approved Project Sponsor shall reasonably cooperate with the CAISO with respect to such filing and to provide any information reasonably requested by the CAISO needed to comply with applicable regulatory requirements.
- 3.2 Agreement Subject to CAISO Tariff.** The Approved Project Sponsor shall comply with all applicable provisions of the CAISO Tariff.
- 3.3 Relationship Between this Agreement and the CAISO Tariff.** If and to the extent a provision of this Agreement is inconsistent with the CAISO Tariff and dictates rights and obligations between the CAISO and the Approved Project Sponsor, the CAISO Tariff shall govern.
- 3.4 Requirement to Become a Participating TO.** The Approved Project Sponsor agrees that the Project shall be placed under CAISO Operational Control upon completion of the Project. To the extent the Approved Project Sponsor is not already a Participating TO, the Approved Project Sponsor further agrees that it shall enter into the Transmission Control Agreement in sufficient time for its execution to become effective as of the date of energization of the Project and that it has met or shall meet all other CAISO Tariff requirements to become a Participating TO in accordance with Section 4.3 of the CAISO Tariff.
- 3.5 Relationship Between this Agreement and the Transmission Control Agreement.** Once the Approved Project Sponsor has entered into the Transmission Control Agreement, if and to the extent a matter specifically

addressed in this Agreement is inconsistent with the Transmission Control Agreement, the terms of the Transmission Control Agreement shall govern.

ARTICLE 4. SCOPE OF SERVICE

- 4.1 Transmission Facilities.** The Approved Project Sponsor shall build and connect to the CAISO Controlled Grid the Project identified in Appendix A.
- 4.2 Transmission Interconnection Service.** Transmission Interconnection Service allows the Approved Project Sponsor to connect the Project to the facilities of an Interconnecting PTO or a transmission system that is not part of the CAISO Controlled Grid. Unless the Project connects solely to the facilities of the Approved Project Sponsor, the Approved Project Sponsor shall request Transmission Interconnection Service from the Interconnecting PTO or other entity according to the milestones set forth in Appendix B and shall comply with the Interconnecting PTO's or other entity's applicable transmission interconnection procedures. The Approved Project Sponsor must obtain a separate agreement for Transmission Interconnection Service from the Interconnecting PTO or any other entity to whose facilities the Project will interconnect. This separate agreement with each Interconnecting PTO or other entity must provide, at a minimum, for the Interconnecting PTO or other entity to take any procedural steps required in this Agreement with respect to the transmission interconnection, including Sections 5.3.4, 5.4.2, 5.4.3, 5.5.1.3, 5.6.2, 6.1, 8.1, and 9.2, and must identify the Transmission Interconnection Facilities that an Interconnecting PTO is responsible for, and must pay for in accordance with Section 24.14.2 of the CAISO Tariff. The CAISO may facilitate the coordination between the Approved Project Sponsor and the Interconnecting PTO contemplated by this Agreement.
- 4.2.1** The Transmission Interconnection Service agreement shall require that the Interconnecting PTO or other entity providing Transmission Interconnection Service provide to the CAISO, every ninety (90) calendar days until the Project is energized and under CAISO Operational Control, a Transmission Interconnection Facilities status report. Such status report shall include project schedule; permit and license status, including environmental, state, and local permits and licenses; right-of-way acquisition status, if required; land acquisition status, if required; design and engineering status; status of contracts for project work, including land, procurement, and staffing; construction status; testing status; events creating risks and obstacles to project completion; and project budget, including actuals, estimate to complete, and contingency. The format for the report shall be in accordance with the Business Practice Manual for the Transmission Planning Process.

- 4.3 Approved Project Sponsor to Meet Requirements of the Interconnecting PTO's Interconnection Handbook.** If applicable, the Approved Project Sponsor shall comply with the Interconnecting PTO's Interconnection Handbook for the transmission interconnections.
- 4.4 Performance Standards.** Each Party shall perform all of its obligations under this Agreement in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice. To the extent a Party is required to take or prevented from or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this Agreement for its lack of compliance therewith, and if such Party is the CAISO, then the CAISO shall have the authority to amend this Agreement unilaterally to eliminate the conflict with such regulations or standards and shall submit the amendment to FERC for approval, if applicable.

ARTICLE 5. FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION

- 5.1 General.** The Approved Project Sponsor shall, at its expense, design, procure, construct, own, and install the Project, as set forth in Appendix A. The Approved Project Sponsor shall comply with all requirements of law and shall assume responsibility for the design, procurement, and construction of the Project using Good Utility Practice and the standards and specifications provided by the Interconnecting PTO or other entity, if applicable. The Project shall be based on the assumed accuracy and completeness of all technical information received by the CAISO from the Approved Project Sponsor and by the Approved Project Sponsor from any Interconnecting PTO or other entity providing Transmission Interconnection Service. Changes to the Project design described in this Agreement must be approved by the CAISO in accordance with Section 5.9 of this Agreement. Unless otherwise agreed by the Parties, the Approved Project Sponsor shall select the testing date and the energization date for the Project consistent with the Approved Project Sponsor's application approved by the CAISO, and such dates shall be set forth in Appendix B (Milestones).
- 5.2 Information Exchange.** As soon as reasonably practicable after the Effective Date, the Approved Project Sponsor shall provide information to the CAISO regarding the design and compatibility of the Project and the Transmission Interconnection Facilities, and shall work diligently and in good faith to make any necessary design changes to the Project, subject to approval by the CAISO in accordance with Section 5.9. The Parties shall amend the description of the Project set forth in Appendix A to reflect any agreed changes to the Project.
- 5.3 Initial Construction Plan and Reporting Requirements.** The Approved Project Sponsor shall keep the CAISO advised monthly as to the progress of the financing, procurement, and construction efforts with respect to the Project, via email or verbal discussion as agreed upon by the Parties, and in accordance with the timeframes specified herein.

- 5.3.1** The Approved Project Sponsor shall provide the CAISO with the initial construction plan one hundred twenty (120) calendar days after the Approved Project Sponsor has been selected in accordance with Section 24.4.1 of the CAISO Tariff. The plan shall include: land acquisition and permits requirements, status, and schedule; materials procurement requirements, status, and schedule; construction financing status and schedule; and Project contact information, if different than as identified in the selection process.
- 5.3.2** Every ninety (90) calendar days after the initial construction plan is received until the Project is energized and under CAISO Operational Control, the Approved Project Sponsor shall provide the CAISO with a construction plan status report. Such status report shall include the Project schedule; permit and license status, including environmental, state, and local permits and licenses; right-of-way acquisition status; land acquisition status; design and engineering status; events that might affect the ability to meet design specifications; status of contracts for project work, including land, procurement, and staffing; Interconnecting PTO or other entity interconnection agreements; construction status; testing status; risks and obstacles to project completion; and Project budget status, including actuals, estimate to complete, and contingency. The format for the report shall be in accordance with the Business Practice Manual for the Transmission Planning Process.
- 5.3.3** Pursuant to Section 24.6.1 of the CAISO Tariff, the CAISO will send Project status reports received in accordance with Section 5.3.2 to the applicable Interconnecting PTO and then the CAISO will hold a call with the Interconnecting PTO to review the status report, including completion date and items of concern.
- 5.3.4** If, at any time, the Approved Project Sponsor determines, in consultation with the CAISO and Interconnecting PTO or other entity providing Transmission Interconnection Service, that the completion of the Interconnecting PTO's or other entity's Transmission Interconnection Facilities will not be required until after the specified energization date set forth in Appendix B (Milestones), the Approved Project Sponsor shall provide written notice to the Interconnecting PTO or other entity and to the CAISO of such later date upon which the completion of the Interconnecting PTO's or other entity's Transmission Interconnection Facilities will be required.

5.4 Submission and Review of Project Specifications.

- 5.4.1** The Approved Project Sponsor shall submit specifications for major Project equipment and/or materials, including System Protection Facilities,

to the CAISO and to the Interconnecting PTO or other entity providing Transmission Interconnection Service, for review and comment at least thirty (30) calendar days prior to the date on which the Approved Project Sponsor solicits offers to provide specific equipment or material to which the specifications apply or otherwise commences procurement. The Approved Project Sponsor shall provide the CAISO and the Interconnecting PTO or other entity the opportunity to review such specifications to ensure that the Project is compatible with the technical specifications, operational control, safety requirements, and any other applicable requirements of the CAISO and the Interconnecting PTO or other entity providing Transmission Interconnection Service, and to provide comment on such specifications within fifteen (15) calendar days after the submission. All specifications provided hereunder shall be deemed Confidential Information subject to the provisions of Article 19.

5.4.2 The Approved Project Sponsor shall submit final specifications for major Project equipment and/or materials, including System Protection Facilities, if the specification differs from the specification submitted in accordance with Section 5.4.1, to the CAISO and to the Interconnecting PTO or other entity providing Transmission Interconnection Service, for review at least one hundred eighty (180) calendar days prior to the date that testing is scheduled to commence pursuant to Appendix B (Milestones). The Approved Project Sponsor shall submit to the CAISO and to the Interconnecting PTO or other entity providing Transmission Interconnection Service final specifications for review and comment at least ninety (90) calendar days prior to the date testing is scheduled to commence. If material and/or equipment is different from the original specification submittal, the Approved Project Sponsor shall provide the CAISO and the Interconnecting PTO or other entity the opportunity to review such specifications to ensure that the Project is compatible with the technical specifications, operational control, safety requirements, and any other applicable requirements and to provide comments within thirty (30) calendar days after each submission. All specifications provided hereunder shall be deemed Confidential Information subject to the provisions of Article 19.

5.4.3 Final specification review by the CAISO and by the Interconnecting PTO or other entity shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability, or reliability of the Project or the Interconnecting PTO's Transmission Interconnection Facilities. As described in Section 5.4.2, Approved Project Sponsor shall make such changes to the Project as may reasonably be required by the Interconnecting PTO, other entity, or the CAISO, in accordance with Good Utility Practice, to ensure that the Project is compatible with the technical specifications, Operational Control,

and safety requirements of the Interconnecting PTO, other entity, or the CAISO.

5.5 Construction Activities.

5.5.1 The Approved Project Sponsor shall commence construction of the Project as soon as practicable, consistent with the schedule set forth in Appendix B (Milestones), after the following additional conditions are satisfied:

5.5.1.1 The Approved Project Sponsor has obtained appropriate Governmental Authority approval for any facilities requiring regulatory approval.

5.5.1.2 The Approved Project Sponsor has obtained necessary permits, real property rights, and rights-of-way, to the extent required for the construction of the Project.

5.5.2 At least thirty (30) calendar days prior to commencement of Project construction, the Approved Project Sponsor shall provide to the CAISO, for informational purposes, a construction schedule for the Interconnecting PTO's or other entity's Transmission Interconnection Facilities.

5.5.3 At any time during construction, should any phase of the Project engineering, equipment procurement, or construction not meet the standards and specifications provided by the Interconnecting PTO or other entity, the Approved Project Sponsor shall be obligated to remedy deficiencies in that portion of the Project. The Approved Project Sponsor may seek approval from FERC to recover in its transmission revenue requirement just and reasonable costs associated with such remedy.

5.5.4 The Approved Project Sponsor shall indemnify the CAISO for claims arising under this Agreement resulting from Project construction under the terms and procedures specified in Section 15.1 Indemnity, other than for losses arising from actions that are not within the control of the Approved Project Sponsor.

5.5.5 If, during Project development, siting, design, engineering, construction, or testing, the Approved Project Sponsor decides to use a vendor, or any other Project team member, that is different than the vendor or team member specifically set forth in the Project Sponsor proposal submitted by the Approved Project Sponsor in accordance with the Business Practice Manual for the Transmission Planning Process, the Approved Project Sponsor shall notify the CAISO within ten (10) calendar days after the decision to make the change. Upon notification, the CAISO may take whatever action is necessary to ensure that the selected vendor or Project

team member will at a minimum provide the same level of service that would have been provided by the vendor or Project team member described in the Approved Project Sponsor's proposal.

5.6 Final Project Design

5.6.1 As soon as reasonably practicable, but within twelve months after Project construction completion, the Approved Project Sponsor shall provide a summary of the final construction cost, which summary shall set forth sufficient detail to enable the CAISO to understand the Project costs, including a written explanation for the use of contingency and any cost overruns in excess of the cost estimate provided in Appendix E.

5.6.2 The Project shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) calendar days after the Project has been turned over to the CAISO's Operational Control, unless the CAISO and Approved Project Sponsor agree on another mutually acceptable date, the Approved Project Sponsor shall deliver to the Interconnecting PTO or other entity and to the CAISO "as-built" drawings, information, and documents for the Project. This information shall include, as applicable: (i) a one-line diagram; (ii) a site plan drawing showing the Project, including plan and elevation drawings showing the layout of the Transmission Interconnection Facilities; (iii) a relay functional diagram, relaying AC and DC schematic wiring diagrams, and relay settings for all facilities associated with the Project; and (iv) the impedances, determined by factory tests, for the associated transformers. The Approved Project Sponsor shall provide the Interconnecting PTO or other entity and the CAISO specifications for the protection settings, transformer tap settings, and communications, if applicable. The Interconnecting PTO or other entity and the CAISO shall assess any deviations from the relay settings, machine specifications, and other specifications originally submitted by the Approved Project Sponsor pursuant to the appropriate provisions of this Agreement and the agreement between the Approved Project Sponsor and the Interconnecting PTO or other entity.

5.6.3 The obligations under this Section 5.6, including Sections 5.6.1, 5.6.2, and 5.6.3, shall survive termination of this Agreement.

5.7 Delay in Project. If the CAISO receives notification from the Approved Project Sponsor that Project energization will be delayed beyond the date by which the CAISO found the Project to be needed, pursuant to Section 24.6.2 of the CAISO Tariff the CAISO shall issue a market notice to market participants stating that the Project is delayed. If applicable, the market notice shall also state that a plan is being developed to address potential NERC reliability standard violations as set forth in Section 24.6.3 of the CAISO Tariff, as well as any material concerns.

5.7.1 The CAISO shall determine if there is a potential NERC violation, for either the CAISO or applicable Interconnecting PTO, arising from any Project energization delay and will determine if there are other material issues of concern as required in accordance with Section 24.6.3 of the CAISO Tariff. If there are potential violations or material issues, the CAISO, Approved Project Sponsor, and applicable Interconnecting PTO shall develop a plan to address the delay. The plan may include the CAISO directing the Interconnecting PTO to develop a mitigation plan.

5.7.2 If violations or material issues cannot be promptly and adequately addressed, the CAISO will take action to resolve the issues, including determining if an alternative Project Sponsor is required.

5.8 Delay in Approvals, Property Acquisition, or Construction. If the timeline set forth in Appendix B is unreasonably delayed, the CAISO shall consult with the Approved Project Sponsor. After such consultation, should the CAISO determine that, for reasons other than a delay caused by the Interconnecting PTO, (i) the Approved Project Sponsor cannot secure necessary approvals or property rights, including fee title, right of way grant, and easement and license rights, essential for construction of the Project, or (ii) the Approved Project Sponsor is otherwise unable to timely construct the Project, or (iii) an alternative Project Sponsor is necessary pursuant to Section 24.6.4 of the CAISO Tariff; or, alternatively, if the Approved Project Sponsor determines that it is unable to proceed with construction and so notifies the CAISO, the CAISO shall take such action, including termination of this Agreement, as it determines to be necessary and appropriate in accordance with Section 24.6.4 of the CAISO Tariff. If either Party determines that an alternative Project Sponsor should be selected consistent with Section 24.6.4 of the CAISO Tariff, the Approved Project Sponsor agrees to work in good faith with CAISO, the alternative Project Sponsor, and, if applicable, the Interconnecting PTO to transfer responsibility for the Project to the alternative Project Sponsor.

5.9 Modification.

5.9.1 The Approved Project Sponsor may undertake modifications to its facilities only with the approval of the CAISO and subject to the provisions of this Agreement and the CAISO Tariff. If the Approved Project Sponsor plans to undertake a modification, it shall provide such information regarding such modification to the CAISO as the CAISO deems necessary to evaluate the potential impact of such modification prior to commencement of the work. Such information shall include information concerning the timing of such modification, any technical information, and cost impact. The Approved Project Sponsor shall provide the relevant drawings, plans, and specifications to the CAISO at least ninety (90) calendar days in advance of the commencement of the work or within such shorter period upon which the Parties may agree, which agreement shall not

unreasonably be withheld, conditioned, or delayed. The CAISO shall determine if a modification is in accordance with the original Project criteria and intent and whether to approve the modification within thirty (30) calendar days after the Approved Project Sponsor's submission.

5.9.2 Any additions, modifications, or replacements made to the Project's facilities shall be designed, constructed, and operated in accordance with this Agreement, Applicable Laws and Regulations, and Good Utility Practice.

5.9.3 Any modifications to the Project's facilities ordered by a siting agency are not subject to CAISO approval. However, the Approved Project Sponsor is required to notify the CAISO within thirty (30) calendar days after the siting agency has issued an order directing Project modifications.

5.10 Generator Interconnection Study Process.

5.10.1 The Approved Project Sponsor shall be responsible for completing any existing studies for generator interconnection to the Project that were in the Approved Project Sponsor's generation interconnection queue upon the Effective Date of this Agreement. The CAISO and any impacted Participating TO will perform studies regarding such requests as an Affected System.

5.10.2 Any requests for generation interconnection to the Project submitted to the Approved Project Sponsor following the Effective Date of this Agreement shall be directed to the CAISO Interconnection Request process. The Approved Project Sponsor shall assume the functions of a Participating TO in accordance with Appendix DD of the CAISO Tariff, including performing Phase I, Phase II, and reassessment analysis for generator interconnection requests to the Project. The Approved Project Sponsor will be reimbursed the actual costs incurred for the analysis similar to the Participating TOs.

5.10.3 Any Generator Interconnection Agreements for interconnection to the Project shall be executed consistent with the relevant terms and conditions of the CAISO Tariff.

5.10.4 The obligations under this Section 5.10, including Sections 5.10.1, 5.10.2, 5.10.3, and 5.10.4 shall survive termination of this Agreement.

5.11 Planning Authority. The CAISO is the Planning Authority, as that term is defined by NERC, for the Project from the time it is identified in the CAISO's Transmission Planning Process and approved by the CAISO Governing Board, regardless of the status of Project construction or energization. As such, the Approved Project Sponsor shall be subject to the rights and obligations set forth



in CAISO Tariff Section 24 that are applicable to Participating TOs as they pertain to the Project.

- 5.12 Tax Status.** Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect the CAISO's or the Approved Project Sponsor's tax exempt status with respect to the issuance of bonds, including Local Furnishing Bonds, if any.

ARTICLE 6. TESTING AND INSPECTION

- 6.1 Testing and Modifications.** Prior to energizing the Project for testing, the Interconnecting PTO or other entity shall test the Interconnecting PTO's or other entity's Transmission Interconnection Facilities, and the Approved Project Sponsor shall test the Project to ensure their safe and reliable operation. All testing shall be coordinated and approved by the CAISO to ensure grid reliability. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. The Approved Project Sponsor shall not commence initial parallel operation of the Project until the Interconnecting PTO or other entity provides prior written approval to the CAISO and the Approved Project Sponsor.
- 6.2 Right to Observe Testing.** The Approved Project Sponsor shall notify the CAISO at least fourteen (14) calendar days in advance of its performance of tests. The CAISO has the right, at its own expense, to observe such testing.
- 6.3 Right to Inspect.** The CAISO shall have the right, but shall have no obligation, to (i) observe the Approved Project Sponsor's tests and/or inspection of any of its System Protection Facilities and other protective equipment; and (ii) review the settings of the Approved Project Sponsor's System Protection Facilities and other protective equipment at its expense. The CAISO may exercise these rights from time to time as it deems necessary upon reasonable notice to the Approved Project Sponsor. The exercise or non-exercise by CAISO of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Project or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that CAISO obtains through the exercise of any of its rights under this Section 6.3 shall be deemed to be Confidential Information and treated pursuant to Article 19 of this Agreement.

ARTICLE 7. METERING

This section is intentionally left blank.

ARTICLE 8. COMMUNICATIONS

- 8.1 Approved Project Sponsor Obligations.** The Approved Project Sponsor shall maintain satisfactory operating communications with the CAISO in accordance with the provisions of the CAISO Tariff and with the Interconnecting PTO's or other entity's dispatcher or such other representative designated by the Interconnecting PTO or other entity during synchronization, testing, and energization. The Approved Project Sponsor shall provide standard voice line, dedicated voice line, and facsimile communications at the Project's control room or central dispatch facility through use of either the public telephone system or a voice communications system that does not rely on the public telephone system. The Approved Project Sponsor shall also provide the dedicated data circuits necessary to provide Approved Project Sponsor data to the CAISO and Interconnecting PTO as set forth in Appendix C, Security Arrangements Details. The data circuits shall extend from the Project to the locations specified by the CAISO and Interconnecting PTO. Any required maintenance of such communications equipment shall be performed by the Approved Project Sponsor. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, and equipment clearances.

ARTICLE 9. OPERATIONS

- 9.1 General.** Each Party shall comply with Applicable Reliability Standards and the Applicable Reliability Council operating requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 CAISO Obligations.** The CAISO shall cause the Interconnecting PTO's transmission system to be operated and controlled in a safe and reliable manner during testing and synchronization and before the Approved Project Sponsor turns the Project over to CAISO Operational Control. The CAISO may provide operating instructions to the Approved Project Sponsor consistent with this Agreement and the Interconnecting PTO's and CAISO's operating protocols and procedures as they may change from time to time. The Interconnecting PTO and CAISO will consider changes to their operating protocols and procedures proposed by the Approved Project Sponsor.
- 9.3 Approved Project Sponsor Obligations.** The Approved Project Sponsor shall at its own expense operate, maintain, and control the Project in a safe and reliable manner and in accordance with this Agreement in advance of turning over Operational Control to the CAISO. Appendix A, Project Details, sets forth applicable requirements of the CAISO Balancing Authority Area and may be modified by mutual agreement of the Parties to reflect changes to the requirements as they may change from time to time. The Approved Project

Sponsor shall not energize the Project with the Interconnecting PTO's or other entity's transmission system until the Interconnecting PTO or other entity provides prior written approval.

- 9.4 Start-Up and Synchronization.** The Parties shall establish agreed procedures for start-up, testing, and energization of the Project to the CAISO Controlled Grid prior to start-up of the Project. The Approved Project Sponsor shall be responsible for proper start-up and energization of the Project in compliance with the established procedures.

ARTICLE 10. COST RECOVERY, BILLING, AND PAYMENT

- 10.1 Transmission Revenue Requirement.** The Approved Project Sponsor may apply to FERC for a Transmission Revenue Requirement for transmission facilities not yet in operation, but approved under the transmission planning provisions of the CAISO Tariff, that will be Regional Transmission Facilities or Local Transmission Facilities when placed under the CAISO's Operational Control. If FERC approves such Transmission Revenue Requirement, the CAISO shall incorporate the Transmission Revenue Requirement into the Regional Access Charge or Local Access Charge in accordance with the CAISO Tariff. The Approved Project Sponsor acknowledges and agrees with the cost estimates and the binding cost cap, or other binding cost containment measures, if applicable, set forth in Appendix E.

10.1.1 The Approved Project Sponsor agrees that it shall not seek, for recovery through its Transmission Revenue Requirement, higher costs than the maximum costs specified in, or determined in accordance with, any cost cap or other binding cost containment measures as specified in Appendix E except for costs incurred to comply with any additional specifications of the CAISO or Interconnecting PTO beyond the functional requirements for the transmission facility that the CAISO issued for the competitive solicitation. The Approved Project Sponsor shall not seek recovery through its Transmission Revenue Requirement of any incentives or other costs that it has agreed to forego, as specified in Appendix E. The Approved Project Sponsor further agrees that the Transmission Control Agreement shall incorporate the Project cost cap or any other agreed-to binding cost containment measures agreed to or proposed by the Approved Project Sponsor. The provisions of this Section 10.1.1 shall survive termination of this Agreement.

- 10.2 Application of CAISO Tariff.** The CAISO and Approved Project Sponsor shall comply with the billing and payment provisions set forth in the CAISO Tariff.
- 10.3 Refund Obligation.** The Approved Project Sponsor, whether or not it is subject to FERC rate jurisdiction under Section 205 and Section 206 of the Federal Power Act, shall make all refunds, adjustments to its Transmission Revenue

Requirement, and adjustments to its Approved Project Sponsor Tariff, and do all other things required to implement any FERC order related to the CAISO Tariff, including any FERC order the implementation of which necessitates the CAISO making payment adjustments or paying refunds to, or receiving prior period overpayments from, the Approved Project Sponsor. All such refunds and adjustments shall be made, and all other actions taken, in accordance with the CAISO Tariff, unless the applicable FERC order requires otherwise. These obligations under this Section 10.3 shall survive termination of this Agreement.

ARTICLE 11. REGULATORY REQUIREMENTS AND GOVERNING LAWS

11.1 Regulatory Requirements. Each Party's obligations under this Agreement shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, and compliance with the prior notice requirements of such Governmental Authorities. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this Agreement shall require the Approved Project Sponsor to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act or the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978, or the Energy Policy Act of 2005.

11.2 Governing Law.

11.2.1 The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the state of California, without regard to its conflicts of law principles.

11.2.2 This Agreement is subject to all Applicable Laws and Regulations.

11.2.3 Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

ARTICLE 12. NOTICES

12.1 General. Unless otherwise provided in this Agreement, any notice, demand, or request required or permitted to be given by a Party to another and any instrument required or permitted to be tendered or delivered by a Party in writing to another shall be effective when delivered and may be so given, tendered, or delivered by (i) recognized national courier, (ii) depositing the same with the United States Postal Service with postage prepaid for delivery by certified or registered mail, addressed to the Party, or (iii) personal delivery to the Party, at

the address set out in Appendix D, Addresses for Delivery of Notices and Billings.

A Party must update the information in Appendix D as information changes. A Party may change the notice information in this Agreement by giving five Business Days written notice prior to the effective date of the change. Such changes shall not constitute an amendment to this Agreement.

12.2 Alternative Forms of Notice. Any notice or request required or permitted to be given by a Party to another and not required by this Agreement to be given in writing may be given by telephone, facsimile, or e-mail to the telephone numbers and e-mail addresses set out in Appendix D.

12.3 Intentionally left blank.

12.4 Operations Notice. Each Party shall notify the other Party in writing of the identity of the person that it designates as the point of contact with respect to the implementation of Article 9.

12.5 Project Management. If the Approved Project Sponsor desires to change the identified project management, including key personnel, the Approved Project Sponsor shall notify the CAISO in writing thirty (30) calendar days in advance for approval. Such approval shall not be unreasonably withheld.

12.6 Notice of Regulatory Filings. The Approved Project Sponsor will provide to the CAISO, Participating TOs (as listed on Appendix F to the Transmission Control Agreement), and other Approved Project Sponsors, a copy of all initial filings it submits in a FERC docket that affect the rates (including Transmission Revenue Requirement), terms, or conditions of service for the Project. The Approved Project Sponsor will provide such copy either via email or first-class U.S. mail on the same day it makes the filing with FERC; provided that if the copy is sent via U.S. mail, the requirement will be satisfied if the Approved Project Sponsor places the copy in the mail on the date of filing. The CAISO will post the contact information for Approved Project Sponsors on the CAISO website.

ARTICLE 13. FORCE MAJEURE

13.1 Force Majeure.

13.1.1 No Party shall be considered to be in Default with respect to any obligation hereunder if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this Section shall be confirmed in writing as soon as reasonably possible

and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred, and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

13.1.2 If required, the Parties shall revise this Agreement, including Appendix B and Appendix E, following a Force Majeure event.

ARTICLE 14. DEFAULT

- 14.1. General.** No Default shall exist where failure to discharge an obligation, other than the payment of money, is the result of Force Majeure as defined in this Agreement or the result of an act or omission of the other Party. Upon a Breach, the affected non-Breaching Party shall give written notice of such Breach to the Breaching Party. The Breaching Party shall have thirty (30) calendar days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) calendar days, the Breaching Party shall commence such cure within thirty (30) calendar days after notice and continuously and diligently complete such cure within ninety (90) calendar days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.
- 14.2 Right to Terminate.** If a Breach is not cured as provided in this Article, or if a Breach is not capable of being cured within the period provided for herein, the affected non-Breaching Party shall have the right to declare a Default and terminate this Agreement by written notice at any time until cure occurs and be relieved of any further obligation hereunder and, whether or not such Party terminates this Agreement, to recover from the Breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Article shall survive termination of this Agreement.
- 14.3 Notice to Financing Parties.** If, as contemplated by Section 16.1, the Approved Project Sponsor has provided notice to the CAISO of an assignment of this Agreement for collateral security purposes to aid in providing financing for the Project, then (a) if such notice of collateral assignment so indicates and contains notice information for the collateral assignee, the CAISO shall provide a copy to collateral assignee identified in such notice of any notice of Breach given by the CAISO to the Approved Project Sponsor and (b) such collateral assignee shall have the right, but no obligation, to effect cure of the Breach on behalf of the Approved Project Sponsor, and any performance of any obligations under this Agreement by such collateral assignee shall be accepted by the CAISO to the same extent as though the Approved Project Sponsor had directly performed such obligations.

ARTICLE 15. INDEMNITY, CONSEQUENTIAL DAMAGES. AND INSURANCE

15.1 Indemnity. Each Party (the “Indemnifying Party”) shall at all times indemnify, defend, and hold the other Party (the “Indemnified Party”) harmless from any and all Losses arising out of or resulting from the Indemnifying Party's action or inactions of its obligations under this Agreement, except in cases of negligence or intentional wrongdoing by the Indemnified Party.

15.1.1 Indemnified Party. If the Indemnified Party is entitled to indemnification under this Article 15 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Section 15.1 to assume the defense of such claim, such Indemnified Party may at the expense of the Indemnifying Party contest, settle, or consent to the entry of any judgment with respect to, or pay in full, such claim.

15.1.2 Indemnifying Party. If the Indemnifying Party is obligated to indemnify and hold the Indemnified Party harmless under this Article 15, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual Loss, net of any insurance or other recovery.

15.1.3 Indemnity Procedures. Promptly after receipt by the Indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Section 15.1 may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by the Indemnifying Party and reasonably satisfactory to the Indemnified Party. If the defendants in any such action include the Indemnified Party and the Indemnifying Party and if the Indemnified Party reasonably concludes that there may be legal defenses available to it that are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Party having such differing or additional legal defenses.

The Indemnified Party shall be entitled, at its expense, to participate in any such action, suit, or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the

Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit, or proceedings if and to the extent that, in the opinion of the Indemnified Party and its counsel, such action, suit, or proceeding involves the potential imposition of criminal liability on the Indemnified Party, or there exists a conflict or adversity of interest between the Indemnified Party and the Indemnifying Party, in which event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Party, and (ii) shall not settle or consent to the entry of any judgment in any action, suit, or proceeding without the consent of the Indemnified Party, which shall not be unreasonably withheld, conditioned, or delayed.

- 15.2 Consequential Damages.** In no event shall any Party be liable under any provision of this Agreement for any losses, damages, costs, or expenses for any special, indirect, incidental, consequential, or punitive damages, including loss of profit or revenue, loss of the use of equipment, cost of capital, or cost of temporary equipment or services, whether based in whole or in part in contract or in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to another Party under another agreement shall not be considered to be special, indirect, incidental, or consequential damages hereunder.
- 15.3 Insurance.** The Approved Project Sponsor shall carry insurance for the Project in accordance with good utility practice.
- 15.4 Continuity of Obligations.** The obligations and liability limitations under this Article 15 shall survive termination of the Agreement.

ARTICLE 16. ASSIGNMENT

- 16.1 Assignment.** With the exception of assignment for collateral security purposes in accordance with this Section and Section 14.3, this Agreement may be assigned by a Party only with the written consent of the other Party, which consent shall not be unreasonably withheld. The CAISO will not approve the assignment unless the assignee (i) meets the competitive solicitation qualification requirements set for in CAISO Tariff Section 24.5.3.1; (ii) agrees to honor the cost containment measures or cost caps specified in Appendix E, if applicable; (iii) agrees to meet the factors that the CAISO relied upon in selecting the Approved Project Sponsor; and (iv) assumes the rights and obligations contained in this Agreement; provided, however, that the Approved Project Sponsor shall have the right to assign this Agreement, without the consent of the CAISO, for collateral security purposes to aid in providing financing for the Project, provided that the Approved Project Sponsor shall promptly notify the CAISO of any such assignment, including identification of the assignee and contact information. Any financing arrangement entered into by the Approved Project Sponsor pursuant to this Article shall provide that prior to or upon the exercise of the secured party's,

trustee's, or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee, or mortgagee shall notify the CAISO of the date and particulars of any such exercise of assignment rights. Any attempted assignment that violates this Article is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof.

ARTICLE 17. SEVERABILITY

- 17.1 Severability.** If any provision in this Agreement is finally determined to be invalid, void, or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void, or make unenforceable any other provision, agreement, or covenant of this Agreement.

ARTICLE 18. COMPARABILITY

- 18.1 Comparability.** The Parties shall comply with all applicable comparability and code of conduct laws, rules, and regulations, as amended from time to time.

ARTICLE 19. CONFIDENTIALITY

- 19.1 Confidentiality.** Confidential Information shall include all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by a Party to the other Party prior to the execution of this Agreement.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by a Party, the other Party shall provide in writing the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

- 19.1.1 Term.** During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article, each Party shall hold in confidence and shall not disclose Confidential Information to any person.

- 19.1.2 Scope.** Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before

receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known through no wrongful act or omission of the receiving Party or Breach of this Agreement; or (6) is required, in accordance with Section 19.1.7 of this Agreement, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information shall no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

19.1.3 Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except to its employees, consultants, Affiliates (limited by the Standards of Conduct requirements set forth in Part 358 of FERC's regulations, 18 C.F.R. Section 358), and subcontractors, or to parties who may be or considering providing financing to or equity participation with the Approved Project Sponsor, or to potential purchasers or assignees of the Approved Project Sponsor, on a need-to-know basis in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article.

19.1.4 Rights. Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by a Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

19.1.5 No Warranties. The mere fact that a Party has provided Confidential Information does not constitute a warranty or representation as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to the other Party or to enter into any further agreements or proceed with any other relationship or joint venture.

19.1.6 Standard of Care. Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication, or

dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this Agreement or its regulatory requirements.

19.1.7 Order of Disclosure. If a court or another Government Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request or requirement so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party shall use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

19.1.8 Termination of Agreement. Upon termination of this Agreement for any reason, each Party shall, within ten (10) calendar days after receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete, with such destruction, erasure, and deletion certified in writing to the other Party, or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party, unless subject to retention for litigation or regulatory purposes.

19.1.9 Remedies. The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article.

19.1.10 Disclosure to FERC, its Staff, or a State. Notwithstanding anything in this Article to the contrary, and pursuant to 18 C.F.R. Section 1b.20, if FERC or its staff, during the course of an investigation or

otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 C.F.R. Section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. A Party is prohibited from notifying the other Party prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 C.F.R. Section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

19.1.11 Subject to the Exception in Section 19.1.10. Subject to the exception in Section 19.1.10 and consistent with the provisions of Sections 19.1.3 and 19.1.7, Confidential Information shall not be disclosed by a Party to any person not employed or retained by that Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this Agreement or as a transmission service provider or a Balancing Authority including disclosing the Confidential Information to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of another Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this Section 19.1.11, the disclosing Party shall promptly notify the other Party in writing and shall assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order, or other reasonable measures.

ARTICLE 20. ENVIRONMENTAL RELEASES

20.1 Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, including hazardous wastes as defined by local, state, and federal law, any asbestos or lead abatement activities, or any type of remediation activities related to the Project or the Transmission Interconnection Facilities, each of which may reasonably be expected to affect

the other Party. The notifying Party shall (i) provide the notice as soon as practicable, for an occurrence that may present an immediate risk to human health or the environment; (ii) make a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence for an event that may present an immediate risk to human health or the environment; and (iii) promptly furnish to the other Party information necessary for the designated Party to notify any Governmental Authorities of the event as required by law or Project-specific conditions. Copies of any publicly available reports shall be distributed to the other Party regarding such events.

ARTICLE 21. INFORMATION ACCESS AND AUDIT RIGHTS

- 21.1 Information Access.** Each Party (the “disclosing Party”) shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this Agreement; and (ii) carry out its obligations and responsibilities under this Agreement. The Parties shall not use such information for purposes other than those set forth in this Section 21.1 and to enforce their rights under this Agreement. Nothing in this Article shall obligate the CAISO to make available to a Party any third party information in its possession or control if making such third party information available would violate a CAISO Tariff restriction on the use or disclosure of such third party information.
- 21.2 Reporting of Non-Force Majeure Events.** Each Party (the “notifying Party”) shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this Agreement for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation, or information provided under this Section shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this Agreement.
- 21.3 Audit Rights.** Subject to the requirements of confidentiality under Article 19 of this Agreement, the CAISO audit rights shall include the CAISO’s right to audit the Approved Project Sponsor’s costs pertaining to performance or satisfaction of obligations under this Agreement.
- 21.3.1** The CAISO shall have the right, during normal business hours, and upon prior reasonable notice to the Approved Project Sponsor, to audit at its own expense the accounts and records pertaining to satisfaction of obligations under this Agreement. Subject to Section 21.3.2, any audit authorized by this Section 21.3 shall be performed at the offices where such accounts and records are maintained and shall be limited to those



portions of such accounts and records that relate to performance and satisfaction of obligations under this Agreement. The Approved Project Sponsor shall keep such accounts and records for a period equivalent to the audit rights periods described in Section 21.4.

21.3.2 Notwithstanding anything to the contrary in this Agreement, the Approved Project Sponsor's rights to audit the CAISO's accounts and records shall be as set forth in Section 21.1 of the CAISO Tariff.

21.4 Audit Rights Period for Construction-Related Accounts and Records.

Accounts and records related to the design, engineering, procurement, and construction of Project constructed by the Approved Project Sponsor shall be subject to audit and verification by the CAISO for a period of twenty-four months following the issuance of a final cost summary in accordance with Section 5.2.7.

ARTICLE 22. SUBCONTRACTORS

22.1 General. Subject to Section 5.5.5, nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services, and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

22.2 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the CAISO be liable for the actions or inactions of the Approved Project Sponsor or its subcontractors with respect to obligations of the Approved Project Sponsor under Article 4 of this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

ARTICLE 23. DISPUTES

23.1 General. All disputes arising out of or in connection with this Agreement whereby relief is sought by or from the CAISO shall be settled in accordance with the provisions of Section 13 of the CAISO Tariff, except that references to the CAISO Tariff in such Section 13 of the CAISO Tariff shall be read as references to this Agreement. Disputes arising out of or in connection with this Agreement not subject to provisions of Section 13 of the CAISO Tariff shall be resolved as follows:

- 23.2 Submission.** In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with this Agreement or its performance, such Party (the “disputing Party”) shall provide the other Party with written notice of the dispute or claim (“Notice of Dispute”). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) calendar days after the other Party’s receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this Agreement.
- 23.3 External Arbitration Procedures.** Any arbitration initiated under this Agreement shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) calendar days after the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) calendar days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration, except prior arbitration. The arbitrator shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association (“Arbitration Rules”) and any applicable FERC regulations; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article, the terms of this Article shall prevail.
- 23.4 Arbitration Decisions.** Unless otherwise agreed by the Parties, the arbitrator shall render a decision within ninety (90) calendar days after appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator shall be authorized only to interpret and apply the provisions of this Agreement and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator may be appealed solely on the grounds that the conduct of the arbitrator, or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with, and approved by, FERC if it affects jurisdictional rates, terms, and conditions of service, Transmission Interconnection Facilities, or Network Upgrades.

- 23.5 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one half the cost of the single arbitrator jointly chosen by the Parties.

ARTICLE 24. REPRESENTATIONS, WARRANTIES, AND COVENANTS

- 24.1 General.** Each Party makes the following representations, warranties, and covenants:

- 24.1.1 Good Standing.** Such Party is duly organized, validly existing, and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Project and transmission facilities owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted, and to enter into this Agreement and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement.
- 24.1.2 Authority.** Such Party has the right, power, and authority to enter into this Agreement, to become a Party hereto, and to perform its obligations hereunder. This Agreement is a legal, valid, and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization, or other similar laws affecting creditors' rights generally and by general equitable principles, regardless of whether enforceability is sought in a proceeding in equity or at law.
- 24.1.3 No Conflict.** The execution, delivery, and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement, or instrument applicable to or binding upon such Party or any of its assets.
- 24.1.4 Consent and Approval.** Such Party has sought or obtained, or, in accordance with this Agreement, will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery, and performance of this Agreement, and it will provide to any Governmental Authority notice of any actions under this Agreement that are required by Applicable Laws and Regulations.

- 24.1.5 Technical Specifications Accurate.** The technical specifications provided by the Approved Project Sponsor to the CAISO are accurate and complete.

ARTICLE 25. MISCELLANEOUS

- 25.1 Binding Effect.** This Agreement and the rights and obligations hereof shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.
- 25.2 Conflicts.** In the event of a conflict between the body of this Agreement and any attachment, appendices, or exhibits hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed the final intent of the Parties.
- 25.3 Rules of Interpretation.** This Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement, including this Agreement, document, instrument, or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section, or Appendix means such Article or Section of this Agreement or such Appendix to this Agreement, or such Section of the CAISO Tariff or such Appendix to the CAISO Tariff, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this Agreement as a whole and not to any particular Article, Section, or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".
- 25.4 Entire Agreement.** This Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part

of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

25.5 No Third Party Beneficiaries. This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest, and, where permitted, their assigns.

25.6 Waiver. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement shall not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of this Agreement. Termination or Default of this Agreement for any reason by the Approved Project Sponsor shall not constitute a waiver of the Approved Project Sponsor's legal rights to obtain an interconnection from the CAISO. Any waiver of any provision of this Agreement shall, if requested, be provided in writing.

25.7 Headings. The descriptive headings of the various Articles and Sections of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.

25.8 Multiple Counterparts. This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.

25.9 Amendment. The Parties may by mutual agreement amend this Agreement by a written instrument duly executed by all of the Parties. Such amendment shall become effective and a part of this Agreement upon satisfaction of all Applicable Laws and Regulations.

25.10 Modification by the Parties. Except as described in Appendices B and E, the Parties may by mutual agreement amend the Appendices to this Agreement by a written instrument duly executed by all of the Parties. Such amendment shall become effective and a part of this Agreement upon satisfaction of all Applicable Laws and Regulations.

25.11 Reservation of Rights. The CAISO has the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to any rates, terms and conditions, charges, classifications of service, rule, or regulation. The Approved Project Sponsor shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section

206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations. Each Party shall have the right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered.

25.12 No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

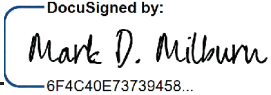
25.13 Joint and Several Obligations. Except as otherwise provided in this Agreement, the obligations of the CAISO and the Approved Project Sponsor are several, and are neither joint nor joint and several.




APPROVED PROJECT SPONSOR AGREEMENT

IN WITNESS WHEREOF, the Parties have executed this Agreement in multiple originals, each of which shall constitute and be an original effective agreement between the Parties.

LS Power Grid California, LLC

By:  _____
6F4C40E73739458...
Name: Mark D. Milburn _____
Title: Vice President _____
Date: 5/18/2020 _____

California Independent System Operator Corporation

By:  _____
9236FA183EA64FB...
Name: Neil Millar _____
Title: Vice President TP&ID _____
Date: 5/19/2020 _____



Appendices to Agreement

Appendix A Project Details

Appendix B Milestones

Appendix C Security Arrangements Details

Appendix D Addresses for Delivery of Notices and Billings

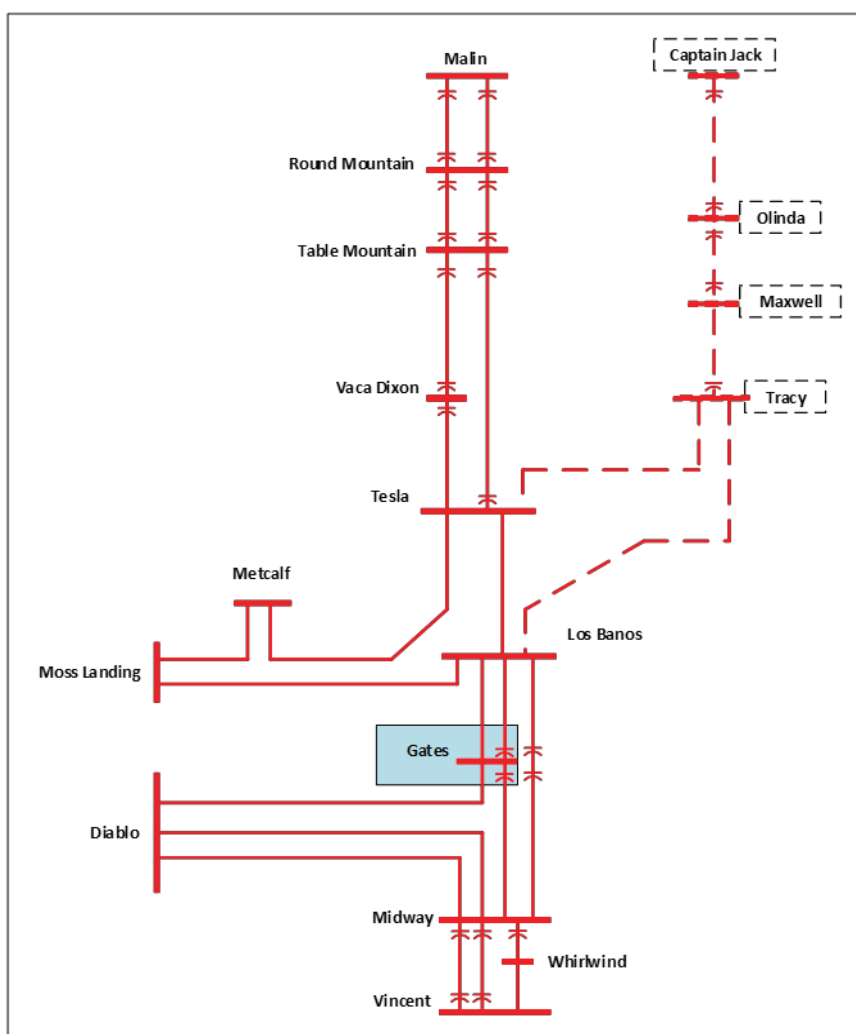
Appendix E Approved Project Sponsor's Costs of Project

Appendix A

Project Details

1. CAISO Project Description

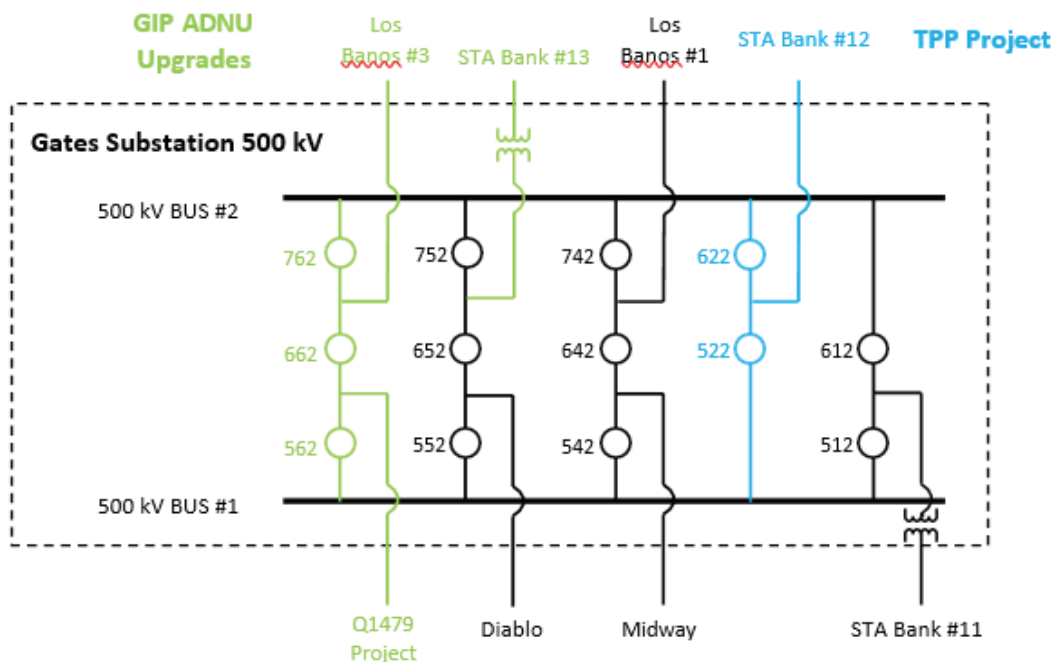
In the 2018-2019 Transmission Plan, the CAISO identified a reliability-driven need for a +/-800 MVAR dynamic reactive power support connecting to the Gates 500 kV bus as depicted below.



The reactive device is to be installed in two equally-sized blocks independently connected to the 500 kV bus to accommodate maintenance and contingencies of the

reactive device. These blocks shall each have their own dedicated connections to the bus. There will be no single point of failure between them. The blocks will not share a 500 kV breaker and the associated step up transformers will be separated by a blast wall. However, both tie lines can be on the same tower.

The reactive power support is required to provide continuous dynamic reactive power output over the complete range of the capability (unless the facility experienced a planned or forced outage). Subsynchronous Resonance (SSR) studies are required to be completed and any identified mitigation shall be implemented as part of this project. The project is to be in-service by June 1, 2024, with the earliest permitted in-service date being December 1, 2023 unless otherwise agreed by CAISO. The figure below provides a schematic diagram of the current bus configuration in the Gates 500 kV switchyard with the previously approved transmission project and projects identified in the generation interconnection process to facilitate the interconnection of generator interconnection requests in the CAISO queue.



The Gates 500 kV Dynamic Reactive Support Project was approved by the CAISO Board of Governors on March 27, 2019 as part of its approval of the 2018-2019 Transmission Plan. CAISO selected LS Power Grid California, LLC as the Approved Project Sponsor on January 17, 2020.

2. Transmission Interconnection Facilities

On February 10, 2020, Approved Project Sponsor requested interconnection at the Gates substation from Pacific Gas and Electric Company (PG&E). Approved Project Sponsor will meet all of the applicable interconnection requirements outlined in the PG&E Interconnection Handbook. CAISO expects that PG&E will include those interconnection costs in its Transmission Revenue Requirement consistent with Section 24.14.2 of the CAISO Tariff

3. Project Facilities

A. Dynamic Reactive Power Support Specification

Point of Interconnection: Gates 500 kV bus

Rated Real Power Output: 0 MW

Rated MVAR: +800/-800 MVAR at the Gates 500 kV bus. The entire inductive (absorption) range shall be continuously available when the voltage is in the 500 kV – 550 kV range and the entire capacitive (injection) range shall be available when the voltage is in the 473 kV – 540 kV range.

Response time: The time required for the output to go from 10% of the final value to 90% of the final value shall be less than 100 ms.

Nominal Terminal Voltage: 500 kV (typically the bus voltage is at 530 kV)

Latest Energization Date: June 1, 2024*

Inverter Ride Through Capability: NERC PRC-024 requirements and NERC industry recommendation on momentary cessation¹.

Availability and Reliability requirements: Proposed dynamic reactive power support solutions shall be designed for high availability.

**Milestone Date specified in Appendix B*

1

https://www.nerc.com/pa/rrm/bpsa/Alerts%20DL/NERC_Alert_Loss_of_Solar_Resources_during_Transmission_Disturbance-II_2018.pdf

B. Dynamic Reactive Power Support Substation

The Dynamic Reactive Power Support Substation (“STATCOM Substation”) will include two blocks of a minimum of ± 424 MVAR (for a total of a minimum of ± 848 MVAR) units and all supporting apparatus, equipment and devices. The STATCOM Substation will include three (3) three-phase main power transformers, one of which will be a preinstalled spare transformer shared among the two STATCOM blocks and separated by fire-blast walls. The STATCOM Substation will include two 500 kV circuit breakers, disconnects and protection and control devices as required to terminate the transmission tie lines.

All required step-up transformer(s), disconnect switches, grounding switches, surge arresters, insulators, current transformers, voltage transformers, CCVT's, and cooling equipment are included in the STATCOM Substation. Pre-engineered buildings will be provided to accommodate the STATCOM valves and modular control enclosures provided for required control panels, relay panels, batteries, station service panels, and SCADA equipment. The steel structures and all other equipment will be designed to comply with all applicable laws and codes and to meet all applicable design requirements pursuant to Section 5.4 and Appendix A.

C. Dynamic Reactive Power Support Tie Lines

The transmission tie lines will include two 500 kV transmission lines from the STATCOM Substation A-Frames each with a single span of conductor to new dead-end structures provided by Approved Project Sponsor to be located on PG&E property. PG&E will provide the line drops and associated interconnection facilities between the dead-end structures and the Gates 500kV bus.

The proposed conductor configuration is expected to be three 795 ACSR “Drake” subconductors in a triangular 18” bundle and provide a continuous rating of approximately 2,107 and 2,433 amps in summer and winter, respectively, unless otherwise agreed by the Parties. Lightning protection will be provided by overhead OPGW and, in combination with maximum ground resistance of 15 ohms, provide lightning performance of 0.8 outages per 100 miles per year, in each case, unless otherwise agreed by the Parties. The proposed dead end insulators will be toughened glass bells and foundations are expected to be concrete drilled pier foundations with anchor bolts. The Parties acknowledge that the transmission line specifications are preliminary and may be changed upon mutual agreement of the Parties without an amendment to the Agreement.

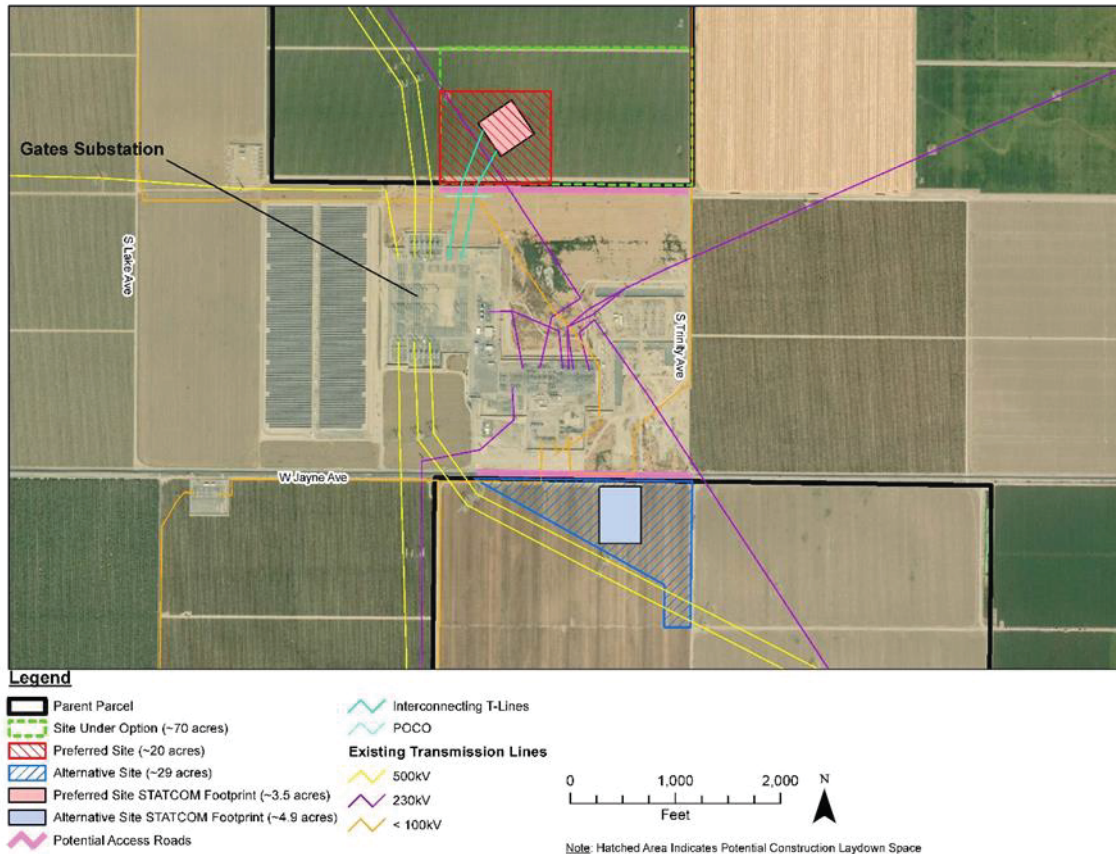
Transmission line routing and design may be modified as necessary to accommodate PG&E interconnection requirements, and all incremental costs associated with such changes shall be Excluded Costs (as defined in Appendix E).

4. Network Upgrades: None. If the interconnection studies identify any required Network Upgrades, the cost of such upgrades shall be Excluded Costs as defined in Appendix E.

5. Distribution Upgrades: None. If the interconnection studies identify any required Distribution Upgrades, the cost of such upgrades shall be Excluded Costs as defined in Appendix E.

6. Diagram of Project:

The Project and general arrangements diagrams below are initial renderings of the Project type and arrangement of equipment and location as proposed by the Approved Project Sponsor. Transmission line routing shown below may be modified as necessary to accommodate PG&E interconnection requirements, and all incremental costs incurred by the Approved Project Sponsor associated with such changes shall be Excluded Costs (as defined in Appendix E).



7. Project Team:

LS Power Grid California, LLC

- Mark Milburn – Project Director
- Paul Thessen – Executive Management
- David Wilson – Regulatory, Environmental & Compliance Manager
- Andrew Scott – Transmission Line Engineer
- Eric Hayes – Engineering & Procurement Manager/Substation Engineer

8. Affected System:

Pacific Gas and Electric Company

9. Additional Understandings:

- a. CAISO acknowledges that its standard practice is to treat all materials received from an approved project sponsor pursuant to an Approved Project Sponsor Agreement as confidential, and will apply that standard practice to the Approved Project Sponsor with respect to this Agreement. Notwithstanding Article 19 of this Agreement, documents will not need to be marked or designated as Confidential Information for this practice to apply.
- b. CAISO acknowledges that for the purposes of Section 5.5.5 and Section 12.5 of this Agreement, the applicable team members or vendors subject to the requirements of Section 5.5.5 and Section 12.5 are those team members and vendors identified in Section 7 of Appendix A only. In the event the Approved Project Sponsor notifies CAISO pursuant to Section 5.5.5 of a change to a team member identified in Section 7 of Appendix A, CAISO shall not unreasonably withhold approval of such change. If CAISO does not object to any change noticed under Section 5.5.5 or 12.5 within ten (10) calendar days of receiving such notice, the change shall be deemed approved.
- c. CAISO shall cooperate with any assignment for collateral security by reasonably responding to reasonable requests for estoppel certificates, consents, and acknowledgements.
- d. Except to the extent the provisions of this Section 9 of Appendix A are also included in the Transmission Control Agreement, the provisions of this Section 9 of Appendix A shall survive termination of this Agreement.

- e. The Approved Project Sponsor shall perform the required risk assessments in compliance with NERC reliability standard CIP-014 to determine criticality of the facilities and, if required, will develop and implement a corresponding physical security plan. In the event such physical security plan requires additional physical security measures that are not included in the initial project design (e.g., a physical perimeter wall), the additional cost of implementing such additional measures will be subject to the Binding Caps (as defined in Appendix E).
- f. If the CAISO revises the pro forma Approved Project Sponsor Agreement in 2020, the Approved Project Sponsor agrees that it will participate in a good faith negotiation with the CAISO to adopt the revised pro forma terms and conditions approved by FERC in an amended and restated Agreement.

Appendix B

Milestones

1. Milestone Dates

Item	Milestone	Responsible Party	Due Date ^{1/}
1	Commence development activities including commencement of regulatory approvals; acquisition of land; and permits	Approved Project Sponsor	January 17, 2020 Milestone Achieved
2	Commence engineering design	Approved Project Sponsor	January 17, 2020 Milestone Achieved
3	Submit request for Transmission Interconnection Service to the applicable Interconnecting PTO	Approved Project Sponsor	March 17, 2020 Milestone Achieved
4	Submit Construction Plan in accordance with Section 5.3.1 of this Agreement	Approved Project Sponsor	May 16, 2020
5	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	August 14, 2020 November 12, 2020 February 10, 2021 May 11, 2021 August 9, 2021 November 7, 2021
6	Commence procurement including material and resources	Approved Project Sponsor	January 3, 2022
7	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	February 5, 2022
8	Engineering design substantially complete	Approved Project Sponsor	April 4, 2022
9	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	May 6, 2022
10	Execute agreement with applicable Interconnecting PTO	Approved Project Sponsor	July 15, 2022
11	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	August 4, 2022
12	Complete substantive permitting activities in accordance with Section 5.5.1.1 of this Agreement	Approved Project Sponsor	September 1, 2022
13	Commence Construction	Approved Project Sponsor	October 3, 2022



APPROVED PROJECT SPONSOR AGREEMENT

	Milestone	Responsible Party	Due Date ^{1/}
14	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	November 2, 2022 January 31, 2023 May 1, 2023 July 30, 2023
15	Complete substantial procurement including material and resources	Approved Project Sponsor	October 2, 2023
16	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	October 28, 2023
17	Commence Reliability Coordinator on-boarding, if applicable	Approved Project Sponsor	June 1, 2023
18	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	January 26, 2024
19	Substantially Complete Construction	Approved Project Sponsor	March 1, 2024
20	Commence Testing	Approved Project Sponsor	March 1, 2024
21	Submit Construction Plan Status Report in accordance with Section 5.3.2 of this Agreement	Approved Project Sponsor	April 25, 2024
22	Latest Energization Date to meet reliability requirements	Approved Project Sponsor	June 1, 2024*
23	In accordance with Section 5.6.2 provide final “as-built” drawings, information and other documents	Approved Project Sponsor	Energization Date plus 120 calendar days
24	In accordance with Section 5.6.1 provide final costs of the Project	Approved Project Sponsor	Energization Date plus 1 year

^{1/} Dates in this Appendix B are good faith estimates and can be modified by written agreement between any of the representatives listed in Appendix D to this Agreement without further regulatory approval, except that modifications to dates denoted with an asterisk (*) require an amendment to this Agreement pursuant to Section 25.10.

Appendix C

Security Arrangements Details

Infrastructure security of CAISO Controlled Grid equipment and operations and control hardware and software is essential to ensure day-to-day CAISO Controlled Grid reliability and operational security. FERC will expect the CAISO, and Approved Project Sponsor interconnected to the CAISO Controlled Grid to comply with the Applicable Reliability Standards. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

The Approved Project Sponsor shall meet the requirements for security implemented pursuant to the CAISO Tariff, including the CAISO's standards for information security posted on the CAISO's internet web site at the following internet address: <http://www.caiso.com/pubinfo/info-security/index.html> and any applicable North American Electric Reliability Corporation ("NERC") reliability standards.



Appendix D

Addresses for Delivery of Notices and Billings

Notices:

Approved Project Sponsor:

LS Power Grid California, LLC
Attn: Project Director
16150 Main Circle Drive, Suite 310
Chesterfield, MO 63017
mmilburn@lspower.com

With a copy to:

LS Power Grid California, LLC
Attn: Managing Counsel
16150 Main Circle Drive, Suite 310
Chesterfield, MO 63017
cbrandt@lspower.com

CAISO:

California ISO
Attn: Infrastructure Contracts & Management
250 Outcropping Way
Folsom, CA 95630

QueueManagement@CAISO.com



Alternative Forms of Delivery of Notices (telephone or e-mail):

Approved Project Sponsor:

Mark Milburn
mmilburn@lspower.com
(636) 532-2200

CAISO:

Deb Le Vine
dlevine@caiso.com
(916) 351-2144

Monique Royal
mroyal@caiso.com
(916) 608-5944

Appendix E

Approved Project Sponsor's Costs of Project

The estimated cost components for the Project are as follows:

Estimated Project Costs	
Project Management	
Regulatory Permitting	
Land Acquisition	
Engineering & Surveying	
Material	
Construction Labor	
Testing, Commissioning & Energization	
Administrative & General Overhead	
AFUDC and Contingency	
Total	\$ 68,300,000

Approved Project Sponsor may adjust the amounts in each cost category as needed during the term of this Agreement provided the total Project cost does not exceed \$68,300,000 in nominal dollars. All costs incurred prior to the award date and prior to the commercial operation date, other than those costs identified as Excluded Costs below, are included in the current cost estimates and are covered by the Binding Capital Cost Cap and the Binding Annual Revenue Requirement Cap (each as defined below).

APPENDIX B

LSPGC - Gates 500 kV Dynamic Reactive Support Project

Fresno County, CA

LEGEND

Project Components

★ Project Site

General Features

— Interstate

— Highway

— Railroad

— Existing 500kV Transmission Line

— Existing 230kV Transmission Line

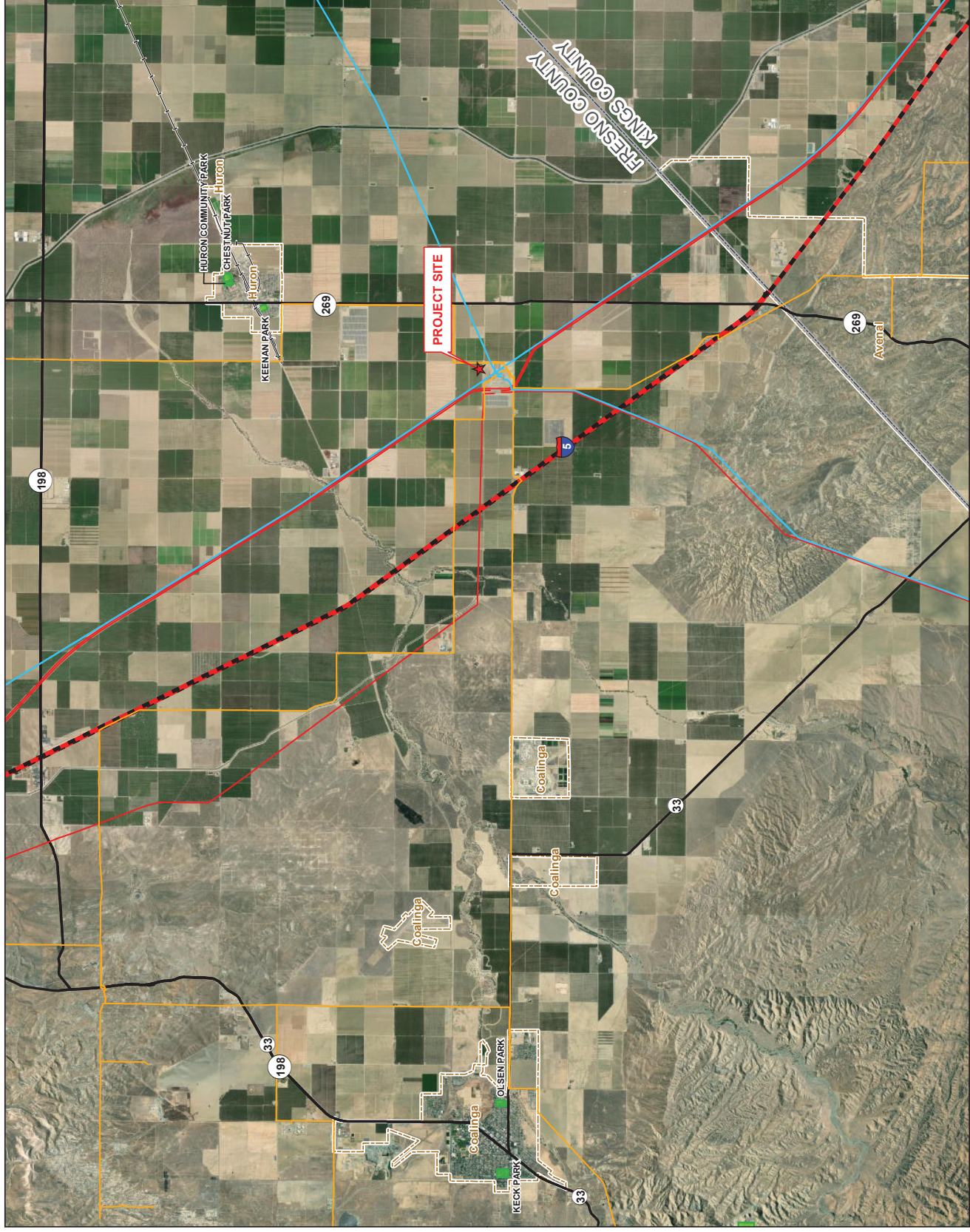
— Existing 115kV Transmission Line

— Existing <100kV Transmission Line

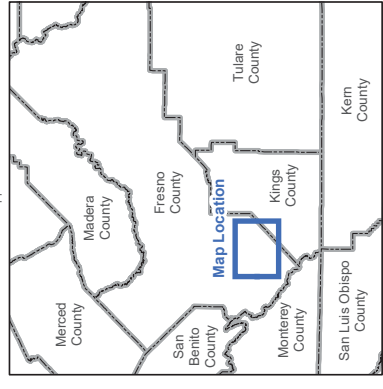
— Municipal Boundary

— County Boundary

— Park or Open Space



SPCS NAD 83, CA Zone IV, US FT.
Data Sources: CA.gov, CalFire, CalTrans, ESRI, Fresno Co.,
USDA,
E:\Gates\MXD\PEAPTC Application 021121.mxd



APPENDIX C

APPENDIX C

Siting Analysis

Gates 500 kV Dynamic Reactive Support Project

LS Power Grid California, LLC

February 2021

APPENDIX B. SITING ANALYSIS

3.1 Introduction

The Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project) was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of the CAISO controlled grid. This would be accomplished through the construction of a dynamic reactive device between two equally sized blocks. The Proposed Project is being proposed by LSPGC, a Delaware limited liability company established to own transmission projects in California.

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 be independently connected to the existing Pacific Gas and Electric Company's (PG&E) Gates 500 kV Substation via two new single-circuit 500 kV interconnection transmission lines.

The Proposed Project site is approximately 20 acres in size, located directly north and adjacent to the PG&E Gates Substation in Fresno County, California. 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 3.3 miles southwest of the city of Huron and approximately 2.2 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.

3.2 Project Purpose and Need

The Proposed Project's purpose is to provide dynamic reactive power support at the PG&E Gates Substation, a 500 kV and 230 kV level regional substation in Fresno County. The Proposed Project would:

- Ensure the reliability of a major portion of the CAISO controlled grid;
- Provide cost-effective voltage control and other electric transmission grid benefits;
- Support the provision of safe, reliable, and adequate electricity service to the PG&E service territory;
- By ensuring reliable operation of the grid, facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals.

The Proposed Project was identified by CAISO in its 2018-2019 Transmission Plan as a “reliability-driven” project that would address and mitigate voltage support issues by providing system stability and reliability. Each year, CAISO provides a comprehensive evaluation of its transmission grid to identify upgrades needed to successfully meet California’s policy goals, in addition to examining conventional grid reliability requirements and projects that can bring economic benefits to consumers. This plan is updated annually and is prepared in the larger context of supporting importation of energy and environmental policies, while maintaining reliability through a resilient electric system (CAISO 2019).

In its 2018-2019 planning cycle, CAISO evaluated upgrades needed to successfully meet California’s policy goals, in addition to examining conventional grid reliability requirements and projects that can bring economic benefits to consumers. CAISO’s analysis, conducted through an open and stakeholder-inclusive planning process, led to the identification of the need for the Proposed Project as part of a comprehensive solution (relying in part on other upgrades already identified to meet reliability needs notwithstanding state policy objectives) to mitigate post-contingency voltage control issues in the Fresno area (CAISO 2019).

CAISO is responsible for planning and managing the high-voltage transmission network (transmission grid) for approximately 80% of California, including the service territory of PG&E, where the Proposed Project is located. CAISO undertakes an annual Transmission Planning Process (TPP) to identify potential transmission system problems, such as thermal overloading and voltage and frequency variations outside acceptable limits, over a 10-year planning horizon. CAISO considers additional transmission facilities and/or changes in operation that would solve the problems, allowing the transmission grid to meet reliability objectives and criteria. In addition, CAISO evaluates the transmission grid’s ability to help meet certain state of California government policy objectives including the Renewables Portfolio Standard (RPS). Finally, the CAISO transmission planners and economists also examine whether transmission upgrades could save ratepayers money by reducing electric grid transmission congestion and allowing the use of lower-cost generation (CAISO 2019).

As an outcome of the 2018-2019 TPP, the CAISO determined that, due to transmission overloading and voltage support issues, cost-effective dynamic reactive power support is needed at the PG&E Gates Substation to mitigate both high voltages after the Diablo Canyon nuclear generating units retire and high voltages under off-peak conditions prior to its retirement. Dynamic reactive power support would also mitigate dynamic stability issues with three-phase faults and induction motor stalling and tripping.

Following approval of the Transmission Plan, in accordance with the Federal Energy Regulatory Commission’s Order No. 1000 and the CAISO open access transmission tariff, the CAISO opened a competitive bid solicitation window in April 2019, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the Gates 500

kV Dynamic Reactive Support Project. The CAISO specified an in-service date for the Proposed Project of June 2024.

LSPGC carefully considered several commercially available transmission technologies that would meet the CAISO's description and functional specification for the Proposed Project. Based on the review of the acceptable technologies, LSPGC proposed a STATCOM facility which meets the CAISO's functional specifications for the Proposed Project.

In January 2020, LSPGC was selected by the CAISO as the approved project sponsor to finance, construct, own, operate and maintain the Proposed Project. The CAISO selected LSPGC's proposal from a total of 10 validated proposals, all of which contained some form of cost containment to protect consumers from cost overruns. The CAISO selection report stated that LSPGC's proposal "would provide lower cost, greater rate certainty, and less cost risk than the proposals of the other project sponsors" (CAISO Project Sponsor Selection Report 2020).

3.3 Alternative Substation Locations

Prior to submitting its proposal to CAISO for the Proposed Project, LSPGC evaluated potential land opportunities in the surrounding area to the north, south, east, and west of the PG&E Gates Substation (Gates). LSPGC considered the following key siting constraints in the evaluation, among others, prior to securing the Proposed Project site.

- Compliance with CAISO Functional Specification
- Proximity to Gates
- Minimizing Line Crossings
- Minimizing Ground Disturbance

The four siting areas around Gates are shown in the attached map and described below.

3.3.1 Siting Areas North of Gates (#1)

- **Compliance with CAISO Functional Specification.** The CAISO specification states that the "project interconnections can enter the Gates substation from either the north or the south side." LSPGC secured the Proposed Project site directly adjacent to and north of the Gates site to comply with the CAISO requirement without the addition of costly transmission angle structures or line crossings. This location represents the closest proximity to the interconnection point of any site evaluated by LSPGC or proposed by other bidders, resulting in minimizing interconnection costs for ratepayers.
- **Proximity to Gates.** The Proposed Project site abuts PG&E's northern property boundary, the closest possible location to the required interconnection locations.

- **Minimizing Line Crossings.** The location of the Proposed Project site does not require any transmission line crossings. PG&E is able to extend gas insulated bus under incoming transmission lines to an open area on the site within 550 feet of the Proposed Project site which will serve as the interconnection location.
- **Minimizing Ground Disturbance.** The Proposed Project site is directly adjacent to the PG&E property. The only required infrastructure between the Proposed Project and the Gates interconnection points are two short tie-lines approximately 550 feet each that connect LSPGC's deadend structure to PG&E's deadend structure.

3.3.2 Alternative Siting Areas South of Gates (#2)

- **Compliance with CAISO Functional Specification.** The CAISO specification states that the "project interconnections can enter the Gates substation from either the north or the south side." While this area would be more suitable for siting than on the east side or west side of Gates, due to the existing infrastructure on the south side of PG&E's property, interconnections approaching from the south are more difficult due to tight spacing of equipment and the crossing of 500 kV transmission compared to sites north of Gates. Siting on the available land is also more challenging than sites north of Gates due to the location of existing lines crossing the site and little room for laydown and construction staging. Siting south of Gates also requires more expensive takeoff structures and potential for construction congestion on a paved county roadway (W Jayne Ave) compared to siting options north of Gates.
- **Proximity to Gates.** Sites located south of Gates could be directly adjacent to the Gates property, just across from a paved county road from the Gates 230 kV yard.
- **Minimizing Line Crossings.** Due to the location of existing 230 and 500 kV transmission lines, new interconnection lines entering Gates from the south would need to cross these lines or PG&E would need to shoehorn new interconnection facilities between the 230 kV yard and W Jayne Ave.
- **Minimizing Ground Disturbance.** Due to the location of existing transmission lines, additional ground disturbance would result from siting south of the Gates property line. This would include new interconnecting lines would require multiple structures and exceed 1,000 feet each, and new above ground structures.

3.3.3 Alternative Siting Areas West of Gates (#3)

- **Compliance with CAISO Functional Specification.** The CAISO specification states that the "project interconnections can enter the Gates substation from either the north or the

south side.” Sites located west of Gates would be blocked from easily accessing the north or south side of Gates by an existing solar farm and 500 kV transmission lines. If transmission lines were run from the west side of the solar farm, they would require multiple 500 kV line crossings as well as siting constraints. This would also require extra transmission angle structures and ground disturbance, resulting in unnecessary costs.

- **Proximity to Gates.** There is a solar farm situated west of Gates, therefore a project site would be more than 1,500 feet further from the interconnection points than sites to the north or south of Gates.
- **Minimizing Line Crossings.** Multiple 500 kV line crossings would be required if a site to the west of Gates was used, resulting in added design and installation complexity and cost compared to the proposed site.
- **Minimizing Ground Disturbance.** The additional distance from the interconnection points compared to the proposed site would result in additional ground disturbance as well as impacts to multiple parcels of land and multiple Williamson Act contracts.

3.3.4 Alternative Siting Areas East of Gates (#4)

- **Compliance with CAISO Functional Specification.** The CAISO specification states that the “project interconnections can enter the Gates substation from either the north or the south side.” Sites located east of Gates would require longer transmission tie lines to access interconnection points on the north or south side of Gates. Such transmission lines may also require 230 kV line crossings as well as siting constraints across multiple parcels. This would also require extra transmission angle structures and ground disturbance, resulting in unnecessary costs.
- **Proximity to Gates.** Much of the land adjacent to the east side of Gates is not available for siting the Proposed Project. Even if it was, sites would be at least 1,200 feet further from the interconnection points in the north in the best case scenario, and more than 3,000 feet further from interconnection points in the south.
- **Minimizing Line Crossings.** Additional 230 kV line crossings would be required if a site to the east of Gates was used, resulting in added design and installation complexity and cost compared to the proposed site.
- **Minimizing Ground Disturbance.** The additional distance from the interconnection points compared to the proposed site would result in additional ground disturbance as well as impacts to multiple parcels of land and multiple Williamson Act contracts.

After considering the siting constraints for the different potential sites surrounding Gates, LSPGC concluded that the Proposed Project site to the north of Gates (#1) is the preferred site due to its advantages in meeting the CAISO functional specification, proximity to Gates Substation, minimizing line crossings, minimizing disturbance, and minimizing number of impacted parcels, resulting in the lowest cost option for ratepayers. LSPGC successfully secured an exclusive option to purchase the land required to locate the Proposed Project on in the siting area north of Gates.

MAP OF SITING AREAS

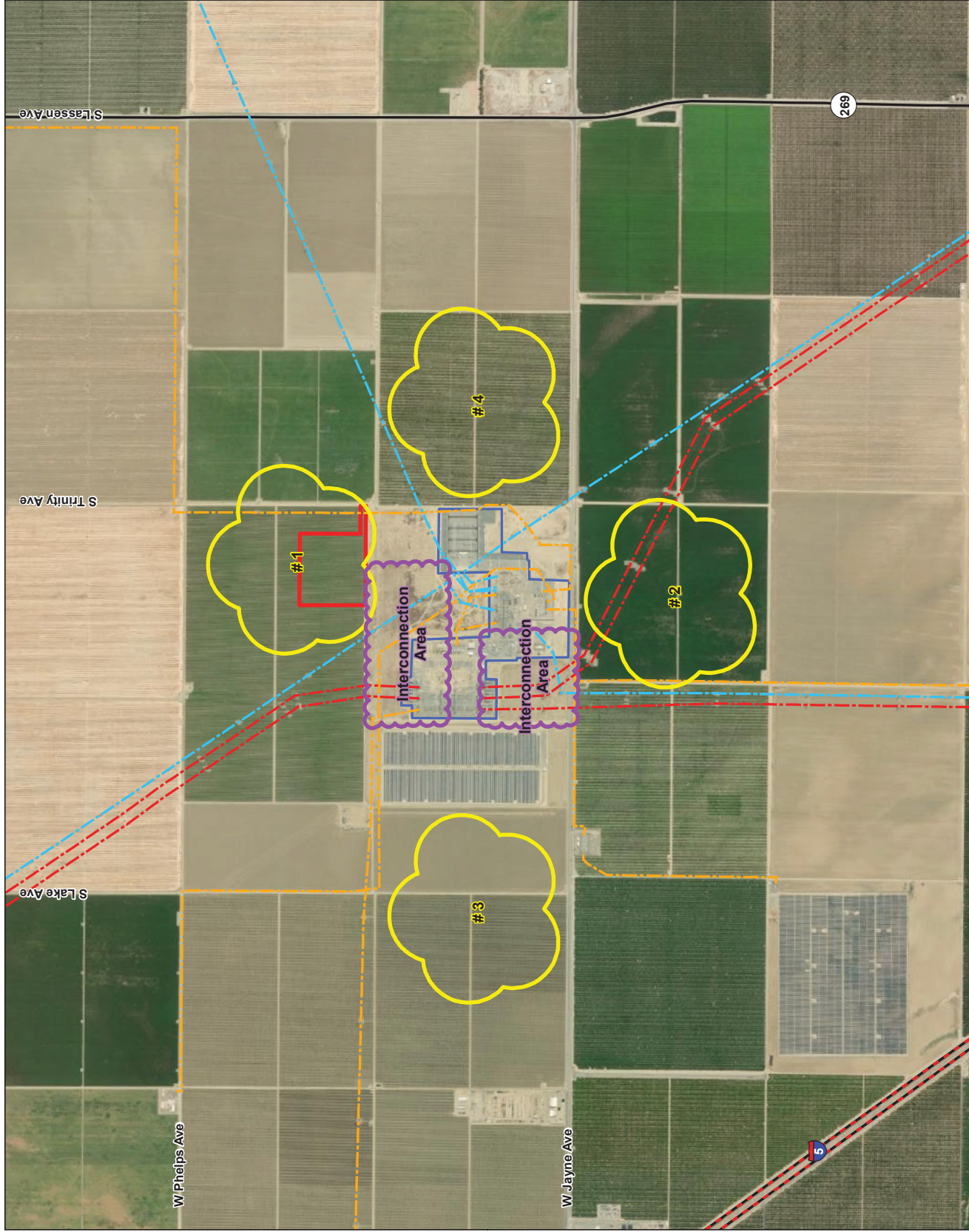
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**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

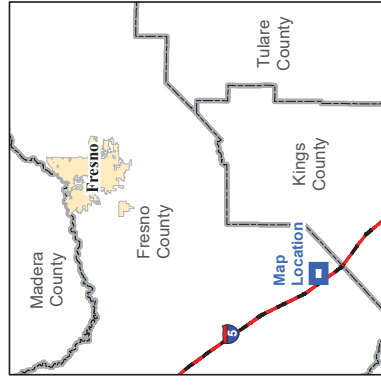
**Appendix B
Alternative Siting Areas**

Fresno County, CA

- LEGEND**
- Site Boundary - Approx. 20 Acres
 - Alternative Siting Areas
 - Interconnection Areas
- General Features**
- Existing 500kV Transmission Line
 - Existing 230kV Transmission Line
 - Existing <100kV Transmission Line
 - Interstate
 - State Highway
 - Gates Substation
 - County Boundary
 - Municipality



SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, NRCs, USDA,
E:\Projects\Gates\MXDs\PEA\Appendix B Alternative Siting
Areas 021621.mxd



APPENDIX D



Proponent's Environmental Assessment for LS Power Grid California, LLC's *Gates 500 kV Dynamic Reactive Support Project*

February 2021

The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of the CAISO controlled grid and 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 be independently connected to the existing Pacific Gas and Electric Company's (PG&E) Gates 500 kV Substation.

The Proposed Project site is approximately 20 acres located in Fresno County, California.

Application A-__-__-__ to the California Public Utilities Commission

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Acronyms

AADT – annual average daily traffic
AB – Assembly Bill
AC – Alternating Current
ACC – Advanced Clean Cars
ACOE – Army Corps of Engineers
AE – Exclusive Agricultural District
AERMOD – Air Quality Dispersion Modeling
AMP – Applicant Proposed Measures
AMSL – Above Mean Sea Level
APE – Area of Potential Effects
APLIC – Avian Power Line Interaction Committee
AQMDs – Air Quality Management Districts
AST – above-ground storage tank
ASTM – American Society for Testing Materials
BAAH – Breaker and a Half
BAT – best available technology
BAU – “Business-As-Usual”
BCC – Bird of Conservation Concern
BCE – Before the Common Era
BCT – best control technology
BGEPA – Bald and Golden Eagle Protection Act
BGS – Below Ground Surface
BLM – Bureau of Land Management
BMP – Best Management Practices
BPS – Best Performance Standards
CAA – Clean Air Act
CAAQS – California Ambient Air Quality Standards
CAFÉ – Corporate Average Fuel Economy Standards
CAISO – California Independent System Operator Corporation
CAL FIRE – California Department of Forestry and Fire Prevention
Cal/OSHA – California Division of Occupational Safety and Health Administration
CalEEMod – California Emissions Estimator Model
CalEPA – California Environmental Protection Agency
Caltrans – California Department of Transportation
CARB – California Air Resource Board
CBC – California Building Code
CCAP – Climate Change Action Plan
CCAs – community choice aggregators
CCR – California Code of Regulations
CDC – Center for Disease Control
CDPH – California Department of Public Health
CEQA – California Environmental Quality Act
CERCLA – Comprehensive Environmental Response, Compensation, Liability Act
CESA – California Endangered Species Act
CFGF – California Fish and Game Code Protected
CFP – California Fully Protected

CFR – Code of Federal Regulations
CGP – Construction General Permit
CGS – California Geological Survey
CHP – California Highway Patrol
CHRIS – California Historical Resources Information System
CIP – Critical Infrastructure Protection
CNBBD – California Natural Diversity Database
CNPS – California Native Plant Society
COG – Council of Governments
COPD – Chronic Obstructive Pulmonary Disease
CPCN – Certification of Public Necessity and Convenience
CPUC – California Public Utilities Commission
CNEL – Community Noise Equivalent Level
CRECs – controlled recognized environmental conditions
CRHR – California Register of Historic Resources
CSSC – California Species of Special Concern
CUPA – Certified Unified Program Agency
CVRWQCB – Central Valley Regional Water Quality Control Board
CWA – Clean Water Act
CWHR – California Wildlife Habitat Relations
CY – Cubic Yards
DOC – Department of Conservation
DOOR – Diesel Off-Road Online Reporting System
DOT – Department of Transportation
DPM – Diesel Particulate Matter
DTSC – Department of Toxic Substances Control
DWR – Department of Water Resources
EAP – Energy Action Plan
EFZ – Earthquake Fault Zones
EIR – Environmental Impact Report
EISA – Energy Independence and Security Act
EMS – Emergency Medical Services
EO – Executive Order
EPA – Environmental Protection Agency
EPCA – Energy Policy and Conservation Act
EPCRA – Emergency Planning Community Right-to-Know Act
ERO – Electric Reliability Organization
ESA – Endangered Species Act
ESPs – Electric Service Providers
ESRI – Environmental System Research Institute
ESRP – Endangered Species Recovery Program
FAA – Federal Aviation Administration
FCFPD – Fresno County Fire Protection District
FCHIP – Fresno County Health Improvement Partnership
FE – Federally Endangered
FEMA – Federal Emergency Management Agency
FERC – Federal Energy Regulatory Commission
FHSZ – Fire Hazard Severity Zone

FIRM – Flood Insurance Rate Map
FMMP – Farmland Mapping and Monitoring Program
FT – Federally Threatened
GHG – Greenhouse Gas
GIB – Gas Insulated Bus
GSA – Groundwater Sustainability Agency
GWP – Global Warming Potential
HAZCOM – Hazardous Materials Communication
HCP – Habitat Conservation Plan
HFCs – Hydrofluorocarbons
HMBP – Hazardous Material Business Plan
HMMP – Hazardous Materials Management Plan
HP – Horse Power
HRECs – Historical Recognized Environmental Conditions
HSAA – Hazardous Substance Account Act
HVAC – Heating, Ventilation And Air Conditioning
HWCL – Hazardous Waste Control Law
IGBT – Insulated Gas Bipolar Transistor
IOUs – investor-owned utilities
IPaC – Information for Planning and Consulting
IPCC – Intergovernmental Panel on Climate Change
ISR – Indirect Source Review
KOP – Key Observation Points
kV – Kilovolt
kW – Kilowatt
kWH – Kilowatt Hour
LAN – Local Area Network
LEV – Low-Emission Vehicle
LLC – Limited Liability Company
LOS – Level of Service
LRA – Local Responsibility Area
LSPGC – LS Power Grid California, LLC
LTE – Long Term Evolution
MBTA – Migratory Bird Treaty Act
MEI – Maximally Exposed Individual
MEIR – Master Environmental Impact Report
MMT – Million Metric Tons
MND – Mitigated Negative Declaration
MPH – Miles Per Hour
MPOs – Metropolitan Planning Organizations
MRZ – Mineral Resource Zone
MT - Metric Tons
MVAR – Million Volt-Amperes Reactive
MW – Megawatts
NAAQS – National Ambient Air Quality Standards
NCCP – Natural Community Conservation Plan
NCP – National Contingency Plan
NEC – National Electrical Code

NEMA – National Electrical Manufacturers Association
NEPA – National Environmental Policy Act
NERC – North American Electric Reliability Corporation
NESC – National Electric Safety Code
NFIP – National Flood Insurance Program
NFPA – National Fire Protection Association
NHPA – National Historic Preservation Act
NOI – Notice of Intent
NOP – Notice of Preparation
NPDES – National Pollutant Discharge Elimination System
NPPA – Native Plant Protection Act
NRCS – Natural Resources Conservation Service
NRHP – National Register of Historic Places
NWI – National Wetlands Inventory
O&M – Operation and Maintenance
OEHHA – Office of Environmental Health Hazard Assessment
OES – Office of Emergency Services
OHB – Occupational Health Branch
OHP – Office of Historic Preservation
OHWM – Ordinary High Water Mark
PEA – Proponent’s Environmental Assessment
PFCs – Perfluorocarbons
PG&E – Pacific Gas and Electric
PLSS – Public Land Survey System
POCO – Point of Change Ownership
POUs – Public Owned Utilities
PPB – Parts Per Billion
PPE – Personal Protective Equipment
PPM – Parts Per Million
PPV – Peak Particle Velocity
PRC – Public Resources Code
PTC – Permit to Construct
PU – Public Utilities
PVC – polyvinyl chloride
QSP – qualified stormwater pollution prevention plan practitioner
RCRA – Resource Conservation and Recovery Act
RECs – Recognized Environmental Conditions
REL – Reference Exposure Levels
ROG – Reactive Organic Gases
ROW – Rights-of-Way
RPS – Renewable Portfolio Standard
RPS – Renewable Power Sources
RTP – Regional Transportation Plan
RV – recreational vehicle
RWQCBs – Regional Water Quality Control Boards
SB – Senate Bill
SCADA – Supervisory Control and Data Acquisition
SCAQMD – South Coast Air Quality Management District

SCS – Sustainable Communities Strategy
SDNHM – San Diego Natural History Museum
SDS – Safety Data Sheets
SE – State Threatened
SEMS – Standardized Emergency Management System
SIP – State Implementation Plan
SJVAB – San Joaquin Valley Air Basin
SJVAPCD – San Joaquin Valley Air Quality Management District
SJVR – San Joaquin Valley Railroad
SLF – Sacred Lands File
SMARA – Surface Mining and Reclamation Act of 1975
SMARTS – Stormwater Multiple Application and Report Tracking System
SMCRA – Surface Mining Control and Reclamation Act
SMJUs – Small and Multi-Jurisdictional Utilities
SPCCP – Spill Prevention, Control, and Countermeasure Plan
SPRR – Southern Pacific Railroad
SR – State Route
SRA – State Responsibility Area
SSJVIC – Southern San Joaquin Valley Information Center
ST – State Endangered
STATCOM – Static Synchronous Compensator
SVP – Society of Vertebrate Paleontology
SWHA – Swainson’s Hawk
SWPPP – Storm Water Pollution Prevention Plan
SWRCB – State Water Resources Control Board
TACs – Toxic Air Contaminants
TCR – Tribal Cultural Resources
TMDL – Total Maximum Daily Loads
TMP – Traffic Management Plan
TOC – Table of Contents
TPP – Transmission Planning Process
TSPs – Tubular Steel Poles
UCMP – University of California Museum of Paleontology
USA – Underground Service Alert
USACE – United States Army Corps of Engineers
USDA – United States Department of Agriculture
USDOI – United States Department of the Interior
USEPA – U.S. Environmental Protection Agency
USFWS – United State Fish and Wildlife Service
USGS – United States Geological Survey
VHFHSZ – Very High Fire Hazard Severity Zone
VDE – Visible Dust Emission
VMT – vehicle miles traveled
WAN – Wide Area Network
WBWG – Western Bat Working Group
WEAP – Workers Environmental Awareness Program
ZEV – Zero Emission Vehicle

1.0 EXECUTIVE SUMMARY

1.1 PROPOSED PROJECT SUMMARY

LS Power Grid California, LLC (LSPGC), an indirect subsidiary of LS Power, established to own and operate transmission projects in California, is proposing the Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project). The Proposed Project is located within an existing regional transmission system that provides electricity to the greater Fresno area. The Proposed Project site is approximately 20 acres of land, located directly north, and adjacent to, the existing Pacific Gas and Electric (PG&E) Gates Substation in Fresno County, California.

The Proposed Project was identified by the California Independent System Operator Corporation (CAISO) in its 2018-2019 Transmission Plan as a “reliability-driven” project that would address and mitigate voltage support issues by providing system stability and reliability. Studies prepared by the CAISO identified high voltages on the 500 kV Diablo, Gates, and Midway buses starting when Diablo Canyon Nuclear Generation Station (Diablo Canyon) retires, currently scheduled for 2024 for Unit 1 and 2025 for Unit 2. Due to transmission overloading, support is needed at the PG&E Gates Substation to mitigate both high voltages after the Diablo Canyon nuclear generating units retire and high voltages under off-peak conditions prior to its retirement.

The Proposed Project would facilitate system stability and reliability through the construction of a dynamic reactive power support substation providing approximately +/-848 million volt-amperes, reactive (MVAR) dynamic reactive capability to be installed in a minimum of two, equally sized Static Synchronous Compensator (STATCOM) units. Each STATCOM unit would be independently connected to the existing PG&E Gates Substation 500 kV bus by new interconnection facilities to be built by PG&E.

The Proposed Project’s purpose is to provide dynamic reactive power support at the PG&E Gates Substation in Fresno County, California. The Proposed Project would:

- Ensure the reliability of a major portion of the CAISO controlled grid;
- Provide cost-effective voltage control and other electric transmission grid benefits;
- Support the provision of safe, reliable, and adequate electricity service to the PG&E service territory; and
- Ensure reliable operation of the grid by facilitating the importation and use of renewable electricity to fulfill California’s energy policies and goals.

The Proposed Project was selected because it best meets all the project objectives and minimizes environmental impacts. Major Proposed Project objectives include:

- Meet the CAISO’s reliability-driven need for dynamic reactive power support at the PG&E Gates Substation’s 500 kV bus identified in the CAISO’s powerflow and stability studies and deliverability goals;
- Meet the technical specifications set forth by the CAISO for a 500 kV dynamic reactive power support system located near or adjacent to the existing PG&E Gates Substation;

- Achieve commercial operation by June 2024 in order to support PG&E's decommissioning of the Diablo Canyon nuclear generating units (scheduled to begin in 2024);
- Improve and maintain the reliability of the transmission grid by providing dynamic reactive power support, and increase deliverability of renewable power, by building and operating a facility that would help keep transmission voltages within specified parameters, reduce transmission losses, increase reactive margin for the system bus, increase transmission capacity, provide a higher transient stability limit, increase damping of minor disturbances, and provide greater voltage control and stability; and
- Facilitate deliverability of load from existing and proposed renewable generation projects in the Central Valley area and corresponding progress toward achieving California's Renewables Portfolio Standard (RPS) goals in a timely and cost-effective manner by California utilities.

1.2 LAND OWNERSHIP AND RIGHT-OF-WAY REQUIREMENTS

The Proposed Project site is located directly north, and adjacent to, the existing PG&E Gates Substation in Fresno County, California. The parcel where the STATCOM Substation facility would be constructed (APN 075-060-067S) is under private ownership. LSPGC holds an exclusive option to purchase up to 20 acres of an approximately 230-acre parcel of land. The approximately 210 acres of remaining land within this larger parcel would retain its agricultural use and public access rights and would not be physically constrained as a result of the land transaction.

The Proposed Project would require a new easement from PG&E for the access road along the eastern border of the PG&E Gates Substation property boundary. LSPGC would grant PG&E an easement for the minor section of the 500 kV interconnection lines that would extend beyond the property line into the Proposed Project site. There are no existing easements associated with the Proposed Project, and no temporary easements would be required for construction activities associated with the Proposed Project.

1.3 AREAS OF CONTROVERSY

LSPGC met with several regulatory agencies to solicit input on project design and potential resource and land use issues in the vicinity of the Proposed Project. Agencies consulted with include the CAISO, PG&E, California Department of Fish and Wildlife (CDFW), Fresno County, and the Native American Heritage Commission (NAHC). Based on the conducted outreach and consultation with agencies, no areas of controversy and/or public concern were identified.

1.4 SUMMARY OF IMPACTS

There are no potentially significant or significant and unavoidable impacts expected as a result of the Proposed Project.

LSPGC would be responsible for overseeing the assembly of construction and environmental teams that would implement and evaluate the Applicant Proposed Measures (APMs) for the Proposed Project. LSPGC maintains an environmental compliance management program to

allow for implementation of the APMs to be monitored, documented, and enforced during each Proposed Project phase. The Proposed Project would include APMs to ensure that project-level impacts would be less than significant for the following resource areas:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards, Hazardous Materials, and Public Safety
- Hydrology and Water Quality
- Public Services
- Transportation
- Utilities and Service Systems

The APMs are described in **Table 3-10, Applicant Proposed Measures** and are described in detail in **Section 4.0, Environmental Analysis** which includes an analysis of why the APM was selected and how it would reduce and/or minimize potential impacts. In addition, all applicable California Public Utilities Commission (CPUC) Draft Environmental Measures were included to further reduce potential impacts.

1.5 PRE-FILING CONSULTATION AND PUBLIC OUTREACH SUMMARY

LSPGC met with several regulatory agencies to solicit input on project design and potential resource and land use issues in the vicinity of the Proposed Project. Agencies consulted with include the CAISO, PG&E, CDFW, Fresno County, and the NAHC. Coordination with these agencies would continue through the Proposed Project's planning process. **Table 3-8, Anticipated Permits and Approvals** lists the permits, approvals, and licenses that LSPGC anticipates obtaining from jurisdictional agencies. No local discretionary (e.g., land use) permits would be required because the CPUC has preemptive jurisdiction over the siting, construction, and operation and maintenance (O&M) of LSPGC facilities in California.

Given the rural nature of the Proposed Project area and lack of residences, businesses, or other stakeholders in the immediate vicinity, no formal public outreach was conducted. However, throughout the approval process, LSPGC would keep area residents and property owners, government officials, Native American tribes, and interested parties informed about the scope of the Proposed Project through printed materials, one-on-one meetings, and presentations to local organizations.

LSPGC and the CPUC held a Pre-filing Consultation meeting to discuss the anticipated level of California Environmental Quality Act (CEQA) documentation that would be required for the Proposed Project. Given the adjacency of the Proposed Project site to the PG&E Gates Substation, the disturbed nature of the Proposed Project site, and the perceived lack of potential environmental impacts, the CPUC determined that the Proponent's Environmental Assessment (PEA) would not need to include project alternatives and analysis to the CAISO selection. The CPUC and LSPGC conducted a tour of the Proposed Project site. Given the rural nature of the

Proposed Project site and the lack of sensitive receptors, aesthetics and noise were discussed. It was determined that a STATCOM Substation facility rendering would be produced (in-lieu of a photo simulation) and that the CPUC would provide Key Observation Points to be included in the PEA. It was also determined that existing ambient noise readings would not be required given the closest sensitive receptor is located approximately two miles from the Proposed Project site.

1.6 CONCLUSIONS

The PEA analyzes the potential environmental impacts associated with the construction, operation, and maintenance of the Proposed Project. Through preparation of the PEA, it was determined that each of the following 20 resource areas do not have the potential to be significantly impacted by the Proposed Project. The Proposed Project would result in no impacts or negligible impacts on five resource areas: land use and planning, mineral resources, population and housing, recreation, and wildfire. Any impacts that would occur have been determined to be less than significant for the remaining 15 resource areas; the section below summarizes conclusions and APMs for the following resource areas:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards, Hazardous Materials, and Public Safety
- Hydrology and Water Quality
- Noise
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Implementation of APMs (**Table 3-10, Applicant Proposed Measures**) would ensure that impacts remain less than significant. These impacts are discussed below by resource area.

1.6.1 AESTHETICS

The cumulative aesthetics impact analysis area generally encompasses the visual landscape within an approximately five-mile radius, primarily including motorists' views from West Jayne Avenue and other roadways. The existing PG&E Gates Substation and an existing solar field, along with numerous extra-high voltage transmission lines, are prominent visual features adjacent to and south of the Proposed Project area. As discussed in **Section 4.1.4, Impact Analysis**, structures associated with the Proposed Project would be relatively low profile compared to the existing PG&E Gates Substation and would consist of little to no visual change from the existing landscape. There were determined to be no impacts related to scenic vistas and scenic resources. Light and glare impacts associated with the Proposed Project would be minimal. **APM AES-1** and

AES-2 would be implemented to further ensure that project-level impacts would be less than significant.

1.6.2 AGRICULTURE AND FORESTRY RESOURCES

The Proposed Project site is located on agricultural land subject to an active Williamson Act contract, and all adjacent lands (within one mile) are also under active Williamson Act contracts, excluding the two PG&E-owned parcels located to the south. Permanent conversion of less than 10 acres of Prime Farmland to non-agricultural use would be required to accommodate the Proposed Project. Per California Government Code Section 51222, the amount of Prime Farmland that would be converted to non-agricultural land is less than the minimum size (10 acres) needed for a parcel to sustain agricultural use in the case of prime agricultural land. The conversion of Prime Farmland to non-agricultural use for the Proposed Project would not preclude the surrounding area from future agricultural use. Additionally, this conversion would not be considerable relative to land conversion plans of other projects in the vicinity, at least one of which would require the conversion of 1,600 acres of Prime Farmland to non-agricultural use in conflict with Williamson Act contracts. **APM AGR-1** would be implemented to ensure that the Proposed Project would not conflict with the Williamson Act and that project-level impacts would be less than significant.

1.6.3 AIR QUALITY

The Proposed Project site is surrounded by agricultural operations and the PG&E Gates Substation in an area where soil disturbance or dust would not be expected to impact any vulnerable populations. The nearest sensitive receptors are located approximately 1.8 miles from the Proposed Project site, too far for the Proposed Project to affect. The Proposed Project was analyzed for construction, decommissioning, and operational air quality emissions. As discussed in **Section 4.3.4, Impact Analysis**, under this analysis, the Proposed Project would generate less than significant direct impacts to the air quality. **APM AQ-1** through **AQ-3** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.4 BIOLOGICAL RESOURCES

There were determined to be no impacts related to riparian habitat, wetlands, or local policies, ordinances, and plans as a result of the Proposed Project. As discussed in **Section 4.4, Biological Resources**, due to the low quantity of observations of special-status animals at the Proposed Project during surveys, the limited number of special-status species, habitat, or other sensitive natural communities that could occur, the small footprint of the Proposed Project in relation to local and global ranges and populations of these species, the highly disturbed agricultural and industrial landscape, and the high level of human activity and disturbance already occurring in region, project-level impacts were found to be less than significant. **APMs BIO-1** through **APM BIO-8** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.5 CULTURAL RESOURCES

The Proposed Project was designed to avoid known cultural resources. As shown in **Section 4.5, Cultural Resources**, there are no known historical or archaeological resources or graves within the Proposed Project area. While the possibility exists that subsurface resources or remains could be unearthed during construction, the current regulations and plans, as well as standard mitigation measures, would ensure impacts to any cultural resources within the Proposed Project area would be less than significant. **APM CUL-1** through **APM CUL-5** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.6 ENERGY

The Proposed Project would not conflict with state or local plans for renewable energy and it would not add capacity for the purpose of serving a non-renewable energy source. As discussed in **Section 4.6, Energy**, construction and operation of the Proposed Project would utilize a relatively small amount of energy and fossil fuels, while increasing the electrical system efficiency for future uses of renewable energy within the region. Therefore, with respect to adverse environmental impacts resulting from wasteful, inefficient, or unnecessary consumption of energy resources, the Proposed Project was found to have a less-than-significant impact.

1.6.7 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

There were determined to be no impacts related to liquefaction, landslides, expansive soil, and soils incapable of supporting septic tanks as a result of the Proposed Project. As shown in **Section 4.7, Geology, Soils, and Paleontological Resources**, the Proposed Project is located within a seismically active area, though no known active faults are located on or near the site. While encountering paleontological resources would be unlikely, the existing regulations and plans, as well as standard mitigation measures, would ensure impacts to any paleontological resources within the Proposed Project area would be less than significant. The Proposed Project's impact to geology, soils, and paleontological resources would be less than significant. **APM GEO-1** and **APM GEO-2**, in addition to **APM PALEO-1** and **APM PALEO-2**, would be implemented to further ensure that project-level impacts would be less than significant.

1.6.8 GREENHOUSE GAS EMISSIONS

Greenhouse Gas (GHG) emissions generated during construction, operation, and decommissioning would result in a less-than-significant, short-term impact to climate change. As shown in **Section 4.8, Greenhouse Gases**, the Proposed Project would have less-than-significant impacts from GHGs based on a reduction of emissions when compared to business as usual (BAU). Additionally, the Proposed Project would ultimately increase the efficiency of integrating existing and future renewable energy projects. The Proposed Project's impacts from GHG emissions would be less than significant. **APM GHG-1** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.9 HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC SAFETY

There were determined to be no impacts related to noise, wildland fires, and air traffic and transportation as a result of the Proposed Project. As discussed in **Section 4.9, Hazards, Hazardous Materials, and Public Safety**, the Proposed Project would not result in any significant impacts to this resource area. The Proposed Project would include design specifications and O&M procedures in order to minimize potential impacts to hazards, hazardous materials, and public

safety. **APM HAZ-1** through **HAZ-4** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.10 HYDROLOGY AND WATER QUALITY

There were determined to be no impacts related to floods or conflicts with applicable plans as a result of the Proposed Project. As shown in **Section 4.10, Hydrology and Water Quality**, the Proposed Project would not violate any water quality standards or waste discharge requirements. It is not anticipated that recycled or reclaimed water or groundwater would be used by the Proposed Project; and no substantial changes to the existing drainage pattern would occur. Compliance with existing laws, ordinances, regulations, and standards would ensure any impacts to hydrology and water quality within the Proposed Project area would be less than significant. **APM WQ-1** and **WQ-2** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.11 NOISE

Construction of the Proposed Project would temporarily increase noise levels; however, there are no sensitive receptors near the Proposed Project area. The Proposed Project was found to not exceed the noise levels limit at any property boundary during O&M activities. Construction and operations-related vibrations were determined to not be noticeable at the nearest sensitive receptor. There were determined to be no impacts related to private air strips as a result of the Proposed Project. The Fresno County Noise Control Ordinance (Section 40.80.060) exempts construction noise, provided that construction activities occur within the allowable days and times. Therefore, with respect generation of excessive ground-borne vibration or noise levels and ambient noise levels in excess of established standards, the Proposed Project was found to have a less-than-significant impact.

1.6.12 PUBLIC SERVICES

There were determined to be no impacts related to schools, parks, and other facilities as a result of the Proposed Project. As discussed in **Section 4.15, Public Services**, the Proposed Project would not permanently affect service ratios, response times, or other objectives for fire and police protection services in the area. During operation, the Proposed Project would not require regular oversight, service, or management; the facility would operate in an unmanned nature, minimizing the amount of public services that would be required during operation. The Proposed Project's public services impacts would be less than significant. Emergency service providers would be notified of the timing, location, and duration of construction activities in the event that temporary lane closures are required during construction. **APM PS-1** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.13 TRANSPORTATION

There were determined to be no impacts related to operational transportation as a result of the Proposed Project. Any project in Fresno County that adds access or includes construction zones is required to provide access for emergency vehicles (including adequate turning radius) at all times. Thus, there would be no adverse effects on emergency access at the Proposed Project site. As shown in **Section 4.17, Transportation**, construction traffic associated with the Proposed Project would represent less than two percent of the estimated roadway capacity of West Jayne

Avenue and would have a less-than-significant impact on regional vehicle miles traveled (VMT). **APM TRA-1** would be implemented to further ensure that project-level impacts would be less than significant.

1.6.14 TRIBAL CULTURAL RESOURCES

As discussed in **Section 4.18, Tribal Cultural Resources**, there are no recorded Tribal Cultural Resources (TCRs) within the geographic scope; however, confidential tribal knowledge indicates that there is a high likelihood of unrecorded subsurface TCRs. All projects are required to comply with state regulations that protect TCRs. The Proposed Project includes APMs to ensure impacts to any tribal cultural resources within the Proposed Project area would be less than significant. Therefore, **APM CUL-1** through **APM CUL-5** would be implemented to ensure that project-level impacts would be less than significant.

1.6.15 UTILITIES AND SERVICE SYSTEMS

There were determined to be no impacts related to water supplies, wastewater treatment, or solid waste as a result of the Proposed Project. As discussed in **Section 4.19, Utilities and Service Systems**, the Proposed Project would require the temporary use of utilities such as water, wastewater facilities, and electric power during construction, and runoff would be managed by a stormwater detention basin. Construction would generate solid waste that would be disposed of in a local landfill or another approved facility in accordance with applicable federal, state, and local laws. Based on the anticipated landfill capacity, enough capacity would be available to handle disposal of waste generated by the Proposed Project during construction. Since the Proposed Project would be unmanned for O&M, it would not require wastewater treatment facilities and would not generate solid waste in excess of state or local standards. Therefore, the impact of activities associated with O&M for the Proposed Project would be less than significant. **APM UTIL-1** would be implemented to further ensure that project-level impacts would be less than significant.

1.7 REMAINING ISSUES

As discussed in the sections above, there are no areas of controversy and public concern, no significant impacts are expected as a result of the Proposed Project, and there are no major issues that must still be resolved.

2.0 INTRODUCTION

LS Power Grid California, LLC (LSPGC), a wholly-owned subsidiary of LS Power, established to own and operate transmission projects in California, is proposing the Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project). As required by the California Public Utilities Commission's (CPUC) *Guidelines for Energy Project Applications Requiring CEQA Compliance Pre-Filing and Proponent's Environmental Assessments* (PEAs) and the California Environmental Quality Act (CEQA) Guidelines (14 Cal. Code of Regs. Section 15000 et seq), this section defines the objectives, purpose, and need for the Proposed Project. Additional information regarding LSPGC's Proposed Project's purpose and need is provided in LSPGC's Permit to Construct (PTC) application to the CPUC in accordance with CPUC General Order 131-D (GO 131-D).

2.1 PROJECT BACKGROUND

2.1.1 PURPOSE AND NEED

The Proposed Project's purpose is to provide dynamic reactive power support at the Pacific Gas and Electric (PG&E) Gates Substation, a 500 kV and 230 kV level regional substation, in Fresno County, California. The Proposed Project would:

- Ensure the reliability of a major portion of the California Independent System Operator Corporation (CAISO) controlled grid;
- Provide cost-effective voltage control and other electric transmission grid benefits;
- Support the provision of safe, reliable, and adequate electricity service to the PG&E service territory;
- Facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals by ensuring reliable operation of the grid.

These would be accomplished through the construction of a dynamic reactive power support substation providing approximately $\pm 848^1$ million volt-amperes, reactive (MVAR) dynamic reactive capability to be installed in a minimum of two, equally sized Static Synchronous Compensator (STATCOM) units. Each STATCOM unit will be independently connected to the existing PG&E Gates Substation 500 kV bus by new interconnection facilities to be built by PG&E including two, new single circuit 500 kV interconnection transmission lines, each approximately 550 feet in length.

The Proposed Project was identified by CAISO in its 2018-2019 Transmission Plan as a "reliability-driven" project that would address and mitigate voltage support issues by providing system stability and reliability. Each year, CAISO provides a comprehensive evaluation of its transmission grid to identify upgrades needed to successfully meet California's policy goals, in addition to examining conventional grid reliability requirements and projects that can bring economic benefits to consumers. This plan is updated annually and is prepared in the larger

¹ The designation " \pm " indicates both leading (capacitive) and lagging (inductive) reactive power.

context of supporting importation of energy and environmental policies, while maintaining reliability through a resilient electric system (CAISO, 2019).

In its 2018-2019 planning cycle, CAISO evaluated upgrades needed to successfully meet California's policy goals, in addition to examining conventional grid reliability requirements and projects that can bring economic benefits to consumers. CAISO's analysis, conducted through an open and stakeholder-inclusive planning process, led to the identification of the need for the Proposed Project as part of a comprehensive solution (relying in part on other upgrades already identified to meet reliability needs notwithstanding state policy objectives) to mitigate post-contingency voltage control issues in the Fresno area (CAISO, 2019).

CAISO is responsible for planning and managing the high-voltage transmission network (transmission grid) for approximately 80% of California, including the service territory of PG&E, where the Proposed Project is located. CAISO undertakes an annual Transmission Planning Process (TPP) to identify potential transmission system problems, such as thermal overloading and voltage and frequency variations outside acceptable limits, over a 10-year planning horizon. CAISO considers additional transmission facilities and/or changes in operation that would solve the problems, allowing the transmission grid to meet reliability objectives and criteria. In addition, CAISO evaluates the transmission grid's ability to help meet certain state of California government policy objectives including the Renewables Portfolio Standard (RPS). Finally, the CAISO transmission planners and economists also examine whether transmission upgrades could save ratepayers money by reducing electric grid transmission congestion and allowing the use of lower-cost generation (CAISO, 2019).

As an outcome of the 2018-2019 TPP, the CAISO determined that, due to transmission overloading and voltage support issues, cost-effective dynamic reactive power support is needed at the PG&E Gates Substation to mitigate both high voltages after the Diablo Canyon nuclear generating units retire and high voltages under off-peak conditions prior to its retirement. Dynamic reactive power support would also mitigate dynamic stability issues with three-phase faults and induction motor stalling and tripping.

Following approval of the Transmission Plan, in accordance with the Federal Energy Regulatory Commission's Order No. 1000 and the CAISO open access transmission tariff, the CAISO opened a competitive bid solicitation window in April 2019, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the Gates 500 kV Dynamic Reactive Support Project. The CAISO specified an in-service date for the Proposed Project of June 2024.

LSPGC carefully considered several commercially available transmission technologies that would meet the CAISO's description and functional specification for the Proposed Project. Based on the review of the acceptable technologies, LSPGC proposed a STATCOM facility which meets the CAISO's functional specifications for the Proposed Project.

In January 2020, LSPGC was selected by the CAISO as the approved project sponsor to finance, construct, own, operate and maintain the Proposed Project. The CAISO selected LSPGC's proposal from a total of 10 validated proposals, all of which contained some form of cost containment to protect consumers from cost overruns. The CAISO selection report stated that LSPGC's proposal "would provide lower cost, greater rate certainty, and less cost risk than the proposals of the other project sponsors" (CAISO Project Sponsor Selection Report, 2020).

This is LS Power's second competitive transmission selection by the CAISO. The first was the 2016 selection of LS Power affiliate DesertLink, LLC for the Harry Allen to Eldorado 500 kV Transmission Project, a 60-mile transmission line that was placed in service in August 2020. In February 2020, the CAISO once again selected LSPGC in a separate competitive solicitation for the Round Mountain 500 kV Area Dynamic Reactive Support Project to be constructed in Shasta County by June 2024, and which will be the subject of a separate CEQA review and application to the CPUC.

2.1.2 PROJECT OBJECTIVES

The Proposed Project was selected because it best meets all of the project objectives and minimizes environmental impacts. The Proposed Project objectives are as follows:

- Meet the CAISO's reliability-driven need for dynamic reactive power support at the PG&E Gates Substation's 500 kV bus identified in the CAISO's powerflow and stability studies and deliverability goals.
- Meet the technical specifications set forth by the CAISO for a 500 kV dynamic reactive power support system located near or adjacent to the existing PG&E Gates Substation. Adjacency to the PG&E Gates Substation would reduce the length of the 500 kV transmission interconnection lines, thereby reducing right-of-way requirements and the potential for significant environmental impacts.
- Achieve commercial operation by June 2024 in order to support PG&E's decommissioning of the Diablo Canyon nuclear generating units (scheduled to begin in 2024). Commercial operation of the Proposed Project prior to the decommissioning would minimize impacts associated with the reduction of electrical power that would no longer be supplied by Diablo Canyon and allow for additional renewable sources to supplement that power loss.
- Improve and maintain the reliability of the transmission grid by providing dynamic reactive power support and increase deliverability of renewable power, by building and operating a facility that would help keep transmission voltages within specified parameters, reduce transmission losses, increase reactive margin for the system bus, increase transmission capacity, provide a higher transient stability limit, increase damping of minor disturbances, and provide greater voltage control and stability.
- Facilitate deliverability of load from existing and proposed renewable generation projects in the Central Valley area and corresponding progress toward achieving California's RPS goals in a timely and cost-effective manner by California utilities.
- To the extent practicable, locate the dynamic reactive support equipment on land that is, or has previously been, disturbed or in an existing right-of-way or adjacent to existing utility uses, or which would otherwise minimize environmental impacts in a manner consistent with prudent transmission planning.
- Construct and operate the facility with safety as a top priority.

- Meet the Proposed Project need in a safe, cost-effective manner and consistent with LSPGC's cost containment agreement in the Approved Project Sponsor Agreement (APSP).
- Comply with and assist the CAISO in meeting applicable Reliability Standards and Criteria developed by North American Electric Reliability Corporation, Western Electricity Coordinating Council, and the CAISO.
- Design and construct the Proposed Project in conformance with LSPGC's standards, the National Electric Safety Code, and other applicable national and state codes and regulations.

2.1.3 PROJECT APPLICANT

The Proposed Project is proposed by LSPGC, a Delaware limited liability company established to own transmission projects in California. LSPGC is an indirect subsidiary of LS Power Associates, L.P. which, together with its subsidiaries and affiliates, is generally known as LS Power. Since it was founded in 1990, LS Power has developed, constructed, managed, and acquired more than 42,000 Megawatts (MW) of competitive power generation and 660 miles of transmission infrastructure.

The Proposed Project would be unmanned during normal operations. The Proposed Project would be operated by LS Power's control center, which is staffed 24 hours per day, seven days per week, in Austin, Texas. Primary maintenance activities will be provided by LSPGC's local maintenance/technical staff and the STATCOM supplier, and as necessary, other existing LSPGC staff and outside resources for maintenance and emergency response. The Proposed Project would be incorporated into LSPGC's existing operations and maintenance and compliance programs using experienced staff and trusted contractors to provide operational and cost efficiencies with reduced risks. The Proposed Project would also be monitored by the CAISO's control center in Folsom, California, and the CAISO would have operational control of the STATCOM Substation facility with authority to direct LS Power's control center.

LSPGC would be responsible for overseeing the assembly of construction and environmental teams that would implement and evaluate the Proposed Project's Applicant Proposed Measures (APMs). LSPGC maintains an environmental compliance management program to allow for implementation of the APMs to be monitored, documented, and enforced during each Proposed Project phase, as appropriate. All those contracted by LSPGC to perform this work would be contractually bound to properly implement the APMs to ensure their effectiveness in reducing potential environmental effects.

2.2 PRE-FILING CONSULTATION AND PUBLIC OUTREACH

2.2.1 PRE-FILING CONSULTATION AND PUBLIC OUTREACH

LSPGC met with several regulatory agencies in the early planning stages of the Proposed Project to solicit input on project design and potential resource and land use issues in the vicinity of the Proposed Project. **Table 2-1, *Agency Meetings and Correspondence*** summarizes the agency meetings and correspondence that took place in development of this PEA and the PTC

application. Coordination with these agencies would continue through the Proposed Project's planning process, and ministerial and discretionary permits would be applied for where necessary.

Table 2-1: Agency Meetings and Correspondence

Agency	Meeting Dates	Attendees	Summary of Discussions
CAISO	Project kickoff meeting in February 2020, APSA Negotiations February thru May 2020, Quarterly Construction Status Reports in May 2020, August 2020 and November 2020.	Various CAISO staff, LSPGC staff	Kickoff meeting to discuss project implementation and APSA negotiations. Quarterly Status Reports as required by the APSA.
PG&E	Ongoing bi-weekly meetings starting in February 2020.	Various PG&E staff (Substation and Transmission Engineering, Land and Environmental, etc.) LSPGC staff	Bi-weekly meetings to discuss PG&E Gates facility updates, GO 131-D compliance and interconnection coordination related to the two facilities.
California Department of Fish and Wildlife (CDFW)	March 19, 2020	CPUC staff, CDFW staff and LSPGC Team.	Meeting to review the Proposed Project, potential permit requirements and the need for biological surveys. Based on the disturbed nature of the Proposed Project Site, it was recommended that LSPGC focus on avian issues. CDFW advised that a Swainson's hawk survey would be their main recommendation. Based on this information, the LSPGC Team conducted the surveys in the Spring of 2020, the results of which are included in the Section 4.4, Biological Resources .
Fresno County	June 26, 2019; August 19, 2020	LSPGC staff and counsel, Fresno County staff and counsel	Project summary and preliminary mapping, Williamson Act and Subdivision Map Act coordination.
Native American Heritage Commission (NAHC)	A Sacred Lands File (SLF) search request was submitted on June 30, 2020.	No meeting was held as the coordination with SLF was an email search request.	The NAHC provided a list of Native American contacts who may be able to supply information pertinent to the Proposed Project area. Each of the 13 individuals listed were contacted by mail or email sent on July 2, 2020. To date, three contacts have responded to outreach efforts and their requests were taken in and included in the development of Section 4.19, Tribal Cultural Resources .

No local discretionary (e.g., land use) permits are required because the CPUC has preemptive jurisdiction over the siting, construction, and O&M of LSPGC facilities in California. The CPUC's authority does not preempt special districts, such as Air Quality Management Districts (AQMDs), other state agencies, or the federal government. LSPGC would have to obtain all ministerial building and encroachment permits from local jurisdictions, and the CPUC's General Order 131-D requires LSPGC to comply with local building, design, and safety standards to the greatest degree feasible to minimize Proposed Project conflicts with local conditions. LSPGC would obtain permits, approvals, and licenses and would participate in reviews and consultations as needed with federal, state, and local agencies. No developments that could coincide or conflict with project activities have been identified.

2.2.2 RECORDS OF CONSULTATION AND PUBLIC OUTREACH

Given the rural nature of the Proposed Project area and lack of residences, businesses, or other stakeholders in the immediate vicinity, no formal public outreach was conducted. However, throughout the approval process, LSPGC would keep area residents and property owners, government officials, Native American tribes, and interested parties informed about the scope of the Proposed Project through printed materials, one-on-one meetings, and presentations to local organizations.

During construction, LSPGC would work to minimize disruptions from construction traffic and limit dust and noise. LSPGC would continually communicate with government agencies, including the CPUC, Fresno County, local Native American tribes, and any other applicable government officials, regarding construction plans.

2.3 ENVIRONMENTAL REVIEW PROCESS

2.3.1 ENVIRONMENTAL REVIEW PROCESS

Investor-owned utilities are required to obtain a permit from the CPUC for construction of certain specified infrastructure listed under Public Utilities Code sections 1001. The CPUC reviews permit applications under two concurrent processes: (1) an environmental review pursuant to the CEQA, and (2) the review of project need and costs pursuant to Public Utilities (PU) Code sections 1001 et seq. and GO 131-D (Certification of Public Necessity and Convenience [CPCN] or PTC). For timing of the review process of all applicable permits, see **Table 3-7, Anticipated Permits and Approvals**, located in the **Section 3.10.1, Anticipated Permits and Approvals**.

LSPGC held discussions with the county of Fresno to determine the permitting process for subdividing the Proposed Project site (i.e., Subdivision Map Act compliance) and the cancellation of the existing Williamson Act contract. It was decided that LSPGC would submit a parcel map waiver application that would allow for the subdivision of the Proposed Project site. In regard to the Williamson Act contract cancellation, the county of Fresno provided four options that would successfully cancel the existing contract.

2.3.2 CEQA REVIEW

The CPUC conducts its environmental evaluation in accordance with both CEQA and with its own environmental rules. CEQA provides guidelines to ensure a thorough environmental evaluation. Specifically, it requires the examination of particular environmental issues such as water and air

quality, greenhouse gases, noise, land uses, agricultural, biological, cultural and tribal resources, mineral resources, public services, recreation, population, housing, transportation, and aesthetics.

CEQA and the CEQA Guidelines – Title 14 of the California Code of Regulations, Section 15000, et seq. – require that an environmental impact report describe a reasonable range of alternatives to a project or the location of the project that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. CEQA Guidelines Section 15126.6(d) requires that sufficient information about each alternative be included to allow meaningful evaluation and analysis. However, based on consultation with the CPUC, the selection of a specific project site by the CAISO Project Sponsor Selection Report, and the lack of apparent environmental impacts associated with development of the site, it was determined that this PEA would not need to include an Assessment of Project Alternatives.

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 the proposed project.” The CEQA guidelines further define three types of environmental effects (or impacts): direct or primary effects that are caused by a project and occur at the same time and place, indirect or secondary effects that are reasonably foreseeable and caused by a project but occur at a different time or place, and cumulative effects. If it is determined that a project would cause a significant direct, indirect, or cumulative impact (or contribute considerably to an existing cumulative impact), CEQA requires that the analysis disclose such impacts and identify feasible mitigation measures for each significant environmental effect identified. This PEA analyzes the potential environmental impacts associated with the construction and the operation and maintenance (O&M) of the Proposed Project.

2.3.4 PRE-FILING CEQA COORDINATION

LSPGC and the CPUC held a Pre-filing Consultation meeting on February 25, 2020 to discuss the Proposed Project. The agenda for the meeting included: introductions, project background/description, CPUC CEQA process, project schedule, and submitting an PTC application and PEA. During the meeting, LSPGC shared a summary of the Proposed Project and a preliminary map of the Proposed Project area. Also discussed was the Proposed Project’s need to be in-service by June 2024 in order to be available prior to the retirement of the Diablo Canyon nuclear generating units. A proposed high-level PTC schedule was developed, and the CPUC requested a preliminary draft of the PEA Table of Contents (TOC) and Anticipated Permits and Approvals. LSPGC provided the TOC and a table of the Anticipated Permits and Approvals to the CPUC on March 30, 2020.

During the Pre-filing Consultation meeting, CPUC staff discussed the anticipated level of CEQA documentation that would be required for the Proposed Project and the need for LSPGC to provide project alternatives that would be different than the CAISO selection. Given the adjacency of the Proposed Project site to the PG&E Gates Substation, the disturbed nature of the Proposed Project site, and the perceived lack of potential environmental impacts, it was decided that the PEA would not need to include an alternatives analysis.

In addition, on June 10th, 2020, the CPUC and LSPGC conducted a tour of the Proposed Project site. At the meeting, LSPGC provided an overview of the CAISO approved Proposed Project and its anticipated interconnection with the adjacent PG&E Gates Substation. During the meeting,

aesthetics and noise impacts were discussed given the rural nature of the Proposed Project site and the lack of sensitive receptors. It was determined that a STATCOM Substation facility rendering would be produced (in-lieu of a photo simulation) and that the CPUC would provide Key Observation Points that would be included in the PEA. It was also determined that existing ambient noise readings would not be required given the closest sensitive receptor is located approximately two miles from the Proposed Project site.

2.4 DOCUMENT ORGANIZATION

2.4.1 PEA ORGANIZATION

In accordance with the PEA Checklist, *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments*, updated November 2019, the Proposed Project PEA is divided into six sections as follows:

Section 1.0, Executive Summary. This section provides a Proposed Project summary, land ownership and rights-of-way requirements, areas of controversy, summary of impacts, summary of alternatives, and a pre-filing consultation, and public outreach summary.

Section 2.0, Introduction. This section provides a detailed description of the Proposed Project's background, pre-filing consultation and public outreach, environmental review process, and document organization. All figures in the PEA are included in **Appendix 1-A**.

Section 3.0, Proposed Project Description. This section provides a detailed description of the Proposed Project overview and components, existing and proposed system, land ownership, rights-of-way and easements, construction, construction workforce, equipment, traffic and schedule, post-construction, operation and maintenance, decommissioning, anticipated permits and approvals, applicant proposed measures (APMs), and project description graphics, mapbook, and GIS requirements.

Section 4.0, Environmental Analysis. This section includes a description of the environmental setting, regulatory setting, and impact analysis for each resource area. The following resource areas are discussed in Section 4.0:

- 4.1 Aesthetics
- 4.2 Agriculture and Forest Resources
- 4.3 Air Quality
- 4.4 Biological Resources
- 4.5 Cultural Resources
- 4.6 Energy
- 4.7 Geology, Soils and Paleontological Resources
- 4.8 Greenhouse Gas Emissions
- 4.9 Hazards, Hazardous Materials, and Public Safety
- 4.10 Hydrology and Water Quality
- 4.11 Land Use and Planning
- 4.12 Mineral Resources
- 4.13 Noise
- 4.14 Population and Housing

- 4.15 Public Services
- 4.16 Recreation
- 4.17 Transportation
- 4.18 Tribal Cultural Resources
- 4.19 Utilities and Service Systems
- 4.20 Wildfire
- 4.21 Mandatory Findings of Significance

Section 5.0, Cumulative and Other CEQA Considerations. This section discusses the cumulative and growth-inducing impacts from the Proposed Project.

Section 6.0, List of Preparers. This section provides a list of persons, their organization, and their qualifications for all authors and reviewers of each section of the PEA.

Section 7.0, References. This section provides a reference list.

In compliance with the CPUC PEA Checklist, the Proposed Project PEA has been compiled into **Table 2-2: PEA Checklist**, which identifies the appropriate section of the PEA where each item in the CPUC Checklist has been addressed. **Table 2-2** used the CPUC checklist and was modified if a section was not applicable for the Proposed Project.

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
1.0 Executive Summary	1.0
1.1: Proposed Project Summary. Provide a summary of the proposed project and its underlying purpose and basic objectives.	1.1
1.2: Land Ownership and Right-of-Way Requirements. Provide a summary of the existing and proposed land ownership and rights-of-way for the proposed project.	1.2
1.3: Areas of Controversy. Identify areas of anticipated controversy and public concern regarding the project.	1.3
1.4: Summary of Impacts a) Identify all impacts expected by the Applicant to be potentially significant. Identify and discuss Applicant Proposed Measures here and provide a reference to the full listing of Applicant Proposed Measures provided in the table described in Section 3.11 of this PEA Checklist. b) Identify any significant and unavoidable impacts that may occur.	1.4 Section 4.0 Table 3-10
1.5: Pre-filing Consultation and Public Outreach Summary. Briefly summarize Pre-filing consultation and public outreach efforts that occurred and identify any significant outcomes that were incorporated into the proposed project.	1.5
1.6: Conclusions. Provide a summary of the major PEA conclusions.	1.6 Table 3-10
1.7: Remaining Issues. Describe any major issues that must still be resolved.	1.7
2.0 Introduction	2.0
2.1 Project Background	2.1

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
2.1.1: Purpose and Need a) Explain why the proposed project is needed. b) Describe localities the proposed project would serve and how the project would fit into the local and regional utility system. c) If the proposed project was identified by the California Independent System Operator (CAISO), thoroughly describe the CAISO's consideration of the proposed project and provide the following information: <ol style="list-style-type: none"> I. Include references to all CAISO Transmission Planning Processes that considered the proposed project. II. Explain if the proposed project is considered an economic, reliability, or policy-driven project or a combination thereof. III. Identify whether and how the Participating Transmission Owner recommended the project in response to a CAISO identified need, if applicable. IV. Identify if the CAISO approved the original scope of the project or an alternative and the rationale for their approval either for the original scope or an alternative. V. Identify how and whether the proposed project would exceed, combine, or modify in any way the CAISO identified project need. VI. If the Applicant was selected as part of a competitive bid process, identify the factors that contributed to the selection and CAISO's requirements for in-service date. d) If the project was not considered by the CAISO, explain why.	2.1.1
2.1.2: Project Objectives a) Identify and describe the basic project objectives. The objectives will include reasons for constructing the project based on its purpose and need (i.e., address a specific reliability issue). The description of the project objectives will be sufficiently detailed to permit CPUC to independently evaluate the project need and benefits to accurately consider them in light of the potential environmental impacts. The basic project objectives will be used to guide the alternatives screening process, when applicable. b) Explain how implementing the project will achieve the basic project objectives and underlying purpose and need. c) Discuss the reasons why attainment of each basic objective is necessary or desirable.	2.1.2
2.1.3: Project Applicant(s): Identify the project Applicant(s) and ownership of each component of the proposed project. Describe each Applicant's utility services and their local and regional service territories.	2.1.3
2.2 Pre-filing Consultation and Public Outreach	2.2
2.2.1 Pre-filing Consultation and Public Outreach a) Describe all Pre-filing consultation and public outreach that occurred, such as, but not limited to: <ol style="list-style-type: none"> I. CAISO II. Public agencies with jurisdiction over project areas or resources that may occur in the project area III. Native American tribes affiliated with the project area IV. Private landowners and homeowner associations 	2.2.1 Table 2-1

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
V. Developers for large housing or commercial projects near the project area VI. Other utility owners and operators VII. Federal, state, and local fire management agencies b) Provide meeting dates, attendees, and discussion summaries, including any preliminary concerns and how they were addressed and any project alternatives that were suggested. c) Clearly identify any significant outcomes of consultation that were incorporated into the proposed project. d) Clearly identify any developments that could coincide or conflict with project activities (i.e., developments within or adjacent to a proposed ROW).	
2.2.2: Records of Consultation and Public Outreach. Provide contact information, notification materials, meeting dates and materials, meeting notes, and records of communication organized by entity as an Appendix to the PEA (Appendix G).	2.2.2
2.3 Environmental Review Process	2.3
2.3.1: Environmental Review Process. Provide a summary of the anticipated environmental review process and schedule.	2.3.1 Table 3-7 Also refer to Section 3.10.1
2.3.2: CEQA Review a) Explain why CPUC is the appropriate CEQA Lead agency. b) Identify other state agencies and any federal agencies that may have discretionary permitting authority over any aspect of the proposed project. c) Identify all potential involvement by federal, state, and local agencies not expected to have discretionary permitting authority (i.e., ministerial actions). d) Summarize the results of any preliminary outreach with these agencies as well as future plans for outreach.	2.3.2
2.3.4: Pre-filing CEQA Coordination. Describe the results of Pre-filing coordination with CEQA agency (refer to CPUC's Pre-Filing Consultation Guidelines). Identify major outcomes of the Pre-filing coordination process and how the information was incorporated into the PEA, including suggestions on the type of environmental documents and joint or separate processes based on discussions with agency staff.	2.3.4
2.4 Document Organization	2.4
2.4.1: PEA Organization. Summarize the contents of the PEA and provide an annotated list of its sections.	2.4.1
3.0 Project Description	3.0
3.1: Project Overview a) Provide a concise summary of the proposed project and components in a few paragraphs. b) Described the geographical location of the proposed project (i.e., county, city, etc.). c) Provide an overview map of the proposed project location.	3.1 Figure 3-1 Figure 3-2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.2 Existing and Proposed System	3.2

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
3.2.1: Existing System <ul style="list-style-type: none"> a) Identify and describe the existing utility system that would be modified by the proposed project, including connected facilities to provide context. Include detailed information about substations, transmission lines, distribution lines, compressor stations, metering stations, valve stations, nearby renewable generation and energy storage facilities, telecommunications facilities, control systems, SCADA systems, etc. b) Provide information on users and the area served by the existing system features. c) Explain how the proposed project would fit into the existing local and regional systems. d) Provide a schematic diagram of the existing system features. e) Provide detailed maps and associated GIS data for existing facilities that would be modified by the proposed project. 	3.2.1
3.2.2: Proposed Project System <ul style="list-style-type: none"> a) Describe the whole of the proposed project by component, including all new facilities and any modifications, upgrades, or expansions to existing facilities and any interrelated activities that are part of the whole of the action. b) Clearly identify system features that would be added, modified, removed, disconnected and left in place, etc. c) Identify the expected capacities of the proposed facilities, highlighting any changes from the existing system. If the project would not change existing capacities, make this statement. For electrical projects, provide the anticipated capacity increase in amps or megawatts or in the typical units for the types of facilities proposed. For gas projects, provide the total volume of gas to be delivered by the proposed facilities, anticipated system capacity increase (typically in million cubic feet per day), expected customers, delivery points and corresponding volumes, and the anticipated maximum allowable operating pressure(s). d) Describe the initial buildout and eventual full buildout of the proposed project facilities. For example, if an electrical substation or gas compressor station would be installed to accommodate additional demand in the future, then include the designs for both the initial construction based on current demand and the design for all infrastructure that could ultimately be installed within the planned footprint of an electric substation or compressor station. e) Explain whether the electric line or gas pipeline will create a second system tie or loop for reliability. f) Provide information on users and the area served by the proposed system features, highlighting any differences from the existing system. g) Provide a schematic diagram of the proposed system features. h) Provide detailed maps and associated GIS data for proposed facilities that would be installed, modified, or relocated by the proposed project. 	3.2.2 Figure 3-3 Also refer to Sections 3.2.3 and 3.3 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.2.3: System Reliability. Explain whether the electric line or gas pipeline will create a second system tie or loop for reliability. Clearly explain and	3.2.3

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
show how the proposed project relates to and supports the existing utility systems.	
3.2.4: Planning Area. Describe the system planning area served or to be served by the project. Clearly define the Applicant's term for the planning area (e.g., Electrical Needs Area or Distribution Planning Area).	3.2.4
3.3 Project Components	3.3
3.3.1: Preliminary Design and Engineering <ul style="list-style-type: none"> a) Provide preliminary design and engineering information for all above-ground and below-ground facilities for the proposed project. The approximately locations, maximum dimensions of facilities, and limits of areas that would be needed to construction and operate the facilities should be clearly defined. b) Provide preliminary design drawings for project features and explain the level of completeness (i.e., percentage). c) Provide detailed project maps (approximately 1:3,000 scale) and associated GIS data of all facility locations and boundaries with attributes and spatial geometry that corresponds to information in the Project Description. 	3.3.1 Figure 3-4 Also refer to Section 3.3.4 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.3.2: Segments, Components, and Phases <ul style="list-style-type: none"> a) Define all project segments, components, and phases for the proposed project. b) Provide the length/area of each segment or component, and the timing of each development phase. c) Provide an overview map showing each segment and provide associated GIS data (may be combined with other mapping efforts). 	3.3.2 Table 3-7 Also refer to Section 3.6.4
3.3.3: Existing Facilities <ul style="list-style-type: none"> a) Identify the types of existing facilities that would be removed or modified by the proposed project (i.e., conductor/cable, poles/towers, substations, switching stations, gas storage facilities, gas pipelines, service buildings, communication systems, etc.). b) Describe the existing facilities by project segment and/or component, and provide information regarding existing dimensions, areas/footprints, quantities, locations, spans, etc. c) Distinguish between above-ground and below-ground facilities and provide both depth and height ranges for each type of facility. For poles/towers, provide the installation method (i.e., foundation type or direct bury), and maximum above-ground heights and below-ground depths. d) Explain what would happen to the existing facilities. Would they be replaced, completely removed, modified, or abandoned? Explain why. e) Identify the names, types, materials, and capacity/volumes ranges (i.e., minimum and maximum) of existing facilities that would be installed or modified by the proposed project. f) Provide diagrams with dimensions representing existing facilities to provide context on how the proposed facilities would be different. g) Briefly describe the surface colors, textures, light reflectivity, and any lighting of existing facilities. 	3.3.3 Also refer to Section 3.2.1
3.3.4: Proposed Facilities <ul style="list-style-type: none"> a) Identify the types of proposed facilities to be installed or modified by the proposed project (e.g., conductor/cable, poles/towers, 	3.3.4 Section 3.5

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
<p>substations, switching stations, gas storage facilities, gas pipelines, service buildings, communication systems).</p> <p>b) Describe the proposed facilities by project segment and/or component, and provide information regarding maximum dimensions, areas/footprints, quantities, locations, spans, etc.</p> <p>c) Distinguish between above-ground and below-ground facilities and provide both depth and height ranges for each type of facility. For poles/towers, provide the installation method (i.e., foundation type or direct bury), and maximum above-ground heights and below-ground depths.</p> <p>d) Identify where facilities would be different (e.g., where unique or larger poles would be located, large guy supports or snub poles).</p> <p>e) Provide details about civil engineering requirements (i.e., permanent roads, foundations, pads, drainage systems, detention basins, spill containment, etc.).</p> <p>f) Distinguish between permanent facilities and any temporary facilities (i.e., poles, shoo-fly lines, mobile substations, mobile compressors, transformers, capacitors, switch racks, compressors, valves, driveways, and lighting).</p> <p>g) Identify the names, types, materials, and capacity/volumes ranges (i.e., minimum and maximum) of proposed facilities that would be installed or modified by the proposed project.</p> <p>h) Provide diagrams with dimensions representing existing facilities.</p> <p>i) Briefly describe the surface colors, textures, light reflectivity, and any lighting of proposed facilities.</p>	<p>3.3.4.1 STATCOM Substation Figure 3-5 Figure 3-6</p> <p>3.3.4.2 Access Roads Figure 3-4 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.</p>
<p>3.3.5: Other Potentially Required Facilities</p> <p>a) Identify and describe in detail any other actions or facilities that may be required to complete the project. For example, consider the following questions:</p> <ol style="list-style-type: none"> I. Could the project require the relocation (temporary or permanent), modification, or replacement of unconnected utilities or other types of infrastructure by the Applicant or any other entity? II. Could the project require aviation lighting and/or marking? III. Could the project require additional civil engineering requirements to address site conditions or slope stabilization issues, such as pads and retaining walls, etc.? <p>b) Provide the location of each facility and a description of the facility.</p>	3.3.5
<p>3.3.6: Future Expansions and Equipment Lifespans</p> <p>a) Provide detailed information about the current and reasonably foreseeable plans for expansion and future phases of development.</p> <p>b) Provide the expected usable life of all facilities.</p> <p>c) Describe all reasonably foreseeable consequences of the proposed project (e.g., future ability to upgrade gas compressor station to match added pipeline capacity).</p>	3.3.6
Required for Certain Project Types	
<p>3.3.7: Below-ground Conductor/Cable Installations (as Applicable)</p> <p>a) Describe the type of line to be installed (e.g., single circuit crosslinked polyethylene-insulated solid-dielectric, copper-conductor cables).</p>	3.3.7

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
<ul style="list-style-type: none"> b) Describe the type of casing the cable would be installed in (e.g., concrete-encased duct bank system) and provide the dimensions of the casing. c) Describe the types of infrastructure would likely be installed within the duct bank (e.g., transmission, fiber optics, etc.). 	
3.3.14: Telecommunication Lines (as Applicable) <ul style="list-style-type: none"> a) Identify the type of cable that is proposed and length in linear miles by segment. b) Identify any antenna and node facilities that are part of the project. c) For below-ground telecommunication lines, provide the depth of cable and type of conduit. d) For above-ground telecommunication lines, provide: <ul style="list-style-type: none"> I. Types of poles that will be installed (if new poles are required) II. Where existing poles will be used III. Any additional infrastructure (e.g., guy wires) or pole changes required to support the additional cable on existing poles 	3.3.8 Figure 3-4 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.4 Land Ownership, Rights-of-Way, and Easements	3.4
3.4.1: Land Ownership. Describe existing land ownership where each project component would be located. State whether the proposed project would be located on property(ies) owned by the Applicant or if additional property would be required.	3.4.1 Also refer to Section 3.4.3
3.4.2: Existing Rights-of-Way or Easements <ul style="list-style-type: none"> a) Identify and describe existing rights-of-way (ROWs) or easements where project components would be located. Provide the approximately lengths and widths in each project area. b) Clearly state if project facilities would be replaced, modified, or relocated within existing ROWs or easements. 	3.4.2
3.4.3: New or Modified Rights-of-Way or Easements <ul style="list-style-type: none"> a) Describe new permanent or modified ROWs or easements that would be required. Provide the approximately lengths and widths in each project area. b) Describe how any new permanent or modified ROWs or easements would be acquired. c) Provide site plans identifying all properties/parcels and partial properties/parcels that may require acquisition and the anticipated ROWs or easements. Provide associated GIS data. d) Describe any development restrictions within new ROWs or easements, e.g., building clearances and height restrictions, etc. e) Describe any relocation or demolition of commercial or residential property/structures that may be necessary. 	3.4.3 Available GIS data layers will be submitted digitally under a separate cover.
3.4.4: Temporary Rights-of-Ways or Easements <ul style="list-style-type: none"> a) Describe temporary ROWs or easements that would be required to access project areas, including ROWs or easements for temporary construction areas (i.e., staging areas or landing zones). b) Explain where temporary construction areas would be located with existing ROWs or easements for the project or otherwise available to the Applicant without a temporary ROW or easement. c) Describe how any temporary ROWs or easements would be acquired. 	3.4.4

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
3.5 Construction	3.5
3.5.1 Construction Access (All Projects)	3.5.1
3.5.1.1: Existing Access Roads <ul style="list-style-type: none"> a) Provide the lengths, widths, ownership details (both public and private roads), and surface characteristics (i.e., paved, graveled, bare soil) of existing access roads that would be used during construction. Provide the area of existing roads that would be used (see example in Table 3 below). b) Describe any road modifications or stabilization that would be required prior to construction, including on the adjacent road shoulders or slopes. Identify any roads that would be expanded and provide the proposed width increases. c) Describe any procedures to address incidental road damage caused by project activities following construction. d) Provide detailed maps and associated GIS data for all existing access roads. 	3.5.1.1 Figure 3-4 Table 3-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.5.1.2: New Access Roads <ul style="list-style-type: none"> a) Identify any new access roads that would be developed for project construction purposes, such as where any blading, grading, or gravel placement could occur to provide equipment access outside of a designated workspace.¹⁴ b) Provide lengths, widths, and development methods for new access roads. c) Identify any temporary or permanent gates that would be installed. d) Clearly identify any roads that would be temporary and fully restored following construction. Otherwise, it will be assumed the new access road is a permanent feature. e) Provide detailed maps and associated GIS data for all new access roads. 	3.5.1.2 Figure 3-5 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.5.1.3: Overland Access Routes <ul style="list-style-type: none"> a) Identify any overland access routes that would be used during construction, such as where vehicles and equipment would travel over existing vegetation and where blading, grading, or gravel placement would occur. b) Provide lengths and widths for new access roads. c) Provide detailed maps and associated GIS data for all overland access routes. 	3.5.1.3 Available GIS data layers will be submitted digitally under a separate cover.
3.5.1.4: Watercourse Crossings <ul style="list-style-type: none"> a) Identify all temporary watercourse crossings that would be required during construction. Provide specific methods and procedures for temporary watercourse crossings. b) Describe any bridges or culverts that replacement or installation of would be required for construction access. c) Provide details about the location, design and construction methods. 	3.5.1.4
3.5.1.5: Helicopter Access. If helicopters would be used during construction: <ul style="list-style-type: none"> a) Describe the types and quantities of helicopters that would be used during construction (e.g., light, medium, heavy, or sky crane), and a description of the activities that each helicopter would be used for. b) Identify areas for helicopter takeoff and landing. 	3.5.1.5

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
<ul style="list-style-type: none"> c) Describe helicopter refueling procedures and locations. d) Describe flight paths, payloads, and expected hours and durations of helicopter operation. e) Describe any safety procedures or requirements unique to helicopter operations, such as but not limited to obtaining a Congested Area Plan from the Federal Aviation Administration (FAA). 	
3.5.2 Staging Areas (All Projects)	3.5.2
3.5.2.1: Staging Area Locations <ul style="list-style-type: none"> a) Identify the locations of all staging area(s). Provide a map and GIS data for each. b) Provide the size (in acres) for each staging area and the total staging area requirements for the project. 	3.5.2.1 Figure 3-7 Also refer to Section 3.5.3 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.5.2.2: Staging Area Preparation <ul style="list-style-type: none"> a) Describe any site preparation required, if known, or generally describe what might be required (i.e., vegetation removal, new access road, installation of rock base, etc.). b) Describe what the staging area would be used for (i.e., material and equipment storage, field office, reporting location for workers, parking area for vehicles and equipment, etc.). c) Describe how the staging area would be secured. Would a fence be installed? If so, describe the type and extent of the fencing. d) Describe how power to the site would be provided if required (i.e., tap into existing distribution, use of diesel generators, etc.). e) Describe any temporary lightning facilities for the site. f) Describe any grading activities and/or slope stabilization issues. 	3.5.2.2
3.5.3 Construction Work Areas (All Projects)	3.5.3
3.5.3.1: Construction Work Areas <ul style="list-style-type: none"> a) Describe known work areas that may be required for specific construction activities (e.g., pole assembly, hillside construction) b) Describe the types of activities that would be performed at each work area. Work areas may include but are not necessarily limited to: <ul style="list-style-type: none"> I. Helicopter landing zones and touchdown areas II. Vehicle and equipment parking, passing, or turnaround areas III. Railroad, bridge, or watercourse crossings IV. Temporary work pads for facility installation, modification, or removal V. Excavations and associated equipment work areas VI. Temporary guard structures VII. Pull-and-tension/stringing sites VIII. Jack and bore pits, drilling areas and pull-back areas for horizontal directional drills IX. Retaining walls 	3.5.3.1 Figure 3-7 Also refer to Section 3.5.2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
3.5.3.2 Work Area Disturbance	3.5.3.2 Table 3-2

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
<ul style="list-style-type: none"> a) Provide the dimensions of each work area including the maximum area that would be disturbed during construction (e.g., 100 feet by 200 feet) (see example in Table 4 below). b) Provide a table with temporary and permanent disturbance at each work area (in square feet or acres), and the total area of temporary and permanent disturbance for the entire project (in acres). 	Figure 3-8
3.5.3.3: Temporary Power. Identify how power would be provided at work area (i.e., tap into existing distribution, use of diesel generators, etc.). Provide the disturbance area for any temporary power lines.	3.5.3.3
3.5.4 Site Preparation (All Projects)	3.5.4
3.5.4.1: Surveying and Staking. Describe initial surveying and staking procedures for site preparation and access.	3.5.4.1
3.5.4.2: Utilities <ul style="list-style-type: none"> a) Describe the process for identifying any underground utilities prior to construction (i.e., underground service alerts, etc.). b) Describe the process for relocating any existing overhead or underground utilities that aren't directly connected to the project system. c) Describe the process for installing any temporary power or other utility lines for construction. 	3.5.4.2
3.5.4.3: Vegetation Clearing <ul style="list-style-type: none"> a) Describe what types of vegetation clearing may be required (e.g., tree removal, brush removal, flammable fuels removal) and why (e.g., to provide access, etc.). b) Provide calculations of temporary and permanent disturbance of each vegetation community and include all areas of vegetation removal in the GIS database. Distinguish between disturbance that would occur in previously developed areas (i.e., paved, graveled, or otherwise urbanized), and naturally vegetated areas. c) Describe how each type of vegetation removal would be accomplished. d) Describe the types of equipment that would be used for vegetation removal. 	3.5.4.3 Available GIS data layers will be submitted digitally under a separate cover.
3.5.4.4: Tree Trimming Removal <ul style="list-style-type: none"> a) For electrical projects, distinguish between tree trimming as required under CPUC General Order 95-D and tree removal. b) Identify the types, locations, approximate numbers, and sizes of trees that may need to be removed or trimmed substantially. c) Identify potentially protected trees that may be removed or substantially trimmed, such as but not limited to riparian trees, oaks trees, Joshua trees, or palm trees. d) Describe the types of equipment that would typically be used for tree removal. 	3.5.4.4
3.5.4.5: Work Area Stabilization. Describe the processes to stabilize temporary work areas and access roads including the materials that would be used (e.g., gravel).	3.5.4.5 Also refer to Section 4.10
3.5.4.6: Grading <ul style="list-style-type: none"> a) Describe any earth moving or substantial grading activities (i.e., grading below a 6-inch depth) that would be required and identify locations where it would occur. 	3.5.4.6 Table 3-3

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
b) Provide estimated volumes of grading (in cubic yards) including total cut, total fill, cut that would be reused, cut that would be hauled away, and clean fill that would be hauled to the site.	
3.5.5 Transmission Line Construction (Above Ground)	3.5.5
3.5.5.1: Poles/Towers a) Describe the process and equipment for removing poles, towers, and associated foundations for the proposed project (where applicable). Describe how they would be disconnected, demolished, and removed from the site. Describe backfilling procedures and where the material would be obtained. b) Describe the process and equipment for installing or otherwise modifying poles and towers for the proposed project. Describe how they would be put into place and connected to the system. Identify any special construction methods (e.g., helicopter installation) at specific locations or specific types of poles/towers. c) Describe how foundations, if any, would be installed. Provide a description of the construction method(s), approximate average depth and diameter of excavation, approximate volume of soil to be excavated, approximate volume of concrete or other backfill required, etc. for foundations. Describe what would be done with soil removed from a hole/foundation site. d) Describe how the poles/towers and associated hardware would be delivered to the site and assembled. e) Describe any pole topping procedures that would occur, identify specific locations and reasons, and describe how each facility would be modified. Describe any special methods that would be required to top poles that may be difficult to access.	3.5.5.1 Take-Off Towers
3.5.5.3: Telecommunications. Identify the procedures for installation of proposed telecommunication cables and associated infrastructure.	3.5.5.2
3.5.5.4: Guard Structures. Identify the types of guard structures that would be used at crossings of utility lines, roads, railroads, highways, etc. Describe the different types of guard structures or methods that may be used (i.e., buried poles and netting, poles secured to a weighted object, bucket trucks, etc.). Describe any pole installation and removal procedures associated with guard structures. Describe guard structure installation and removal process and duration that guard structures would remain in place.	3.5.5.3
3.5.7 Substation, Switching Stations, Gas Compressor Stations	3.5.6 STATCOM Substation
3.5.7.1: Installation or Facility Modification. Describe the process and equipment for removing, installing, or modifying any substations, switching stations, or compressor stations including: a) Transformers/ electric components b) Gas components c) Control and operation buildings d) Driveways e) Fences f) Gates g) Communication systems (SCADA) h) Grounding systems	3.5.6.1 Facility Installation

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
3.5.7.2: Civil Works. Describe the process and equipment required to construct any slope stabilization, drainage, retention basins, and spill containment required for the facility.	3.5.6.2 Also refer to Section 3.3.4.1
3.5.10 Public Safety and Traffic Control (All Projects)	3.5.7
3.5.10.1: Public Safety a) Describe specific public safety considerations during construction and best management practices to appropriately manage public safety. Clearly state when and where they each safety measure would be applied. b) Identify procedures for managing work sites in urban areas, covering open excavations securely, installing barriers, installing guard structures, etc. c) Identify specific project areas where public access may be restricted for safety purposes and provide the approximate durations and timing of restricted access at each location.	3.5.7.1
3.5.10.2: Traffic Control a) Describe traffic control procedures that would be implemented during construction. b) Identify the locations, process, and timing for closing any sidewalks, lanes, roads, trails, paths, or driveways to manage public access. c) Identify temporary detour routes and locations. d) Provide a preliminary Traffic Control Plan(s) for the project.	3.5.7.2
3.5.10.3: Security. Describe any security measures, such as fencing, lighting, alarms, etc. that may be required. State if security personnel will be stationed at project areas and anticipated duration of security.	3.5.7.3
3.5.11 Dust, Erosion, and Runoff Controls (All Projects)	3.5.8
3.5.11.1: Dust. Describe specific best management practices that would be implemented to manage fugitive dust.	3.5.8.1 Also refer to Section 4.3
3.5.11.2: Erosion. Describe specific best management practices that would be implemented to manage erosion.	3.5.8.2
3.5.11.3: Runoff. Describe specific best management practices that would be implemented to manage stormwater runoff and sediment.	3.5.8.3
3.5.12 Water Use and Dewatering (All Projects)	3.5.9
3.5.12.1: Water Use. Describe the estimated volumes of water that would be used by construction activity (e.g., dust control, compaction, etc.). State if recycled or reclaimed water would be used and provide estimated volumes. Identify the anticipated sources where the water would be acquired or purchased. Identify if the source of water is groundwater and the quantity of groundwater that could be used.	3.5.9.1
3.5.12.2: Dewatering a) Describe dewatering procedures during construction, including pumping, storing, testing, permitted discharging, and disposal requirements that would be followed. b) Describe the types of equipment and workspace considerations to be used to dewater, store, transport, or discharge extracted water.	3.5.9.2
3.5.13 Hazardous Materials and Management (All Projects)	3.5.10
3.5.13.1: Hazardous Materials a) Describe the types, uses, and volumes of all hazardous materials that would be used during construction.	3.5.10.1 Also refer to Section 4.9

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
b) State if herbicides or pesticides may be used during construction. c) If a pre-existing hazardous waste were encountered, describe the process of removal and disposal.	
3.5.13.2: Hazardous Materials Management a) Identify specific best management practices that would be followed for transporting, storing, and handling hazardous materials. b) Identify specific best management practices that would be followed in the event of an incidental leak or spill of hazardous materials. c) Provide a Hazardous Substance Control and Emergency Response Plan / Hazardous Waste and Spill Prevention Plan as an Appendix to the PEA, if appropriate	3.5.10.2 Also refer to Section 4.9
3.5.14 Waster Generation and Management (All Projects)	3.5.11
3.5.14.1: Solid Waste a) Describe solid waste streams from existing and proposed facilities during construction. b) Identify procedures to be implemented to manage solid waste, including collection, containment, storage, treatment, and disposal. c) Provide estimated total volumes of solid waste by construction activity or project component. d) Describe the recycling potential of solid waste materials and provide estimated volumes of recyclable materials by construction activity or project component. e) Identify the locations of appropriate disposal and recycling facilities where solid wastes would be transported.	3.5.11.1
3.5.14.2: Liquid Waste a) Describe liquid waste streams during construction (i.e., sanitary waste, drilling fluids, contaminated water, etc.) b) Describe procedures to be implemented to manage liquid waste, including collection, containment, storage, treatment, and disposal. c) Provide estimated volumes of liquid waste generated by construction activity or project component. d) Identify the locations of appropriate disposal facilities where liquid wastes would be transported.	3.5.11.2
3.5.14.3: Hazardous Waste a) Describe potentially hazardous waste streams during construction and procedures to be implemented to manage hazardous wastes, including collection, containment, storage, treatment, and disposal. b) If large volumes of hazardous waste are anticipated, such as from a pre-existing contaminant in the soil that must be collected and disposed of, provide estimated volumes of hazardous waste that would be generated by construction activity or project component. c) Identify the locations of appropriate disposal facilities where hazardous wastes would be transported.	3.5.11.3 Also refer to Section 3.5.10
3.5.15 Fire Prevention and Response (All Projects)	3.5.12
3.5.15.1: Fire Prevention and Response Procedures. Describe fire prevention and response procedures that would be implemented during construction. Provide a Construction Fire Prevention Plan or specific procedures as an Appendix to the PEA.	3.5.12.1 Also refer to Section 4.9
3.5.15.2: Fire Breaks. Identify any fire breaks (i.e., vegetation clearance) requirements around specific project activities (i.e., hot work). Ensure that such clearance buffers are included in the limits of the defined work areas,	3.5.12.2

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
and the vegetation removal in that area is attributed to Fire Prevention and Response (refer to 3.5.4.3: Vegetation Clearing).	
3.6 Construction Workforce, Equipment, Traffic, and Schedule	3.6
3.6.1: Construction Workforce <ol style="list-style-type: none"> Provide the estimated number of construction crew members. In the absence of project-specific data, provide estimates based on past projects of a similar size and type. Describe the crew deployment. Would crews work concurrently (i.e., multiple crews at different sites); would they be phased? How many crews could be working at the same time and where? Describe the different types of activities to be undertaken during construction, the number of crew members for each activity (i.e. trenching, grading, etc.), and number and types of equipment expected to be used for the activity. Include a written description of the activity. See example in Table 5. 	3.6.1 Table 3-4
3.6.2: Construction Equipment. Provide a tabular list of the types of equipment expected to be used during construction of the proposed project including the horsepower. Define the equipment that would be used by each phase as shown in the example (Table 5).	3.6.2 Table 3-4 Table 3-5
3.6.3: Construction Traffic <ol style="list-style-type: none"> Describe how the construction crews and their equipment would be transported to and from the proposed project site. Provide vehicle type, number of vehicles, and estimated hours of operation per day, week, and month for each construction activity and phase. Provide estimated vehicle trips and vehicles miles traveled (VMT) for each construction activity and phase. Provide separate values for construction crews commuting, haul trips, and other types of construction traffic. 	3.6.3 Table 3-6
3.6.4: Construction Schedule <ol style="list-style-type: none"> Provide the proposed construction schedule (e.g., month and year) for each segment or project component, and for each construction activity and phase. Provide and explain the sequencing of construction activities, and if they would or would not occur concurrently. Provide the total duration of each construction activity and phase in days or weeks. Identify seasonal considerations that may affect the construction schedule, such as weather or anticipated wildlife restrictions, etc. The proposed construction should account for such factors. 	3.6.4 Table 3-7
3.6.5: Work Schedule <ol style="list-style-type: none"> Describe the anticipated work schedule, including the days of the week and hours of the day when work would occur. Clearly state if work would occur at night or on weekends and identify when and where this could occur. Provide the estimated number of days or weeks that construction activities would occur at each type of work area. For example, construction at a stationary facility or staging area may occur for the entire duration of construction, but construction at individual work areas along a linear project would be limited to a few hours, days or weeks, and only a fraction of the total construction period. 	3.6.5

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
3.7 Post-Construction	3.7
3.7.1: Configuring and Testing. Describe the process and duration for post-construction configuring and testing of facilities. Describe the number of personnel and types of equipment that would be involved.	3.7.1 Commissioning and Testing
3.7.2: Landscaping. Describe any landscaping that would be installed. Provide a conceptual landscape plan that identifies the locations and types of plantings that will be used. Identify whether plantings will include container plants or seeds. Include any water required for landscaping in the description of water use above.	3.7.2
3.7.3 Demobilization and Site Restoration	3.7.3
3.7.3.1: Demobilization. Describe the process for demobilization after construction activities, but prior to leaving the work site. For example, describe final processes for removing stationary equipment and materials, etc.	3.7.3.1
3.7.3.2: Site Restoration. Describe how cleanup and post-construction restoration would be performed (i.e., personnel, equipment, and methods) on all project ROWs, sites, and extra work areas. Things to consider include, but are not limited to, restoration of the following: a) Restoring natural drainage patterns b) Recontouring disturbed soil c) Removing construction debris d) Vegetation e) Permanent and semi-permanent erosion control measures f) Restoration of all disturbed areas and access roads, including restoration of any public trails that are used as access, as well as any damaged sidewalks, agricultural infrastructure, or landscaping, etc. g) Road repaving and striping, including proposed timing of road restoration for underground construction within public roadways	3.7.3.2
3.8 Operation and Maintenance	3.8
3.8.1: Regulations and Standards a) Identify and describe all regulations and standards applicable to operation and maintenance of project facilities. b) Provide a copy of any applicable Wildfire Management Plan and describe any special procedures for wildfire management.	3.8.1
3.8.2: System Controls and Operation Staff a) Describe the systems and methods that the Applicant would use for monitoring and control of project facilities (e.g., on-site control rooms, remote facilities, standard monitoring and protection equipment, pressure sensors, automatic shut-off valves, and site and equipment specific for monitoring and control such as at natural gas well pads). b) If new full-time staff would be required for operation and/or maintenance, provide the number of positions and purpose.	3.8.2
3.8.3: Inspection Programs a) Describe the existing and proposed inspection programs for each project component, including the type, frequency, and timing of scheduled inspections (i.e., aerial inspection, ground inspection, pipeline inline inspections).	3.8.3

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
<ul style="list-style-type: none"> b) Describe any enhanced inspections, such as within any High Fire Threat Districts consistent with applicable Wildfire Management Plan requirements. c) Describe the inspection processes, such as the methods, number of crew members, and how access would occur (i.e., walk, vehicle, all-terrain vehicle, helicopter, drone, etc.). If new access would be required, describe any restoration that would be provided for the access roads. 	
3.8.4: Maintenance Programs <ul style="list-style-type: none"> a) Describe the existing and proposed maintenance programs for each project component. b) Describe scheduled maintenance or facility replacement after the designated lifespan of the equipment. c) Identify typical parts and materials that require regular maintenance and describe the repair procedures. d) Describe any access road maintenance that would occur. e) Describe maintenance for surface or color treatment. f) Describe cathodic protection maintenance that would occur. g) Describe ongoing landscaping maintenance that would occur. 	3.8.4
3.8.5: Vegetation Management Programs <ul style="list-style-type: none"> a) Describe vegetation management programs within and surrounding project facilities. Distinguish between any different types of vegetation management. b) Describe any enhanced vegetation management, such as within any High Fire Threat Districts consistent with any applicable Wildfire Management Plan requirements. Identify the areas where enhanced vegetation management would be conducted. 	3.8.5
3.9 Decommissioning	3.9
3.9.1: Decommissioning. Provide detailed information about the current and reasonably foreseeable plans for the disposal, recycling, or future abandonment of all project facilities.	3.9.1
3.10 Anticipated Permits and Approvals	3.10
<p>3.10.1: Anticipated Permits and Approvals. Identify all necessary federal, state, regional, and local permits that may be required for the project. For each permit, list the responsible agency and district/office representative with contact information, type of permit or approval, and status of each permit with date filed or planned to file. For example:</p> <ul style="list-style-type: none"> a) Federal Permits and Approvals <ul style="list-style-type: none"> I. U.S. Fish and Wildlife Service II. U.S. Army Corps of Engineers III. Federal Aviation Administration IV. U.S. Forest Service V. U.S. Department of Transportation – Office of Pipeline Safety VI. U.S. Environmental Protection Agency (Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act) b) State and Regional Permits <ul style="list-style-type: none"> I. California Department of Fish and Wildlife II. California Department of Transportation III. California State Lands Commission 	3.10.1 Table 3-8

Table 2-2: PEA Checklist		PEA Section, Table or Figure Number
CPUC Checklist		
IV. California Coastal Commission V. State Historic Preservation Office, Native American Heritage Commission VI. State Water Resources Control Board VII. California Division of Oil, Gas and Geothermal Resources VIII. Regional Air Quality Management District IX. Regional Water Quality Control Board (National Pollutant Discharge Elimination System General Industrial Storm Water Discharge Permit) X. Habitat Conservation Plan Authority (if applicable) See also Table 6 of example permitting requirements and processes.		
3.10.2: Rights-of-Way or Easement Applications. Demonstrate that applications for ROWs or other proposed land use have been or soon will be filed with federal, state, or other land-managing agencies that have jurisdiction over land that would be affected by the project (if any). Discuss permitting plans and timeframes and provide the contact information at the federal agency(ies) approached.		3.10.2 Table 3-9
3.11 Applicant Proposed Measures a) Provide a table with the full text of any Applicant Proposed Measure. Where applicable, provide a copy of Applicant procedures, plans, and standards referenced in the Applicant Proposed Measures. b) Within Chapter 5, describe the basis for selecting a particular Applicant Proposed Measure and how the Applicant Proposed Measure would reduce the impacts of the project. c) Carefully consider each CPUC Draft Environmental Measure identified in Chapter 5 of this PEA Checklist. The CPUC Draft Environmental Measures will be applied to the proposed project where applicable.		3.11 3.11.1 Table 3-10 Also refer to Section 4.0
4.0 Environmental Analysis		4.0
4.1 Aesthetics		4.1
4.1.1 Environmental Setting		4.1.1
4.1.1.1: Landscape Setting. Briefly described the regional and local landscape setting.		4.1.1.1
4.1.1.2: Scenic Resources. Identify and describe any vistas, scenic highways, national scenic areas, or other scenic resources within and surrounding the project area (approximately 5-mile buffer but may be greater if necessary). Scenic resources may also include but are not limited to historic structures, trees, or other resources that contribute to the scenic values where the project would be located.		4.1.1.2 Figure 4.1-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.1.1.3: Viewshed Analysis a) Conduct a viewshed analysis for the project area (approximately 5-mile buffer but may be greater if necessary). b) Describe the project viewshed, including important visibility characteristics for the project site, such as viewing distance, viewing angle, and intervening topography, vegetation, or structures. c) Provide a supporting map (or maps) showing project area, landscape units, topography (i.e., hillshade), and the results of the viewshed analysis. Provide associated GIS data.		4.1.1.3 Figure 4.1-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
4.1.1.4: Landscape Units. Identify and describe landscape units (geographic zones) within and surrounding the project area (approximately 5-mile buffer but may be greater if necessary) that categorizes different landscape types and visual characteristics, with consideration to topography, vegetation, and existing land uses. Landscape units should be developed based on the existing landscape characteristics rather than the project's features or segments.	4.1.1.4 Figure 4.11-1 Figure 4.1-2
4.1.1.5: Viewers and Viewer Sensitivity. Identify and described the types of viewers expected within the viewshed and landscape units. Describe visual sensitivity to general visual change based on viewing conditions, use of the area, feedback from the public about the project, and landscape characteristics.	4.1.1.5
4.1.1.6: Representative Viewpoints a) Identify representative viewpoints from publicly accessible locations (up to approximately 5-mile buffer but may be greater if appropriate). The number and location of the viewpoints must represent a range of views of the project site from major roads, highways, trails, parks, vistas, landmarks, and other scenic resources near the project site. Multiple viewpoints should be included where the project site would be visible from sensitive scenic resources to provide context on different viewing distances, perspectives, and directions. b) Provide the following information for each viewpoint: I. Number, title, and brief description of the location II. Types of viewers III. Viewing direction(s) and distance(s) to the nearest proposed project features IV. Description of the existing visual conditions and visibility of the project site as seen from the viewpoint and shown in the representative photographs c) Provide a supporting map (or maps) showing project features and representative viewpoints with arrows indicating the viewing direction(s). Provide associated GIS data (may be combined with GIS data request below for representative photographs).	4.1.1.6 Figure 4.1-2 Figure 4.1-3 thru 4.1-8 Table 4.1-1 Figure 4.1-9 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.1.1.7: Representative Photographs a) Provide high resolution photographs taken from the representative viewpoints in the directions of all proposed project features. Multiple photographs should be provided where project features may be visible in different viewing directions from the same location. b) Provide the following information for each photograph: I. Capture time and date II. Camera body and lens model III. Lens focal length and camera height when taken c) Provide GIS data associated with each photograph location that includes coordinates (<1 meter resolution), elevations, and viewing directions, as well as the associated viewpoint.	4.1.1.7 Table 4.1-1 Available GIS data layers will be submitted digitally under a separate cover.

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
4.1.1.8: Visual Resource Management Areas	4.1.1.8
<ul style="list-style-type: none"> a) Identify any visual resource management areas within and surrounding the project area (approximately 5-mile buffer). b) Describe any project areas within visual resource management areas. c) Provide a supporting map (or maps) showing project features and visual resource management areas. Provide associated GIS data. 	Available GIS data layers will be submitted digitally under a separate cover.
4.1.2 Regulatory Setting	4.1.2
4.1.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding aesthetics and visual resource management.	4.1.2.1
4.1.3 Impact Questions	4.3
4.1.3.1: CEQA Impact Questions. The impact questions include all aesthetic impact questions in the current version of CEQA Guidelines, Appendix G.	4.1.3.1
4.1.3.2: Additional CEQA Impact Questions: None.	4.1.3.2
4.1.4 Impact Analysis	4.1.4
4.1.4.1: Visual Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.	4.1.4.1 4.1.1.2 4.15 4.1.6 Figure 4.1-3 thru 4.1-9 Table 4.1-1
4.1.5 CPUC Draft Environmental Measures	4.1.5
4.1.6 Applicant Proposed Measures	4.1.6
4.2 Agriculture and Forestry Resources	4.2
4.2.1 Environmental Setting	4.2.1
4.2.1.1: Agricultural Resources and GIS	4.2.1.1
<ul style="list-style-type: none"> a) Identify all agricultural resources that occur within the project area including: <ul style="list-style-type: none"> I. Areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance II. Areas under Williamson Act contracts and provide information on the status of the Williamson Act contract III. Any areas zoned for agricultural use in local plans IV. Areas subject to active agricultural use b) Provide GIS data for agricultural resources within the proposed project area. 	Table 4.2-1 Figure 4.2-1 Also refer to Section 4.2.2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.2.1.2: Forestry Resources and GIS	4.2.1.2
<ul style="list-style-type: none"> a) Identify all forestry resources within the project area including: <ul style="list-style-type: none"> I. Forest land as defined in Public Resources Code 12220(g)25 II. Timberland as defined in Public Resource Code section 4526 III. Timberland zoned Timberland Production as defined in Government Code section 51104(g) b) Provide GIS data for all forestry resources within the proposed project area. 	Available GIS data layers will be submitted digitally under a separate cover.
4.2.2 Regulatory Setting	4.2.2

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.2.2: Regulatory Setting. Identify all federal, state, and local policies for protection of agricultural and forestry resources that apply to the proposed project.	4.2.2.1
4.2.3 Impact Questions	4.2.3
4.2.3.1: CEQA Impact Questions. The impact questions include all agriculture and forestry impact questions in the current version of CEQA Guidelines, Appendix G.	4.2.3.1
4.2.3.2: Additional CEQA Impact Questions: None.	4.2.3.2
4.2.4 Impact Analyses	4.2.4
4.2.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.	4.2.4.1 Figure 4.11-1 Also refer to Section 4.11
4.2.5 CPUC Draft Environmental Measures	4.2.5
4.2.6 Applicant Proposed Measures	4.2.6
4.3 Air Quality	4.3
4.3.1 Environmental Setting	4.3.1
4.3.1.1: Air Quality Plans. Identify and describe all applicable air quality plans and attainment areas. Identify the air basin(s) for the project area. If the project is located in more than one attainment area and/or air basin, provide the extent in each attainment area and air basin.	4.3.1.1 Table 4.3-1
4.3.1.2: Air Quality. Describe existing air quality in the project area. a) Identify existing air quality exceedance of National Ambient Air Quality Standards and California Ambient Air Quality Standards in the air basin. b) Provide the number of days that air quality in the area exceeds state and federal air standards for each criteria pollutant that where air quality standards are exceeded. c) Provide air quality data from the nearest representative air monitoring station(s).	4.3.1.2 Table 4.3-2
4.3.1.3: Sensitive Receptor Locations. Identify the location and types of each sensitive receptor locations within 1,000 feet of the project area. Provide GIS data for sensitive receptor locations.	4.3.1.3 Figure 4.3-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.3.2 Regulatory Setting	4.3.2
4.3.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding aesthetics and visual resource management.	4.3.2.1 Table 4.3-3 Table 4.3-4
4.3.2.2: Air Permits. Identify and list all necessary air permits.	4.3.2.2
4.3.3 Impact Questions	4.3.3
4.3.3.1: CEQA Impact Questions. The impact questions include all air quality impact questions in the current version of CEQA Guidelines, Appendix G.	4.3.3.1
4.3.3.2: Additional CEQA Impact Questions: None.	4.3.3.2
4.3.4 Impact Analysis	4.3.4

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.3.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.	4.3.4.1 Appendix 4.3-A Table 4.3-5 Table 4.3-6 Table 4.3-7 Figure 4.3-1 Also refer to Section 5.0 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.3.5 CPUC Draft Environmental Measures	4.3.5
4.3.6 Applicant Proposed Measures	4.3.6
4.4 Biological Resources	4.4
4.4.1 Environmental Setting	4.4.1
4.4.1.1: Biological Resources Technical Report. Provide a Biological Resources Technical Report as an Appendix to the PEA that includes all information specified in Attachment 2.	4.4.1.1 Appendix 4.4-A
The following biological resources information will be presented in the PEA:	
4.4.1.2: Survey Area (Local Setting). Identify and describe the biological resources survey area as documented in the Biological Resources Technical Report. All temporary and permanent project areas must be within the survey area.	4.4.1.2 Figure 4.4-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.4.1.3: Vegetation Communities and Land Cover a) Identify, describe, and quantify vegetation communities and land cover types within the biological resources survey area. b) Clearly identify any sensitive natural vegetation communities that meet the definition of a biological resource under CEQA (i.e., rare, designated, or otherwise protected), such as, but not limited to, riparian habitat. c) Provide a supporting map (or maps) showing project features and vegetation communities and land cover type.	4.4.1.3 Table 4.4-1 Figure 4.4-2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.4.1.4: Aquatic Features a) Identify, describe, and quantify aquatic features within the biological resources survey area that may provide potentially suitable aquatic habitat for rare and special-status species. b) Identify and quantify potentially jurisdictional aquatic features and delineated wetlands, according to the Wetland Delineation Report and Biological Resources Technical Report. c) Provide a supporting map (or maps) showing project features and aquatic resources.	4.4.1.4 Figure 4.4-2 Figure 4.4-3 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.4.1.5: Habitat Assessment. Identify rare and special-status species with potential to occur in the project region (approximately a 5-mile buffer but may be larger if necessary). For each species, provide the following information: a) Common and scientific name b) Status and/or rank	4.4.1.5 Table 4.4-2 Appendix 4.4-A Figure 4.4-4 Figure 4.4-5 Figure 4.4-6

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
<ul style="list-style-type: none"> c) Habitat characteristics (i.e., vegetation communities, elevations, seasonal changes, etc.) d) Blooming characteristics for plants e) Breeding and other dispersal (range) behavior for wildlife f) Potential to occur within the survey area (i.e., Present, High Potential, Moderate Potential, Low Potential, or Not Expected), with justification based on the results of the records search, survey findings, and presence of potentially suitable habitat g) Specific types and locations of potentially suitable habitat that correspond to the vegetation communities and land cover and aquatic features 	Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.4.1.6: Critical Habitat <ul style="list-style-type: none"> a) Identify and describe any critical habitat for rare or special status species within and surrounding the project area (approximately a 5-mile buffer). b) Provide a supporting map (or maps) showing project features and critical habitat. 	4.4.1.6
4.4.1.7: Native Wildlife Corridors and Nursery Sites <ul style="list-style-type: none"> a) Identify and describe regional and local wildlife corridors within and surrounding the project area (approximately a 5-mile buffer), including but not limited to, landscape and aquatic features that connect suitable habitat in regions otherwise fragmented by terrain, changes in vegetation, or human development. b) Identify and describe regional and local native wildlife nursery sites within and surrounding the project area (approximately a 5-mile buffer), as identified through the records search, surveys, and habitat assessment. c) Provide a supporting map (or maps) showing project features, native wildlife corridors, and native nursery sites. 	4.4.1.7
4.4.1.8: Biological Resource Management Areas <ul style="list-style-type: none"> a) Identify any biological resource management areas (i.e., conservation or mitigation areas, HCP or NCCP boundaries, etc.) within and surrounding the project area (approximately 5-mile buffer). b) Identify and quantify any project areas within biological resource management areas. c) Provide a supporting map (or maps) showing project features and biological resource management areas. 	4.4.1.8
4.4.2 Regulatory Setting	4.4.2
4.4.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding biological resources.	4.4.2.1
4.4.2.2: Habitat Conservation Plan. Provide a copy of any relevant Habitat Conservation Plan.	4.4.2.2
4.4.3 Impact Questions	4.4.3
4.4.3.1: CEQA Impact Questions. The impact questions include all biological resource impact questions in the current version of CEQA Guidelines, Appendix G.	4.4.3.1
4.4.3.2: Additional CEQA Impact Question: <ul style="list-style-type: none"> a) Would the project create a substantial collision or electrocution risk for birds or bats? 	4.4.3.2

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.4.4 Impact Analysis	4.4.4
4.4.4.1: Impact Analysis Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for Biological Resources and any additional impact questions listed above.	4.4.4.1
4.4.5 CPUC Draft Environmental Measures	4.4.5
4.4.6 Applicant Proposed Measures	4.4.6
4.5 Cultural Resources	4.5
4.5.1 Environmental Setting	4.5.1
4.5.1.1: Cultural Resource Reports. Provide a cultural resource inventory and evaluation report that addresses the technical requirement provided in Attachment 3.	4.5.1.1 Appendix 4.5-A
4.5.1.2: Cultural Resources Summary. Summarize cultural resource survey and inventory results and survey methods. Do not provide any confidential cultural resource information within the PEA chapter.	4.5.1.2 4.18 Appendix 4.18-B Appendix 4.18-C Appendix 4.5-A
4.5.1.3: Cultural Resource Survey Boundaries. Provide a map with mileposts showing the boundaries of all survey areas in the report. Provide the GIS data for the survey area. Provide confidential GIS data for the resource locations and boundaries separately under confidential cover.	4.5.1.3 Figure 4.5-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.5.2 Regulatory Setting	4.5.2
4.5.2.1: Regulatory Setting. Identify applicable federal and state regulations for protection of cultural resources.	4.5.2.1
4.5.3 Impact Questions	4.5.3
4.5.3.1: CEQA Impact Questions. The impact questions include all cultural resource impact questions in the current version of CEQA Guidelines, Appendix G.	4.5.3.1
4.5.3.2: Additional CEQA Impact Questions: None.	4.5.3.2
4.5.4 Impact Analysis	4.5.4
4.5.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.5.4.1
4.5.5 CPUC Draft Environmental Measures	4.5.5
4.5.6 Applicant Proposed Measures	4.5.6
4.6 Energy	4.6
4.6.1 Environmental Setting	4.6.1
4.6.1.1: Existing Energy Use. Identify energy use of existing infrastructure if the proposed project would replace or upgrade an existing facility.	4.6.1.1 4.6.1.2
4.6.2 Regulatory Setting	4.6.2
4.6.2.1: Regulatory Setting. Identify applicable federal, state, or local regulations or policies applicable to energy use for the proposed project.	4.6.2.1
4.6.3 Impact Questions	4.6.3
4.6.3.1: CEQA Impact Questions: The impact questions include all energy impact questions in the current version of CEQA Guidelines, Appendix G.	4.6.3.1
4.6.3.2: Additional CEQA Impact Question:	4.6.3.2

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
a) Would the project add capacity for the purpose of serving a nonrenewable energy resource?	
4.6.4 Impact Analysis	4.6.4
4.6.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.	4.6.4.1 Appendix 4.6-A Appendix 4.8-A Also refer to Section 4.8 and Section 5.0
4.6.5 CPUC Draft Environmental Measures	4.6.5
4.6.6 Applicant Proposed Measures	4.6.6
4.7 Geology, Soils, and Paleontological Resources	4.7
4.7.1 Environmental Setting	4.7.1
4.7.1.1: Regional and Local Geologic Setting. Briefly describe the regional and local physiography, topography, and geologic setting in the project area.	4.7.1.1
4.7.1.2: Seismic Hazards a) Provide the following information on potential seismic hazards in the project area: I. Identify and describe regional and local seismic risk including any active faults within and surrounding the project area (will be a 10-mile buffer unless otherwise instructed in writing by CEQA Unit Staff during Pre-filing) II. Identify any areas that are prone to seismic-induced landslides III. Provide the liquefaction potential for the project area b) Provide a supporting map (or maps) showing project features and major faults, areas of landslide risk, and areas at high risk of liquefaction. Provide GIS data for all faults, landslides, and areas of high liquefaction potential.	4.7.1.2 Figure 4.7-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.7.1.3: Geologic Units. Identify and describe the types of geologic units in the project area. Include the following information for each geologic unit: a) Summarize the geologic units within the project area. b) Identify any previous landslides in the area and any areas that are at risk of landslide. c) Identify any unstable geologic units. d) Provide a supporting map (or maps) showing project features and geologic units. Clearly identify any areas with potentially hazardous geologic conditions. Provide associated GIS data.	4.7.1.3 Figure 4.7-2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.7.1.4: Soils. Identify and describe the types of soils in the project area. a) Summarize the soils within the project area. b) Clearly identify any soils types that could be unstable (e.g., at risk of lateral spreading, subsidence, liquefaction, or collapse). c) Provide information on erosion susceptibility for each soil type that occurs in the project area. d) Provide a supporting map (or maps) showing project features and soils. Provide associated GIS data.	4.7.1.4 Figure 4.7-3 Appendix 4.7-A Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.7.1.5: Paleontological Report. Provide a paleontological report that includes the following: a) Information on any documented fossil collection localities within the project area and a 500-foot buffer.	4.7.1.5 Appendix 4.7-B Available GIS data layers will be submitted

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
b) A paleontological resource sensitivity analysis based on published geological mapping and the resource sensitivity of each rock type. c) Supporting maps and GIS data.	digitally under a separate cover.
4.7.2 Regulatory Setting	4.7.2
4.7.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding geology, soils, and paleontological resources.	4.7.2.1
4.7.3 Impact Questions	4.7.3
4.7.3.1: CEQA Impact Questions. The impact questions include all geology, soils, and paleontological resource impact questions in the current version of CEQA Guidelines, Appendix G.	4.7.3.1
4.7.3.2: Additional CEQA Impact Questions: None.	4.7.3.2
4.7.4 Impact Analysis	4.7.4
4.7.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.7.4.1 Also refer to Section 4.10 Appendix 4.7-A
4.7.5 CPUC Draft Environmental Measures	4.7.5
4.7.6 Applicant Proposed Measures	4.7.6
4.8 Greenhouse Gas Emissions	4.8
4.8.1 Environmental Setting	4.8.1
4.8.1.1: GHG Setting. Provide a description of the setting for greenhouse gases (GHGs). The setting should consider any GHG emissions from existing infrastructure that would be upgraded or replaced by the proposed project.	4.8.1.1
4.8.2 Regulatory Setting	4.8.2
4.8.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for greenhouse gases.	4.8.2.1
4.8.3 Impact Questions	4.8.3
4.8.3.1: CEQA Impact Questions. The impact questions include all greenhouse gas impact questions in the current version of CEQA Guidelines, Appendix G.	4.8.3.1
4.8.3.2: Additional CEQA Impact Questions: None.	4.8.3.2
4.8.4 Impact Analysis	4.8.4
4.8.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.8.4.1 3.0 Appendix 4.8-A Table 4.8-1 Table 4.8-2 Table 4.8-3 Table 4.8-4 Table 4.8-5
Natural Gas Storage	
4.8.4.4: Monitoring and Contingency Plan. Provide a comprehensive monitoring plan that would be implemented during project operation to monitor for gas leaks. The plan should identify a monitoring schedule, description of monitoring activities, and actions to be implemented if gas leaks are observed.	4.8.4.3
4.8.5 CPUC Draft Environmental Measures	4.8.5
4.8.6 Applicant Proposed Measures	4.8.6

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
	3.0
4.9 Hazards, Hazardous Materials, and Public Safety	4.9
4.9.1 Environmental Setting	4.9.1 Also refer to Sections 4.7 and 4.10
4.9.1.1: Hazardous Materials Report. Provide a Phase I Environmental Site Assessment or similar hazards report for the proposed project area. Describe any known hazardous materials locations within the project area and the status of the site.	4.9.1.1 Appendix 4.9-A
4.9.1.2: Airport Land Use Plan. Identify any airport land use plan(s) within the project area.	4.9.1.2
4.9.1.3: Fire Hazard. Identify if the project occurs within federal, state, or local fire responsibility areas and identify the fire hazard severity rating for all project areas, including temporary work areas and access roads.	4.9.1.3
4.9.1.4: Metallic Objects. For electrical projects, identify any metallic pipelines or cables within 25 feet of the project.	4.9.1.4
4.9.2 Regulatory Setting	4.9.2
4.9.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for hazards, hazardous materials, and public safety.	4.9.2.1
4.9.2.2: Touch Thresholds. Identify applicable standards for protection of workers and the public from shock hazards.	4.9.2.2
4.9.3 Impact Questions	4.9.3
4.9.3.1: CEQA Impact Questions. The impact questions include all hazards and hazardous materials impact questions in the current version of CEQA Guidelines, Appendix G.	4.9.3.1
4.9.3.2: Additional CEQA Impact Questions: a) Would the project create a significant hazard to air traffic from the installation of new power lines and structures? b) Would the project create a significant hazard to the public or environment through the transport of heavy materials using helicopters? c) Would the project expose people to a significant risk of injury or death involving unexploded ordnance? d) Would the project expose workers or the public to excessive shock hazards?	4.9.3.2
4.9.4 Impact Analysis	4.9.4
4.9.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.	4.9.4.1 4.10 4.17 4.15
4.9.5 CPUC Draft Environmental Measures	4.9.5
4.9.6 Applicant Proposed Measures	4.9.6
4.10 Hydrology and Water Quality	4.10
4.10.1 Environmental Setting	4.10.1
4.10.1.1: Waterbodies. Identify by milepost all ephemeral, intermittent, and perennial surface waterbodies crossed by the project. For each, list its water quality classification, if applicable.	4.10.1.1
4.10.1.2: Water Quality. Identify any downstream waters that are on the state 303(d) list and identify whether a total maximum daily load (TMDL)	4.10.1.2

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
has been adopted or the date for adoption of a TMDL. Identify existing sources of impairment for downstream waters. Describe any management plans that are in place for downstream waters.	
4.10.1.3: Groundwater Basin. Identify all known EPA and state groundwater basins and aquifers crossed by the project.	4.10.1.3
4.10.1.4: Groundwater Wells and Springs. Identify the locations of all known public and private groundwater supply wells and springs within 150 feet of the project area.	4.10.1.4
4.10.1.5: Groundwater Management. Identify the groundwater management status of any groundwater resources in the project area and any groundwater resources that may be used by the project. Describe if groundwater resources in the basin have been adjudicated. Identify any sustainable groundwater management plan that has been adopted for groundwater resources in the project area or describe the status of groundwater management planning in the area.	4.10.1.5
4.10.2 Regulatory Setting	4.10.2
4.10.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding hydrologic and water quality.	4.10.2.1
4.10.3 Impact Questions	4.10.3
4.10.3.1: CEQA Impact Questions. The impact questions include all hydrology and water quality impact questions in the current version of CEQA Guidelines, Appendix G.	4.10.3.1
4.10.3.2: Additional CEQA Impact Questions: None.	4.10.3.2
4.10.4 Impact Analysis	4.10.4
4.10.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in the current version of CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.10.4.1 3.5.10.2 3.5.11.2
4.10.5 CPUC Draft Environmental Measures	4.10.5
4.10.6 Applicant Proposed Measures	4.10.6
4.11 Land Use and Planning	4.11
4.11.1 Environmental Setting	4.11.1
4.11.1.1: Land Use. Provide a description of land uses within the area traversed by the project route as designated in the local General Plan (e.g., residential, commercial, agricultural, open space, etc.).	4.11.1.1 Figure 4.11-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.11.1.2: Special Land Uses. Identify by milepost and segment all special land uses within the project area including: a) All land administered by federal, state, or local agencies, or private conservation organizations b) Any designated coastal zone management areas c) Any designated or proposed candidate National or State Wild and Scenic Rivers crossed by the project d) Any national landmarks	4.11.1.2 Also refer to Section 4.2
4.11.1.3: Habitat Conservation Plan. Provide a copy of any Habitat Conservation Plan applicable to the project area or proposed project. Also required for Section 5.4, Biological Resources.	4.11.1.3 Also refer to Section 4.4
4.11.2 Regulatory Setting	4.11.2

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.11.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for land use and planning.	4.11.2.1
4.11.3 Impact Questions	4.11.3
4.11.3.1: CEQA Impact Questions. The impact questions include all land use questions in the current version of CEQA Guidelines, Appendix G.	4.11.3.1
4.11.3.2: Additional CEQA Impact Questions: None.	4.11.3.2
4.11.4 Impact Analysis	4.11.4
4.11.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.11.4.1
4.11.5 CPUC Draft Environmental Measures	4.11.5
4.11.6 Applicant Proposed Measures	4.11.6
4.12 Mineral Resources	4.12
4.12.1 Environmental Setting	4.12.1
4.12.2 Regulatory Setting	4.12.2
4.12.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for minerals.	4.12.2.1 Table 4.12-1
4.12.3 Impact Questions	4.12.3
4.12.3.1: CEQA Impact Questions. The impact questions include all mineral resource impact questions in the current version of CEQA Guidelines, Appendix G.	4.12.3.1
4.12.3.2: Additional CEQA Impact Questions: None.	4.12.3.2
4.12.4 Impact Analysis	4.12.4
4.12.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.12.4.1
4.12.5 CPUC Draft Environmental Measures	4.12.5
4.12.6 Applicant Proposed Measures	4.12.6
4.13 Noise	4.13
4.13.1 Environmental Setting	4.13.1
4.13.1.1: Noise Sensitive Land Uses. Identify all noise sensitive land uses within 1,000 feet of the proposed project. Provide GIS data for sensitive receptors within 1,000 feet of the project.	4.13.1.1 Figure 4.3-1 Also refer to Section 4.3 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.13.1.2: Noise Setting. Provide the existing noise levels (Lmax, Lmin, Leq, and Ldn sound level and other applicable noise parameters) at noise sensitive areas near the proposed project. All noise measurement data and the methodology for collecting the data will be provided in a noise study as an Appendix to the PEA.	4.13.1.2
4.13.2 Regulatory Setting	4.13.2
4.13.2.1: Regulatory Setting. Identify applicable state, and local laws, policies, and standards for noise.	4.13.2.1 Table 4.13-1
4.13.3 Impact Questions	4.13.3
4.13.3.1: CEQA Impact Questions. The impact questions include all noise questions in the current version of CEQA Guidelines, Appendix G.	4.13.3.1
4.13.3.2: Additional CEQA Impact Questions: None.	4.13.3.2

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.13.4 Impact Analysis	4.13.4
4.13.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.13.4.1 Figure 4.13-1 Figure 4.13-2 Table 4.3-5 Table 4.13-2 Table 4.13-3 Table 4.13-4 Table 4.13-5 Table 4.13-6 Also refer to Section 4.3
4.13.5 CPUC Draft Environmental Measures	4.13.5
4.13.6 Applicant Proposed Measures	4.13.6
4.14 Population and Housing	4.14
4.14.1 Environmental Setting	4.14.1
4.14.1.1: Population Estimates. Identify population trends for the areas (county, city, town, census designated place) where the project would take place.	4.14.1.1 Table 4.14-1
4.14.1.2: Housing Estimates. Identify housing estimates and projections in areas where the project would take place.	4.14.1.2 Table 4.14-1
4.14.1.3: Approved Housing Developments a) Provide the following information for all housing development projects within 1 mile of the proposed project that have been recently approved or may be approved around the PEA and application filing date: I. Project name II. Location III. Number of units and estimated population increase IV. Approval date and construction status V. Contact information for developer (provided in the public outreach Appendix) b) Ensure that the project information provided above is consistent with the PEA analysis of cumulative project impacts.	4.14.1.3
4.14.2 Regulatory Setting	4.14.2
4.14.2.1: Regulatory Setting. Identify any applicable federal, state or local laws or regulations that apply to the project.	4.14.2.1
4.14.3 Impact Questions	4.14.3
4.14.3.1: CEQA Impact Questions. The impact questions include all population and housing impact questions in the current version of CEQA Guidelines, Appendix G.	4.14.3.1
4.14.3.2: Additional CEQA Impact Questions: None.	4.14.3.2
4.14.4 Impact Analysis	4.14.4
4.14.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.14.4.1 3.2.3
4.14.5 CPUC Draft Environmental Measures	4.14.5
4.14.6 Applicant Proposed Measures	4.14.6
4.15 Public Services	4.15
4.15.1 Environmental Setting	4.15.1
4.15.1.1 Service Providers	4.15.1.1

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
a) Identify the following service providers that serve the project area and provide a map showing the service facilities that could serve the project: <ul style="list-style-type: none"> I. Police II. Fire (identify service providers within local and state responsibility areas) III. Schools IV. Parks V. Hospitals b) Provide the documented performance objectives and data on existing emergency response times for service providers in the area (e.g., police or fire department response times).	Figure 4.15-1 Also refer to Section 4.16 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.15.2 Regulatory Setting	4.15.2
4.15.2.1 Regulatory Setting. Identify any applicable federal, state or local laws or regulations for public services that apply to the project.	4.15.2.1
4.15.3 Impact Questions	4.15.3
4.15.3.1: CEQA Impact Questions. The impact questions include all public services impact questions in the current version of CEQA Guidelines, Appendix G.	4.15.3.1
4.15.3.2: Additional CEQA Impact Questions: None.	4.15.3.2
4.15.4 Impact Analysis	4.15.4
4.15.4.1 Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.15.4.1 Also refer to Section 4.14 and 4.17
4.15.5 CPUC Draft Environmental Measures	4.15.5
4.15.6 Applicant Proposed Measures	4.15.6
4.16 Recreation	4.16
4.16.1 Environmental Setting	4.16.1
4.16.2 Regulatory Setting	4.16.2
4.16.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding recreation	4.16.2.1
4.16.3 Impact Questions	4.16.3
4.16.3.1: CEQA Impact Questions. The impact questions include all recreation impact questions in the current version of CEQA Guidelines, Appendix G.	4.16.3.1
4.16.3.2: Additional CEQA Impact Questions: <ul style="list-style-type: none"> a) Would the project reduce or prevent access to a designated recreation facility or area? b) Would the project substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas? c) Would the project damage recreational trails or facilities? 	4.16.3.2
4.16.4 Impact Analysis	4.16.4
4.16.4.1: Impact Analysis: Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.16.4.1 4.14
4.16.5 CPUC Draft Environmental Measures	4.16.5
4.16.6 Applicant Proposed Measures	4.16.6
4.17 Transportation	4.17

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.17.1 Environmental Setting	4.17.1
4.17.1.1: Circulation System. Briefly describe the regional and local circulation system in the project area, including modes of transportation, types of roadways, and other facilities that contribute to the circulation system.	4.17.1.1 Figure 4.17-1 Figure 4.17-2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.17.1.2: Existing Roadways and Circulation a) Identify and describe existing roadways that may be used to access the project site and transport materials during construction or are otherwise adjacent to or crossed by linear project features. Provide the following information for each road: I. Name of the road II. Jurisdiction or ownership (i.e., State, County, City, private, etc.) III. Number of lanes in both directions of travel iv. Existing traffic volume (if publicly available data is unavailable or significantly outdated, then it may be necessary to collect existing traffic counts for road segments where large volumes of construction traffic would be routed or where lane or road closures would occur) IV. Closest project feature name and distance b) Provide a supporting map (or maps) showing project features and the existing roadway network identifying each road described above. Provide associated GIS data. The GIS data should include all connected road segments within at least 5 miles of the project.	4.17.1.2 Figure 4.17-2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.17.1.3: Transit and Rail Services a) Identify and describe transit and rail service providers in the region. b) Identify any rail or transit lines within 1,000 feet of the project area. c) Identify specific transit stops, and stations within 0.5 mile of the project. Provide the frequency of transit service. d) Provide a supporting map (or maps) showing project features and transit and rail services within 0.5 mile of the project area. e) Provide associated GIS data.	4.17.1.3 Available GIS data layers will be submitted digitally under a separate cover..
4.17.1.4: Bicycle Facilities a) Identify and describe any bicycle plans for the region. b) Identify specific bicycle facilities within 1,000 feet of the project area. c) Provide a supporting map (or maps) showing project features and bicycle facilities. Provide associated GIS data.	4.17.1.4 Available GIS data layers will be submitted digitally under a separate cover.
4.17.1.5: Pedestrian Facilities a) Identify and describe important pedestrian facilities near the project area that contribute to the circulation system, such as important walkways. b) Identify specific pedestrian facilities that would be near the project, including on the road segments identified per 5.17.1.2. c) Provide a supporting map (or maps) showing project features and important pedestrian facilities. Provide associated GIS data.	4.17.1.5 Available GIS data layers will be submitted digitally under a separate cover.

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.17.1.6: Vehicle Miles Traveled (VMT). Provide the average VMT for the county(s) where the project is located.	4.17.1.6
4.17.2 Regulatory Setting	4.17.2
4.17.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding transportation.	4.17.2.1
4.17.3 Impact Questions	4.17.3
4.17.3.1: CEQA Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.	4.17.3.1
4.17.3.2: Additional CEQA Impact Questions:	4.17.3.2
a) Would the project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?	
b) Would the project interfere with walking or bicycling accessibility?	
c) Would the project substantially delay public transit?	
4.17.4 Impact Analysis	4.17.4
4.17.4.1: Impact Analysis. Provide an impact analysis for each significance criteria identified in Appendix G of the CEQA Guidelines for transportation and any additional impact questions listed above.	4.17.4.1 3.6.3 4.17.1.3 3.6 Table 3-6
4.17.5 CPUC Draft Environmental Measures	4.17.5
4.17.6 Applicant Proposed Measures	4.17.6
4.18 Tribal Cultural Resources	4.18
4.18.1 Environmental Setting	4.18.1
4.18.1.1: Outreach to Tribes. Provide a list of all tribes that are on the Native American Heritage Commission (NAHC) list of tribes that are affiliated with the project area. Provide a discussion of outreach to Native American tribes, including tribes notified, responses received from tribes, and information of potential tribal cultural resources provided by tribes. Any information of potential locations of tribal cultural resources should be submitted in an Appendix under clearly marked confidential cover. Provide copies of all correspondence with tribes in an Appendix.	4.18.1.1 Appendix 4.18-A Appendix 4.18-B Appendix 4.18-C Table 4.18-1 Also refer to Section 4.18.1.2
4.18.1.2: Tribal Cultural Resources. Describe tribal cultural resources (TCRs) that are within the project area.	4.18.1.2 Also refer to Section 4.18.1.1
a) Summarize the results of attempts to identify possible TCRs using publicly available documentary resources. The identification of TCRs using documentary sources should include review of archaeological site records and should begin during the preparation of the records search report (see Attachment 3). During the inventory phase, a formal site record would be prepared for any resource identified unless tribe's object.	
b) Summarize attempts to identify TCRs by speaking directly with tribal representatives.	
4.18.1.3: Ethnographic Study. The ethnographic study should document the history of Native American use of the area and oral history of the area.	4.8.1.3
4.18.2 Regulatory Setting	4.18.2
4.18.2.1: Regulatory Setting. Identify any applicable federal, state or local laws or regulations for tribal cultural resources that apply to the project.	4.18.2.1
4.18.3 Impact Questions	4.18.3

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.18.3.1: CEQA Impact Questions. The impact questions include all tribal cultural resources impact questions in the current version of CEQA Guidelines, Appendix G.	4.18.3.1
4.18.3.2: Additional CEQA Impact Questions: None.	4.18.3.2
4.18.4 Impact Analysis	4.18.4
4.18.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.18.4.1
Include the following information in the impact analysis:	
4.18.4.2: Information Provided by Tribes. Include an analysis of any impacts that were identified by the tribes during the Applicant's outreach.	4.18.4.2
4.18.5 CPUC Draft Environmental Measures	4.18.5
4.18.6 Applicant Proposed Measures	4.18.6 Also refer to Section 4.5
4.19 Utilities and Service Systems	4.19
4.19.1 Environmental Setting	4.19.1
4.19.1.1: Utility Providers. Identify existing utility providers and the associated infrastructure that serves the project area.	4.19.1.1
4.19.1.2: Utility Lines. Describe existing utility infrastructure (e.g., water, gas, sewer, electrical, stormwater, telecommunications, etc.) that occurs in the project ROW. Provide GIS data and/or as-built engineering drawings to support the description of existing utilities and their locations.	4.19.1.2 Available GIS data layers will be submitted digitally under a separate cover.
4.19.1.3: Approved Utility Projects. Identify utility projects that have been approved for construction within the project ROW but that have not yet been constructed.	4.19.1.3
4.19.1.4: Water Supplies. Identify water suppliers and the water source (e.g., aqueduct, well, recycled water, etc.). For each potential water supplier, provide data on the existing water capacity, supply, and demand.	4.19.1.4 Also refer to Section 3.5.9
4.19.1.5: Landfills and Recycling. Identify local landfills that can accept construction waste and may service the project. Provide documentation of landfill capacity and estimated closure date. Identify any recycling centers in the area and opportunities for construction and demolition waste recycling.	4.19.1.5
4.19.2 Regulatory Setting	4.19.2
4.19.2.1: Regulatory Setting. Identify any applicable federal, state or local laws or regulations for utilities that apply to the project.	4.19.2.1
4.19.3 Impact Questions	4.19.3
4.19.3.1: CEQA Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.	4.19.3.1
4.19.3.2: Additional CEQA Impact Questions: Would the project increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts?	4.19.3.2
4.19.4 Impact Analysis	4.19.4
4.19.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.19.4.1 Also refer to Sections 3.5.9.1 and 3.9.1
4.19.5 CPUC Draft Environmental Measures	4.19.5
4.19.6 Applicant Proposed Measures	4.19.6
4.20 Wildfire	4.20

Table 2-2: PEA Checklist	
CPUC Checklist	PEA Section, Table or Figure Number
4.20.1 Environmental Setting	4.20.1
4.20.1.1: High Fire Risk Areas and State Responsibility Areas a) Identify areas of high fire risk or State Responsibility Areas (SRAs) within the project area. Provide GIS data for the Wildland Urban Interface (WUI) and Fire Hazard Severity Zones (FHSZ) mapping along the project alignment. Include areas mapped by CPUC as moderate and high fire threat districts as well as areas mapped by CalFire. b) Identify any areas the utility has independently identified as High FHSZ known to occur within the proposed project vicinity.	4.20.1.1 Figure 4.20-1 Figure 4.20-2 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
4.20.1.2: Fire Occurrence. Identify all recent (within the last 10 years) large fires that have occurred within the project vicinity. For each fire, identify the following: a) Name of the fire b) Location of fire c) Ignition source and location of ignition d) Amount of land burned e) Boundary of fire area in GIS	4.20.1.2
4.20.1.3: Fire Risk. Provide the following information for assessment of baseline fire risk in the area: a) Provide fuel modeling using Scott Burgan fuel models, or other model of similar quality. b) Provide values of wind direction and speed, relative humidity, and temperature for representative weather stations along the alignment for the previous 10 years, gathered hourly. c) Digital elevation models for the topography in the project region showing the relationship between terrain and wind patterns, as well as localized topography to show the effects of terrain on wind flow, and on a more local area to show effect of slope on fire spread. d) Describe vegetation fuels within the project vicinity and provide data in map format for the project vicinity. USDA Fire Effects Information System or similar data source should be consulted to determine high-risk vegetation types. Provide the mapped vegetation fuels data in GIS format.	4.20.1.3 Available GIS data layers will be submitted digitally under a separate cover.
4.20.1.4: Values at Risk. Identify values at risk along the proposed alignment. Values at risk may include: Structures, improvements, rare habitat, other values at risk, (including utility-owned infrastructure) within 1000 feet of the project. Provide some indication as to its vulnerability (wood structures vs. all steel features). Communities and/or populations near the project should be identified with their proximity to the project defined.	4.20.1.4 Also refer to Section 4.4
4.20.1.5: Evacuation Routes. Identify all evacuation routes that are adjacent to or within the project area. Identify any roads that lack a secondary point of access or exit (e.g., cul-de-sacs).	4.20.1.5
4.20.2 Regulatory Setting	4.20.2
4.20.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for wildfire.	4.20.2.1
4.20.3 Impact Questions	4.20.3
4.20.3.1: CEQA Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.	4.20.3.1
4.20.3.2: Additional CEQA Impact Questions: None.	4.20.3.2

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
4.20.4 Impact Analysis	4.20.4
4.20.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.20.4.1 Also refer to Section 3.5.2 4.7 4.10
4.20.5 CPUC Draft Environmental Measures	4.20.5
4.20.6 Applicant Proposed Measures	4.20.6
4.21 Mandatory Findings of Significance	4.21
4.21.1: Impact Questions. Provide an impact analysis for each of the mandatory findings of significance provided in Appendix G of the CEQA Guidelines. The impact analysis can reference relevant information and conclusion from the biological resources, cultural resources, air quality, hazards, and cumulative sections of the PEA, where applicable.	4.21.1
4.21.1.1: CEQA Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.	4.21.1.1
4.21.2: Impact Analysis.	4.21.2
4.21.2.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.	4.21.2.1 Also refer to Sections 4.3, 4.4, 4.5, 4.9, 4.18, and 5.0
5.0 Cumulative and Other CEQA Considerations	5.0
5.1 Cumulative Impacts	5.1
5.1.1: List of Cumulative Projects a) Provide a detailed table listing past, present, and reasonably foreseeable future projects within and surrounding the project area (approximately 2-mile buffer). The following information should be provided for each project in the table: I. Project name and type II. Brief description of the project location(s) and associated actions III. Distance to and name of the nearest project component IV. Project status and anticipated construction schedule V. Source of the project information and date last checked (for each individual project), including links to any public websites where the information was obtained so it can be reviewed and updated (the project information should be current when the PEA is filed) b) Provide a supporting map (or maps) showing project features and cumulative project locations and/or linear features. Provide associated GIS data.	5.1.1 Table 5-1 Figure 5-1 Figures in Appendix 1-A. Available GIS data layers will be submitted digitally under a separate cover.
5.1.2: Geographic Scope. Define the geographic scope of analysis for each resource topic. The geographic scope of analysis for each resource topic should consider the extent to which impacts can be cumulative. For example, the geographic scope for cumulative noise impacts would be more limited in scale than the geographic scope for biological resource impacts because noise attenuates rapidly with distance. Explain why the geographic scope is appropriate for each resource.	5.1.2 4.0-4.10 4.13 4.15 4.17-19 4.16.2 4.1.4 5.1.3 Table 4.8-5

Table 2-2: PEA Checklist	
CPUC Checklist	.PEA Section, Table or Figure Number
	Table 5-1
5.1.3: Cumulative Impact Analysis. Provide an analysis of cumulative impacts for each resource topic included in Chapter 5. Evaluate whether the proposed project impacts are cumulatively considerable for any significant cumulative impacts.	5.1.3
5.2 Growth-Inducing Impacts	5.2
5.2.1: Growth-Inducing Impacts. Provide an evaluation of the following potential growth-inducing impacts: a) Would the proposed project foster any economic or population growth, either directly or indirectly, in the surrounding environment? b) Would the proposed project cause any increase in population that could further tax existing community service facilities (i.e., schools, hospitals, fire, police, etc.)? c) Would the proposed project remove any obstacles to population growth? d) Would the proposed project encourage and facilitate other activities that would cause population growth that could significantly affect the environment, either individually or cumulatively?	5.2.1
6.0 List of Preparers	6.0
6.1: List of Preparers. Provide a list of persons, their organizations, and their qualifications for all authors and reviewers of each section of the PEA.	6.1
7.0 References	7.0
7.1: Reference List a) Organize all references cited in the PEA by section within a single chapter called "References." b) Within the References chapter, organize all of the Chapter 5 references under subheadings for each resource area section.	7.1
7.2: Electronic References a) Provide complete electronic copies of all references cited in the PEA that cannot be readily obtained for free on the Internet. This includes any company-specific documentation (e.g., standards, policies, and other documents). b) If the reference can be obtained on the Internet, the Internet address will be provided.	7.2

3.0 PROJECT DESCRIPTION

This chapter defines the Proposed Project's location, objectives, and components; describes the existing electric system; and explains how the Proposed Project would be implemented and its place within California's electrical transmission system. This chapter also identifies any permits or other approvals that may be needed to implement the Proposed Project. Finally, this chapter identifies any measures proposed by LS Power Grid California, LLC (LSPGC) to avoid or minimize potential environmental impacts.

3.1 PROJECT OVERVIEW

The Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project) was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of the CAISO controlled grid. This would be accomplished through the construction of a dynamic reactive device between two equally sized blocks. The Proposed Project is being proposed by LSPGC, a Delaware limited liability company established to own transmission projects in California.

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 be independently connected to the existing Pacific Gas and Electric Company's (PG&E) Gates 500 kV Substation via two new single-circuit 500 kV interconnection transmission lines.

The Proposed Project site is approximately 20 acres in size, located directly north and adjacent to the PG&E Gates Substation in Fresno County, California as shown on **Figure 3-1, General Vicinity** and **Figure 3-2, Project Location**. 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 3.3 miles southwest of the city of Huron and approximately 2.2 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.

3.2 EXISTING AND PROPOSED SYSTEM

3.2.1 EXISTING SYSTEM

The Proposed Project is located within an existing regional transmission system that provides electricity to the greater Fresno area. Electric supply to the greater Fresno area is provided primarily by hydroelectric generation, several market facilities, and a few qualifying generation facilities. Electric supply is supplemented by transmission imports from the North Valley and the 500 kV lines along the west and south parts of the Central Valley (CAISO, 2018). The greater Fresno area interconnects to the bulk PG&E transmission system by 13 transmission circuits. These consist of six 500 kV lines; six 230 kV lines; and one 70 kV line, which are served from the PG&E Gates Substation in the south, Moss Landing in the west, Los Banos in the northwest, Bellota in the northeast, and Templeton in the southwest (CAISO, 2018). The major 500/230 kV transmission lines that currently serve the PG&E Gates Substation include:

- Gates – Los Banos #3 500 kV;

- Gates – Los Banos #1 500 kV;
- Gates – Midway #2 500 kV;
- Diablo Canyon – Gates #1 500 kV;
- Gates – Midway #1 500 kV;
- Los Banos – Midway #2 500 kV;
- Gates – Panoche #1 & #2 230 kV;
- Gates – Midway 230 kV;
- Gates – Arco 230 kV; and
- Gates – Mustang #1 & #2 230 kV.

The existing system in the greater Fresno area also includes numerous existing PG&E overhead electric distribution line circuits that serve the immediate area, as well as several solar generation facilities that feed into the PG&E Gates Substation (including one owned and operated by PG&E).

3.2.2 PROPOSED PROJECT SYSTEM

The two main components of the Proposed Project system consist of two, new STATCOM units and two, new single circuit 500 kV transmission lines that would be radially connected to the existing, adjacent PG&E Gates Substation (not considered a looped system). The STATCOM Substation facility would have a rated real power output of zero mega-watts (MW) and a nominal terminal voltage of 500 kV and, therefore, would not increase existing capacity. The STATCOM Substation facility would support the regional transmission system by providing voltage support and grid stability at the PG&E Gates Substation 500 kV buses. This would facilitate the reliable operation of the extra high voltage transmission system in the electrical proximity of the PG&E Gates Substation after the retirement of the Diablo Canyon nuclear generating units, as discussed further in **Section 3.2.3, System Reliability**.

The STATCOM units would be interconnected with the PG&E Gates Substation via two approximately 550 feet long 500 kV transmission lines that would connect to future PG&E owned tubular steel poles or lattice steel dead-end structures. From that point, PG&E would extend the conductor for each interconnection line to the new Gates 500 kV bus positions. PG&E would take ownership of these spans because they cross PG&E assets within the P&GE Gates Substation. The point of ownership demarcation for the conductor would be the connection to LSPGC's take-off towers on LSPGC property. All facilities would be installed during the initial buildout; therefore, there is no anticipated ultimate buildout scenario beyond the Proposed Project. Based on PG&E's Draft Facility Study Report (PG&E, 2020), LSPGC does not anticipate that PG&E would require any additional transmission upgrades at the PG&E Gates Substation (beyond what was previously described), subject to further studies to be performed by PG&E.

All new facilities and interrelated activities associated with the Proposed Project are described in **Section 3.3, Project Components**, and a schematic diagram of the STATCOM Substation facility is provided in **Figure 3-3, STATCOM Substation Diagram**.

3.2.3 SYSTEM RELIABILITY

Studies prepared by the CAISO identified high voltages on the 500 kV Diablo, Gates, and Midway buses starting when Diablo Canyon Nuclear Generation Station (Diablo Canyon) retires, currently scheduled for 2024 for Unit 1 and 2025 for Unit 2. Voltage on the Diablo 500 kV bus may become as high as 550 kV under normal system conditions after Diablo Canyon is retired, which is above the required limit (CAISO, 2018). The most critical system issues appear to be 2028 spring off-
 Gates 500 kV Dynamic Reactive Support Project

peak or 2028 winter off-peak, even when all transmission facilities are in service. If voltage fluctuations are not addressed, PG&E customers could experience potential blackouts or scheduled outages once Diablo Canyon is retired.

Adding voltage support in the area would alleviate both high voltages after Diablo Canyon is retired, as well as high voltages under off-peak conditions prior to its retirement. It would also reduce dynamic stability issues with three-phase faults and induction motor stalling and tripping, which could also lead to outages within the electrical grid. As such, the CAISO identified the need for additional dynamic reactive support to both absorb reactive power under normal system conditions and supply reactive power with contingencies as needed. The Proposed Project was developed in response to the CAISO identified reliability issues and would alleviate voltage support issues by providing system stability and reliability for the greater Central Valley. The Proposed Project is specified to include two independent blocks of dynamic reactive support to further enhance system reliability.

3.2.4 PLANNING AREA

The Proposed Project, in conjunction with the existing PG&E Gates Substation, would support the existing regional transmission system that provides electricity to the greater Fresno area. Therefore, the system planning area served by the Proposed Project is identified as the “Greater Fresno area.” The term “regional transmission system” is used to describe the network that provides electricity to this planning area. The larger, regional system that provides electricity to all of PG&E’s customers is identified as the “bulk PG&E transmission system.”

3.3 PROJECT COMPONENTS

3.3.1 PRELIMINARY DESIGN AND ENGINEERING

The main Proposed Project component is the development of a new STATCOM Substation that would ultimately be interconnected to the existing PG&E Gates Substation. A detailed Proposed Project map that identifies the location of the major Proposed Project components, as well as the access roads, is included in **Figure 3-4, Project Overview**. As shown on **Figure 3-4**, the east-west access road would be located on LSPGC-owned property, and the north-south access road would be located on the adjacent, PG&E-owned property to the south. The individual components of the Proposed Project are discussed in greater detail in **Section 3.3.4, Proposed Facilities**.

LSPGC has completed approximately 30% engineering design for the Proposed Project. As such, the information in this document is based on preliminary engineering design and is subject to change based on additional and/or final engineering design, further studies to be performed by PG&E, and ongoing coordination discussions among LSPGC, PG&E and CAISO.

3.3.2 SEGMENTS, COMPONENTS AND PHASES

All components of the Proposed Project would be installed during a single phase of construction. A preliminary construction schedule is provided in **Table 3-7, Proposed Construction Schedule** in **Section 3.6.4, Construction Schedule**. The Proposed Project’s components are described in the sections below.

3.3.3 EXISTING FACILITIES

The Proposed Project site is currently an active agricultural field, and there are no existing facilities present. The Proposed Project would include all new facilities, with no existing facilities being removed, modified, or abandoned. **Section 3.2.1, Existing System** provides additional details regarding the PG&E Gates Substation.

Two existing dirt access roads would also be improved as part of the Proposed Project. 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. These dirt access roads are currently approximately 15 feet wide.

3.3.4 PROPOSED FACILITIES

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

- IGBT Converters;
- 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 valve/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. The general layout and arrangement of the outdoor equipment is shown in **Figure 3-5, STATCOM Substation General Arrangement**. **Figure 3-6, STATCOM Substation Profile** provides a vertical depiction of the substation and also includes the approximate height of various equipment.

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 eight to ten 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.

Disturbance area characteristics for the Proposed Project are discussed in **Section 3.5, Construction**. 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.

3.3.4.2 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 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 access road would be located completely within the fenced STATCOM Substation, constructed with gravel or rock, 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 Proposed Project design. Permanent gates would be installed at both STATCOM Substation facility driveways. Access roads are depicted in **Figure 3-4, Project Overview** and **Figure 3-5, STATCOM Substation General Arrangement**.

3.3.5 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 PG&E 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 550-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 PG&E Gates Substation.

Based on the preliminary scope of the PG&E Gates Substation improvements, PG&E plans to process their General Order No. 131-D (GO 131-D) compliance separately and would likely utilize the Substation Modification Exemption, as defined under GO 131-D §B or C for the proposed substation improvements.

3.3.6 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 Proposed Project site. Additionally, there are no foreseeable consequences of the Proposed Project, as this Proposed 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 Proposed Project facilities is 40 years.

3.3.7 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.

3.3.8 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 underground 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 Proposed Project's access roads, and finally into the STATCOM Substation facility. 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. Refer to **Figure 3-4, Project Overview** for the location of each telecommunication line.

Additionally, LSPGC is evaluating a second medium that would provide telecommunication diversity back to its off-site 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 Proposed Project site.

3.4 LAND OWNERSHIP, RIGHTS-OF-WAY, AND EASEMENTS

3.4.1 LAND OWNERSHIP

The parcel where the STATCOM Substation facility would be constructed (APN 075-060-067S) is under private ownership. LSPGC holds an exclusive option to purchase up to 20 acres of an approximately 230-acre parcel of land. Prior to construction, LSPGC would exercise the option and secure fee title to those 20 acres. This area is adequate to accommodate the STATCOM Substation facility including all considerations for site grading, fencing, staging areas, equipment, internal circulation, spill and stormwater management, and other operational considerations. As described below, the Proposed Project would require an easement from PG&E for the north-south access road and telecommunication line (see **Section 3.4.3 New or Modified Rights-of-Way Easements**, below).

3.4.2 EXISTING RIGHTS-OF-WAY OR EASEMENTS

There are no existing easements associated with the Proposed Project, and therefore, the Proposed Project would not require the replacement, modification or relocation of existing ROW or easements.

3.4.3 NEW OR MODIFIED RIGHTS-OF-WAY OR EASEMENTS

The Proposed Project would be sited on land owned by LSPGC. The interconnection transmission lines to be constructed and owned by PG&E would require an easement granted by LSPGC to PG&E as the change of ownership would occur on LSPGC property. PG&E would grant an easement for the north-south access road (and telecommunication line) that would connect the Proposed Project site to West Jayne Avenue. The easement would be approximately 20 feet wide and 2,900 feet long (1.35 acres). The granting of the access road easement would not require the relocation or demolition of commercial or residential property or structures and would restrict use of the easement area to access rights only.

3.4.4 TEMPORARY RIGHTS-OF-WAYS OR EASEMENTS

No temporary easements would be required for construction activities associated with the Proposed Project. All temporary construction areas would be located on the approximately 20-acre parcel that LSPGC would acquire or within a newly acquired permanent easement area.

3.5 CONSTRUCTION

This section includes an overview of the typical methods that would be used for construction of the Proposed Project. Specifically, this section describes typical construction methods for the STATCOM Substation, overhead facilities, construction equipment, and temporary work areas.

3.5.1 CONSTRUCTION ACCESS

3.5.1.1 Existing Access Roads

The existing and primary access to the Proposed Project for both construction and O&M would be from West Jayne Avenue. West Jayne Avenue is an existing, approximately 30-foot wide, public paved road providing access to the existing PG&E Gates Substation and the Proposed Project from I-5 to the west and from SR 269 to the east. No improvements are expected to be required along West Jayne Avenue.

The Proposed Project site would be accessed from West Jayne Avenue via an upgraded north-south and an upgraded east-west access road. The north-south access road is located off West Jayne Avenue at the southeast corner of the existing PG&E Gates Substation and is the Proposed Project's primary connection to the public ROW. The east-west private unnamed dirt road would intersect the north-south access road near the southeast corner of the Proposed Project site and would lead directly to the STATCOM Substation driveways. Both, approximately 15-foot wide, private dirt roads would be widened to approximately 20 feet, graded and rocked for a total of approximately 4,400 feet to accommodate deliveries and worker access. The access roads would be monitored for damage and would be repaired as needed. The access roads are depicted in **Figure 3-4, Project Overview**. **Table 3-1, Access Road Improvements**, provides additional access road details.

Table 3-1: Access Road Improvements			
Name of Road	Type of Road/Improvement	Dimensions	Disturbance Area
North-South Access Road	Existing, private dirt road would be widened to 20 feet and graded flat. Gravel or base rock would be used for all-weather, dust resistant surfacing. In addition, 100 feet of the road's approach to West Jayne Avenue would be paved.	20 feet wide/2,900 feet long	1.35 acres
East-West Access Road	Existing, private dirt road would be widened to 20 feet and graded flat. Gravel or base rock would be used for all-weather, dust resistant surfacing.	20 feet wide/1,320 feet long	0.61 acre

3.5.1.2 New Access Roads

The Proposed Project includes one new permanent access road, which would provide internal access within the STATCOM Substation facility. 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 the entrance and exit. Construction of this internal access road would include grading and rocking per the final Proposed Project design. Permanent gates would be installed at both STATCOM Substation driveways. Access roads are depicted in **Figure 3-5, STATCOM Substation General Arrangement**.

3.5.1.3 Overland Access Routes

No overland access routes would be used during construction or O&M of the Proposed Project.

3.5.1.4 Watercourse Crossings

The Proposed Project would be located on existing agricultural and vacant land, and no watercourses have been identified. As such, watercourse crossings are not anticipated.

3.5.1.5 Helicopter Access

Helicopters would not be used for construction or O&M of the Proposed Project.

3.5.2 STAGING AREAS

3.5.2.1 Staging Area Locations

The Proposed Project includes a temporary construction staging area resulting in a total area of approximately one acre located within the footprint of the Proposed Project site, directly east of the STATCOM Substation. The staging would be temporarily fenced and gated and would be connected to the access road via a temporary driveway (see **Section 3.5.3, Construction Work Areas**). The staging area is depicted in **Figure 3-7, Construction Staging Area**.

3.5.2.2 Staging Area Preparation

Preparation of the staging area would involve clearing, grubbing, and limited grading. The staging area may be used as a refueling area for vehicles and construction equipment; as an equipment wash station; for assemblage; for storage of material and equipment, storage containers, construction trailers, and portable restrooms; and for parking and lighting. Some STATCOM equipment, such as disconnect switches, instrument transformers, take-off towers, insulators, conductors, bus, connectors, conduit, cable trench, rebar, etc. would be received and temporarily stored at the staging area prior to installation.

Construction workers would typically meet at the staging area each morning and park their vehicles. All construction equipment and vehicles associated with the STATCOM Substation construction would be parked within the staging area while inactive and at the completion of each workday, where practical.

In-ground fencing would be installed at the staging area. Gravel may be used to line the ground at the staging area to avoid the creation of unsafe surface conditions and unnecessary sediment

transport off site. Perimeter security fencing would be installed around the outer limits of the work area. Lighting would also be installed for security purposes. Temporary construction power would be provided via existing distribution near the Proposed Project site. Temporary generators would be a contingency if distribution power is unavailable.

3.5.3 CONSTRUCTION WORK AREAS

3.5.3.1 Construction Work Areas

STATCOM Substation

As discussed in **Section 3.5.2, Staging Areas**, the Proposed Project would utilize an approximately one acre staging area located immediately east of the proposed STATCOM Substation units on APN 075-060-067S. The construction of the STATCOM Substation would require grading, fill and the installation of silt fencing that would extend beyond the proposed permanent impact area. In addition, work areas would be needed around the perimeter of the STATCOM Substation facility, borrow area, and stormwater detention basin to facilitate construction and access.

It is anticipated that all major electrical and STATCOM Substation equipment such as power transformers, power circuit breakers, control enclosures, capacitors, and reactors would be delivered to the STATCOM site and placed directly on previously constructed foundations. Other STATCOM Substation equipment, such as disconnect switches, instrument transformers, transmission structures, insulators, conductors, bus, connectors, conduit, cable trench, rebar, etc. would be received and temporarily stored at the staging area prior to installation. All construction equipment and vehicles associated with STATCOM Substation construction would be parked within the staging area while inactive and at the completion of each workday, where practical.

Other Work Areas

A work area would be required for the stormwater detention basin, and a temporary driveway would be developed to allow for access to the staging area from the access road. In addition, the Proposed Project would utilize an on-site borrow dirt area that would be approximately 1.10 acres in size. The borrow area would be excavated to a depth of approximately 20 feet with an average slope of 3:1. The borrow area would be used to build up the STATCOM Substation pad and would be filled in back to original grade with the topsoil that would be removed from the STATCOM Substation pad and stormwater detention basin. The location of the borrow area is identified in **Figure 3-7, Construction Staging Area**.

3.5.3.2 Work Area Disturbance

Implementation of the Proposed Project would result in both temporary and permanent impacts. **Table 3-2, Work Area Disturbance**, provides work area dimensions (including both temporary and permanent footprints) for each Proposed Project component.

Table 3-2: Work Area Disturbance

Work Area	Temporary or Permanent Disturbance	Disturbance Area (approximate metrics)
STATCOM Substation and Ancillary Project Components (includes access roads, grading, staging area, distribution power line, telecommunication lines, and dirt borrow area)	Permanent	Total of 8.75 acres (STATCOM Substation = 450 feet x 630 feet; 6.5 acres)
	Temporary	Total of 12.19 acres
Stormwater Detention Basin (and conveyance system)	Permanent	Total of 1.05 acres (Detention Basin = 0.31 acre; Conveyance System = 0.74 acre)
Primary Telecommunication Line (on West Jayne Avenue)	Temporary	3,250 feet by 20 feet; 1.5 acres

In addition, **Figure 3-8, Project Disturbance Areas**, identifies the temporary and permanent disturbance areas associated with the Proposed Project. In total, the Proposed Project would result in approximately 9.8 acres of permanent disturbance and approximately 13.69 acres of temporary disturbance to mainly agricultural and previously disturbed lands.

3.5.3.3 Temporary Power

LSPGC plans to tap into an existing overhead distribution line near the Proposed Project site for construction power. A distribution line would be installed on wood poles to provide power to the staging area and the STATCOM Substation during construction. The use of temporary generators for construction would be a contingency if distribution power was not available in a timely manner prior to construction. The same distribution line would also serve the STATCOM Substation facility during O&M. Total permanent disturbance area for the new distribution power line (and pad mounted service transformer) would be located within the east-west permanent access road disturbance area.

3.5.4 SITE PREPARATION

3.5.4.1 Surveying and Staking

LSPGC would survey and mark the centerline at line-of-sight intervals, at points of intersection (including offset stakes marking the edges of the access road ROW), and at all known underground facilities. LSPGC would also clearly mark any sensitive biological, cultural, paleontological, or hydrological resources, where appropriate, to restrict construction activities and equipment from entering these areas.

3.5.4.2 Utilities

Prior to initiating construction, LSPGC would contact Underground Service Alert (USA), also known as USA North 811, to identify underground utilities in the immediate area. There are no existing overhead utilities that would need to be relocated to accommodate the Proposed Project, and it is not anticipated that any underground utilities would be identified along any of the Proposed Project components. In the event underground utilities are identified, LSPGC would work with the owner of those utilities to determine if design changes can be made or if relocation procedures and locations are necessary.

A distribution line would be installed to provide power for construction from the existing PG&E distribution line located along the eastern boundary of the Proposed Project. The distribution line would be installed on approximately 20 wood poles that would be placed on the northern side of the Proposed Project's east-west access road and into the STATCOM Substation. The distribution poles would be approximately 30 to 40 feet in height and would be direct imbedded into the ground (approximately eight to 10 feet) with use of a truck-mounted auger and boom truck. A pad mounted service transformer would also be installed. The distribution line would also serve the STATCOM Substation facility during O&M.

3.5.4.3 Vegetation Clearing

Construction of the STATCOM Substation Facility and stormwater detention basin would require clearing of approximately eight acres of cultivated cropland. Additionally, construction of the new access road and the transmission line poles/towers would require clearing of approximately one acre of cultivated cropland. Vegetation removal would be completed utilizing mechanized removal equipment or by hand using chain saws. Vegetation removal would not occur outside of approved work areas. Following initial clearing, topsoil would be salvaged to a depth of 12 inches, or to actual depth if shallower, for on-site storage and use in site restoration, as appropriate. Salvaged topsoil material would be kept on-site in the immediate vicinity of temporary disturbance areas or at a nearby approved work area to be used in restoration of temporary disturbed areas (including the borrow area), as appropriate.

3.5.4.4 Tree Trimming and Removal

The site would be cleared of the vegetation as discussed in the above section. There are no trees on-site or along the transmission line ROW that would require removal or trimming.

3.5.4.5 Work Area Stabilization

Permanent cut-and-fill slopes for the Proposed Project and access road would be stabilized during construction with best management practices (BMPs) that are outlined in the Proposed Project's Storm Water Pollution Prevention Plan (SWPPP), the BMP Manual, and as discussed in more detail in **Section 4.10, Hydrology and Water Quality**. The SWPPP BMPs would remain in place and would be maintained until new vegetation is established.

3.5.4.6 Grading

Construction of the Proposed Project and associated improvements would require earth-moving activities. Grading, excavation, and material removal quantities anticipated for the Proposed Project based on current information are summarized in **Table 3-3, Proposed Project Grading Summary**. In addition to general earth-moving quantities, approximately four to eight inches of surface gravel would be required to be imported and installed within the Proposed Project footprint for grounding purposes. This material would be imported from a suitable, nearby aggregate source.

Table 3-3: Proposed Project Grading Summary

Grading Description	Quantity (Cubic Yards)	Activity Description
Total Cut	36,000 CY	Excavated earthwork material (Topsoil included)
Total Fill	33,600 CY	Placed and compacted material (Surfacing included)
Excess Material	2,000 CY	Material to be removed from site
Substation Surfacing and Flexible Base	12,000 CY	Gravel to be imported (included in total fill four to eight inches)
Staging Area Surfacing and Flex Base	2,000 CY	Gravel to be imported (included in total fill four to eight inches)
Access Roads	3,000 CY	Gravel to be imported (included in total fill four to eight inches)
Maximum Cut-Slope Depth	20 feet	Maximum depth of excavation from ground surface
Maximum Fill-Slope	2 feet	Maximum height of filling from ground surface

Generally, grading and excavation would be accomplished in a phased approach. Earthwork activities (e.g., grading, excavation) would be completed such that the site meets the Proposed Project's design specifications and matches proposed grades. During earthwork, soils and other surficial deposits that do not possess sufficient strength and stability to support structures would be removed from the work area. Removal would typically extend to competent materials with high mechanical strength, resistant to erosion and deformation. Material that requires processing would be mechanically processed on-site to achieve a maximum particle size and distribution suitable for conventional placement in engineered fills.

As a result of the grading, approximately 2,000 cubic yards of fill would be hauled off site. In addition to general earthmoving quantities, approximately four to eight inches of surface gravel would be required to be imported and installed within the STATCOM Substation footprint for grounding purposes. This material would be imported from a suitable, nearby aggregate source. All clean spoils excavated by the Proposed Project would be used on-site to balance cut and fill calculations, as feasible. All spoils that are not useable and/or contaminated would be sent to a properly licensed landfill facility. All recyclables would be taken to a licensed recycle facility, and all refuse would be taken to Avenal Landfill or another suitable landfill facility.

3.5.5 TAKE-OFF TOWER CONSTRUCTION

3.5.5.1 Take-Off Towers

As previously described, the STATCOM Substation facility would connect to the PG&E Gates Substation via two approximately 550-foot transmission interconnection lines, constructed and supplied by PG&E, from the future PG&E dead-end structures to the Proposed Project's take-off towers.

The Proposed Project's 500 kV take-off towers would be installed on concrete pier foundations. Large augers and drill rigs would complete the required excavations and, if necessary, a reinforcing steel rebar cage would then be lowered into the excavation. An approximately 30-

foot-tall form would be constructed, and concrete would then be poured to fill the excavation. Each completed foundation would be left to cure for approximately 28 days.

Typical equipment used for power pole installation includes truck-mounted augers and drills to excavate the holes. When foundations are needed, concrete trucks supply and pour concrete into installed holes. Cranes are used to lift and place new poles/towers into the newly installed holes or foundations. Cranes and/or bucket trucks lift workers into elevated positions to work on newly installed poles or towers. Crew cab and pickup trucks are used to transport workers and tools to each installation site. Water trucks and portable water tanks are used to minimize fugitive dust during excavation and restoration activities.

3.5.5.2 Telecommunications

The telecommunication lines would be installed using open-cut trenching techniques. Prior to trenching, other utility companies would be notified to locate and mark existing underground utilities along the proposed underground alignment. Exploratory excavations (i.e., potholing) would also be conducted to verify the locations of existing facilities in the ROW. Coordination with the county of Fresno would also occur in order to secure encroachment permits for trenching in the county ROW, as required. It is anticipated that between one lane of West Jayne Avenue would occasionally be closed during trenching activities. During lane closures, traffic controls would be implemented, as required by the encroachment permit.

Trenching operations would be staged in intervals so that only a maximum of 500 feet of trench (or as allowed by permit requirements) would be left open at any one time. The fill generated by excavation activities would be transported to an approved disposal site. At any one-time, open trench lengths would not exceed those required to facilitate the installation of the telecommunication lines. Steel plating, tack welded and secured to the road, would be placed over the trenches to maintain vehicular traffic across areas that are not under active construction.

The typical trench dimensions for installation of the telecommunication lines would be two to three feet deep and approximately one to two feet wide. Depths may vary depending on soil stability and the presence of existing substructures. The trench would be widened and shored, where necessary, to meet California Occupational Safety and Health Administration (Cal/OSHA) requirements. If trench water is encountered, trenches would be dewatered using a portable pump, and the water would be disposed of in accordance with acquired permits.

The telecommunication lines would typically be housed in one five-inch diameter Polyvinyl chloride (PVC) conduit, which would be directly buried in the trench. Once PVC conduit is installed the trench would be backfilled and compacted as required. Where the cable trench crosses other substructures that operate at normal soil temperature (e.g., gas lines, telephone lines, water mains, storm drains, and sewer lines), a minimal radial clearance of 12 inches would be required. In instances where the cable trench would be installed parallel to other substructures, a minimum radial clearance of 24 inches would be required.

3.5.5.3 Guard Structures

The use of guard structures is not anticipated for the construction of the STATCOM Substation facility, take-off towers, or any other ancillary component.

3.5.6 STATCOM SUBSTATION

3.5.6.1 Facility Installation

Construction of the STATCOM Substation units would occur in a phased approach beginning with site preparation and grading of the site, then installation of foundations and underground equipment, and lastly installation and testing of electrical equipment. Prior to clearing and grubbing, all necessary surveys, marking, and installation of stormwater management features (e.g., silt fence, fiber rolls, etc.) would be completed. In addition, fencing driveways and gates would be installed (some on a temporary basis) to provide site security during construction activities. Following construction, temporary disturbance areas would typically be re-contoured to match pre-construction grades.

Following site preparation and grading, all necessary below-grade construction including structure and equipment foundations, underground ducts, ground grid, and construction of the control enclosure would begin. Once all earthwork and below-grade work is completed, major equipment and structures would be installed and anchored on their respective foundations. It is anticipated that all major electrical and STATCOM Substation equipment such as power transformers, reactors, power circuit breakers, control enclosure and reactors would be delivered to the STATCOM Substation footprint and placed directly on the previously constructed foundations. Other STATCOM Substation equipment such as air disconnect switches, instrument transformers, transmission structures, insulators, conductors, rigid bus, connectors, conduit, cable trench, rebar, etc., would be received and temporarily stored at the staging area prior to installation. Transmission interconnection line terminations and distribution connections would be completed inside the STATCOM Substation facility following final installation of the substation structures and equipment.

3.5.6.2 Civil Works

The Proposed Project's civil works efforts include construction of the stormwater detention basin and conveyance system. As discussed in **Section 3.3.4.1, STATCOM Substation**, the substation pad would be graded to drain directly toward the approximately 1,250-cubic-yard stormwater detention basin. Construction of the stormwater detention basin would involve excavating the area with a bulldozer or excavator. Water trucks would be used to control dust, if necessary. The excess soil would be placed within the borrow area.

The earthen stormwater detention basin would not be lined, allowing for infiltration and groundwater recharge. The conveyance system directing runoff from the substation pad to the stormwater detention basin would be lined.

3.5.7 PUBLIC SAFETY AND TRAFFIC CONTROL

3.5.7.1 Public Safety

The Proposed Project site is located within a rural, agricultural area with the closest resident located approximately 1.8 miles away. The active construction and staging area would be fenced at all times and would restrict public access to the site. In addition, all open holes or trenches would be covered at the end of the day to protect construction workers as they leave and enter the Proposed Project site. Public safety, with regards to traffic controls on West Jayne Avenue, are discussed below.

3.5.7.2 Traffic Control

No sidewalks, trails, paths or driveways would be impacted by the Proposed Project. Traffic control procedures may be implemented intermittently along West Jayne Avenue during construction and times of deliveries. Potentially, one lane may need to be closed along West Jayne Avenue when the telecommunication line is installed and when equipment is being delivered to the Proposed Project site. These restrictions would be temporary, and detours are not anticipated to be necessary. Flaggers or other traffic control measures would be utilized to guide traffic around active work areas in a safe manner. All traffic-control plans and encroachment permits would be reviewed and approved by the county of Fresno and would be provided to the CPUC prior to implementation.

3.5.7.3 Security

The STATCOM Substation physical security would be designed in accordance with North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) requirements with 24/7 monitoring, response, and control through the LSPGC control center and staff. The Proposed Project would include a perimeter physical security system consisting of an eight-foot chain link security fence with an additional one-foot barbed wire extension at the top. The perimeter security fence would have two gates integrated with electronic access card readers. Each gate would be 24 feet wide. Access to the STATCOM Substation facility would be restricted through the use of electronic access cards. Access to the control enclosure would be further restricted with monitored entry, an automatic electronic locking mechanism, and a two-factor authentication consisting of an electronic access card and a personal code entered on a keypad. The STATCOM Substation design would include indoor and outdoor physical security cameras placed throughout the site with at least two of the cameras placed around the exterior of the control house. The security cameras would be routed through a network video recorder located in the WAN control panel and communicated to the LSPGC control center for monitoring.

STATCOM Substation lighting would be photocell controlled and provide illumination for security. Light fixtures would be located near major outdoor equipment, general substation areas and building exteriors. Seventy-two-watt LED lights would be mounted on A-frames, H-frames and Shield wire poles, structures, poles, and supplementary buildings as required. The general illumination level in the substation would be two-foot candles. The illumination level for equipment such as disconnect switches, operating mechanisms and transformer control cabinets shall be no less than two-foot candles.

3.5.8 DUST, EROSION, AND RUNOFF CONTROLS

3.5.8.1 Dust

During construction, migration of dust from the construction sites would be limited by control measures set forth by the Applicant Proposed Measures (APM) outlined in **Section 4.3, Air Quality**. These measures may include the use of water trucks and other dust control measures, including the application of non-toxic soil binders. In addition, LSPGC would prepare a Dust Control Plan (Rule 8120) that would be reviewed and approved by the San Joaquin Valley Air Pollution Control District. Rule 8120 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on site, and travel on access roads to and from the site.

3.5.8.2 Erosion

The Proposed Project would result in more than one acre of soil disturbance. As a result, the Proposed Project would be required to prepare, file, and implement a SWPPP in accordance with the State's General Permit for Stormwater Discharges Associated with Construction Activities (2009-009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ). The SWPPP would include measures to limit erosion and off-site transport of pollutants from construction activities. The plan would designate BMPs that would be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport.

3.5.8.3 Runoff

The Proposed Project would also include a stormwater management system consisting of a stormwater drainage and conveyance system and a stormwater detention basin located on the eastern portion of the site. The STATCOM Substation pad would be graded in order to drain stormwater directly into the perimeter drainage ditch that would ultimately convey water to the detention basin. The earthen detention basin would not be lined, allowing for infiltration and groundwater recharge. The approximately 1,250-cubic-yard 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.

3.5.9 WATER USE AND DEWATERING

3.5.9.1 Water Use

Water used for construction activities, such as for dust suppression and compaction requirements, would be trucked in from an off-site location in the city of Huron or city of Coalinga. It is estimated that a total of up to approximately 740,000 gallons of water would be used for construction purposes during the approximately 22-month construction process, the majority of which would be used during the site development and below-grade construction phases. Water used during construction activities would be temporary and minimal and originate from a local source that has the existing capacity to service the Proposed Project's needs. The Proposed Project would truck in water needed for construction from local sources within the city of Huron or the city of Coalinga, which are both provided water via the Westlands Water District. It is not anticipated that recycled, reclaimed water or groundwater would be used to meet the Proposed Project's construction needs. Construction crews would be responsible for providing their own drinking water during construction.

The Proposed Project would not require water sources for O&M activities as the STATCOM Substation facility would be unmanned. LSPGC personnel would be responsible for providing their own drinking water during O&M activities.

3.5.9.2 Dewatering

Groundwater was not encountered during soil borings that were conducted as part of the Proposed Project's Geotechnical Engineering Report (Terracon, 2019), and therefore, dewatering

during construction activities is not anticipated. However, if dewatering is needed, LSPGC would follow all applicable state and federal regulations.

3.5.10 HAZARDOUS MATERIALS AND MANAGEMENT

3.5.10.1 Hazardous Materials

Hazards and hazardous materials are discussed in greater detail in **Section 4.9, Hazards, Hazardous Materials and Public Safety**. Construction of the Proposed Project would require the limited use of hazardous materials, such as fuels, lubricants, cleaning solvents, and chemicals. All hazardous materials would be stored, handled, and used in accordance with applicable regulations. Safety Data Sheets (SDS) would be made available at the construction site for all crew workers. Based on the anticipated volume of hazardous liquid materials, such as fuel, that would be stored and dispensed at a staging area, a Spill Prevention, Control, and Countermeasure (SPCC) Plan would be required (in accordance with applicable provisions of 40 C.F.R. Parts 112.1-112.7). Although not expected, if pre-existing hazardous waste is encountered on the Proposed Project site, it would be removed of and disposed in a manner consistent with all state and federal regulations. It is not anticipated that herbicides or pesticides would be used during construction.

3.5.10.2 Hazardous Materials Management

Hazards and hazardous materials are discussed in greater detail in **Section 4.9, Hazards, Hazardous Materials and Public Safety** section. Prior to construction, a SPCC Plan and Hazardous Materials Management Plan (HMMP) would be prepared describing hazardous materials use, transport, storage, management, and disposal protocols. Construction would not begin until this plan is complete. The plans would be prepared in accordance with relevant state and federal guidelines and regulations (e.g., Cal/OSHA). The HMMP would include the following information related to hazardous materials and waste as applicable:

- A list of hazardous materials present on-site during construction and O&M to be updated as needed along with product SDS and other information regarding storage, application, transportation, and disposal requirements;
- A Hazardous Materials Communication (i.e., HAZCOM) Plan;
- Assignments and responsibilities of Proposed Project Health and Safety roles;
- Standards for any secondary containment and countermeasures that would be required for hazardous materials;
- Spill response procedures based on product and quantity. The procedures would include materials to be used, location of such materials within the Proposed Project area, and disposal protocols; and
- Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction. This would include termination of work within the area of suspected contamination sampling by an OSHA trained individual and testing at a certified laboratory.

3.5.11 WASTE GENERATION AND MANAGEMENT

3.5.11.1 Solid Waste

Solid wastes generated during construction would primarily be non-hazardous wastes including wood, metal, paper, and plastic packaging. Construction debris volumes are estimated at total of approximately 300 cubic yards. Earthwork associated with the Proposed Project would require cut and fill, and excess fill material after completion of grading would be minimal (approximately 2,000 cubic yards). During trenching excavations, the excavated material would be used to backfill when possible and, therefore, there would likely not be excess material. If possible, recyclable construction material would be transported to an approved recycling facility.

Construction waste that cannot be recycled would ultimately be disposed of at the Avenal Regional Landfill or another approved facility. Construction waste would be disposed of properly and in accordance with all applicable federal, state, and local laws regarding solid and hazardous waste including, but not limited to, the California Integrated Waste Management Act of 1989 which has set reduction rates for the amount of solid waste sent to landfills.

3.5.11.2 Liquid Waste

Liquid waste streams anticipated for the Proposed Project primarily include sanitary waste and stormwater runoff. Sanitary waste from self-contained portable toilets would be routinely pumped as needed and would be taken by the vendor to a proper sanitary waste facility for disposal. Stormwater runoff would be managed according to a stormwater management plan and associated SWPPP to comply with any general construction permits and approved by the local regional water quality control board. While groundwater is not anticipated to be encountered, excavation dewatering effluent may be produced. This effluent would be filtered and managed according to the dewatering plan developed as part of the SWPPP. Sanitary waste would be generated at the rate of 50-100 gallons per week per ten workers on-site. Sanitary wastes would be transported by the licensed sanitary waste services for off-site disposal at their contracted treat, store, and dispose facility.

3.5.11.3 Hazardous Waste

As discussed in **Section 3.5.10, *Hazardous Materials and Management***, construction of the Proposed Project would require the limited use of hazardous materials, such as fuels, lubricants, cleaning solvents and chemicals. Additionally, the Proposed Project would include transformers containing mineral oil, which is considered a hazardous material in the state of California. Additional potentially hazardous waste sources during construction include contaminated soils, incidental spill waste, and concrete washout.

Wastes generated or encountered would be handled, contained, and disposed of according to local, state, and federal regulations. In addition, prior to construction, a HMMP would be prepared describing hazardous materials use, transport, storage, management, and disposal protocols. This could include containerization in Department of Transportation approved vessels, review of relevant SDSs, use of secondary containment, and training of material handlers to ensure worker safety and the reduction of cross contamination.

3.5.12 FIRE PREVENTION AND RESPONSE

3.5.12.1 Fire Prevention and Response Procedures

Section 4.9, Hazards, Hazardous Materials, and Public Safety outlines the Proposed Project's fire risk. As described in that section, the Proposed Project is not located within a high fire threat area, as identified by CAL FIRE or the CPUC. However, in order to fully mitigate any potential fire hazards during construction, a project-specific Construction Fire Prevention Plan would be prepared. The Proposed Project includes an APM that identifies the need for a project-specific Construction Fire Prevention Plan that would address construction fire risks and minimization measures.

3.5.12.2 Fire Breaks

During construction activities that are considered "hot work" (e.g., welding, grinding, or any other activity that creates hot sparks), LSPGC would implement a ten-foot buffer around that activity, and vegetation would be cleared to ensure sparks do not create a fire hazard. For activities that do not produce sparks but still have potential to produce a fire hazard such as ground rod or ground wire installation, LSPGC would implement a five-foot buffer to be cleared of vegetation, and additional details (i.e., handling sparks) will be provided in the Construction Fire Prevention Plan.

Under Section 35 of General Order 95, the CPUC regulates all aspects of design, construction, and O&M of electrical power lines and fire safety hazards for utilities subject to their jurisdiction (CPUC, 2020). In addition, Fire Prevention Standards for Electric Utilities (California Code of Regulations [CCR] Title 14, sections 1250-1258) provide definitions, maps, specifications, and clearance standards for projects under the jurisdiction of California Public Resources Code (PRC) sections 4292 and 4293 in State Responsibility Zones. LSPGC would create a fire break around the STATCOM Substation in accordance with all applicable state and federal regulations.

3.6 CONSTRUCTION WORKFORCE, EQUIPMENT, TRAFFIC, AND SCHEDULE

3.6.1 CONSTRUCTION WORKFORCE

Construction of the STATCOM Substation facility and interconnection transmission lines is expected to occur simultaneously. The construction workforce and equipment deployed for the Proposed Project would be typical for similar transmission line and substation construction projects of this size. The peak employment is anticipated to be 20 workers, but on average, the workforce on site would be less. The workers would likely commute from the greater Fresno area.

Table 3-4, Construction Equipment and Workforce lists the expected equipment and personnel by construction activity as well as a brief construction work plan summary for each activity. It also lists the uses of the equipment for each construction phase. This information is preliminary and not all equipment and personnel listed may be used during all portions of each specified activity. Additional personnel or other equipment may be identified during final project design or implemented during construction as needed, based on site conditions.

3.6.2 CONSTRUCTION EQUIPMENT

The equipment that would be used to construct each Proposed Project component, along with its approximate duration of use, is provided in **Table 3-4, Construction Equipment and Workforce**. In addition, a full list of equipment that would be used during construction is outlined and is provided in **Table 3-5, Anticipated Construction Equipment**. As shown in **Table 3-4, Construction Equipment and Workforce**, it is anticipated that a maximum of up to approximately 20 workers would be employed for the site development phase of the Proposed Project. Between 15 and 20 workers are expected during the foundation and below-grade work, as well as the construction of the Proposed Project. Final testing and checkout would require five to ten electricians and/or engineers.

Table 3-4: Construction Equipment and Workforce							
Work Activity				Activity Production			
Equipment Description	Estimated Horsepower	Probable Fuel Type	Equipment Quantity	Estimated Workforce	Estimated Start Date	Estimated End Date	Duration of Use, Hrs./Day
Survey							
Pickup - 1/2 Ton	395	Diesel	1	2-3	March 2022	August 2022	2
Road Work							
Truck - Water 4K	300	Diesel	4	5-10	March 2022	April 2022	10
Loader - 4-5Yd	275	Diesel	1				10
Truck - Dump 10-12 Yd	415	Diesel	4				5
Motor Grader	250	Diesel	1				10
Roller	405	Diesel	1				10
Pickup - 1/2 Ton	395	Diesel	1				2
Site and Staging Preparation							
Truck - Water 4K	300	Diesel	4	10	March 2022	May 2022	10
Loader - 4-5Yd	275	Diesel	1				10
Truck - Dump 10-12 Yd	415	Diesel	4				5
Motor Grader	250	Diesel	1				10
Roller	405	Diesel	1				10
Pickup - 1/2 Ton	395	Diesel	1				2
Pickup - 1 Ton	410	Diesel	1				2
Below-Grade Construction							
Truck - Water 4K	300	Diesel	4	20	June 2022	August 2022	10

Table 3-4: Construction Equipment and Workforce

Work Activity				Activity Production			
Equipment Description	Estimated Horsepower	Probable Fuel Type	Equipment Quantity	Estimated Workforce	Estimated Start Date	Estimated End Date	Duration of Use, Hrs./Day
Excavator	108	Diesel	1				10
Forklift - 8-9K Reach	100	Diesel	1				4
Backhoe - 2X4	68	Diesel	1				5
Pickup - 1/2 Ton	395	Diesel	3				2
Pickup - 1 Ton	410	Diesel	2				2
Excavator – Mini	70	Diesel	1				5
Loader - 4-5Yd	275	Diesel	1				10
Pressure Digger - Lo-Drill (Tracked)	125	Diesel	1				10
Truck - Dump 10-12 Yd	415	Diesel	1				8
Trencher	75	Diesel	1				5
Skid steer loader	74	Diesel	1				10
Above-Grade Construction and Equipment Installation							
Pickup - 1/2 Ton	395	Diesel	3	20	September 2022	August 2023	2
Pickup - 1 Ton	410	Diesel	2				2
Welding Truck	395	Diesel	1				2
17 Ton Crane	250	Diesel	1				10
30 Ton Crane	130	Diesel	1				5
10K Reach Forklift	130	Diesel	1				5
15,000LB Forklift	130	Diesel	1				4
40' Manlift	49	Diesel	1				4
120' Manlift	74	Diesel	1				4
Commissioning and Testing							
Pickup - 1/2 Ton	395	Diesel	3	5 to 10	June 2023	December 2023	2
Pickup - One Ton	410	Diesel	2				2
10K Reach Forklift	130	Diesel	1				5

Table 3-4: Construction Equipment and Workforce

Work Activity				Activity Production			
Equipment Description	Estimated Horsepower	Probable Fuel Type	Equipment Quantity	Estimated Workforce	Estimated Start Date	Estimated End Date	Duration of Use, Hrs./Day
15,000LB Forklift	130	Diesel	1				4
40' Manlift	49	Diesel	1				4

Table 3-5: Anticipated Construction Equipment

Equipment Type	Equipment Use
Air compressors	Operate air tools
Asphalt grinder	Grind asphalt
Backhoe	Excavate trenches
Bobcat	Excavate trenches
Boom truck	Access poles and other height-restricted items Lift/set steel
Boom truck with trailer	Deliver steel, disc, panels and insulators
Bucket truck/manlift	Set steel Install equipment Use as guard structure
Bulldozer	Grade pads and access road Demolition Excavate and backfill walls
Bull wheel tensioner	Control conductor at pulling tension during pulling operation
Cable dolly	Pull cable
Cable dolly (trailer)	Transport reels of conductor (no engine; can be pulled by assist truck)
Compactor	Compact soil Clear/grub/finish
Concrete truck	Transport and process concrete
Crane	Lift, position structures
Drilling rig/ Truck-mounted augur	Excavate for direct-bury and micropile poles Excavate trenches
Dump truck	Haul excavated materials/import backfill, as needed
Excavator	Excavate soils/materials (trenching)
Forklift	Transport materials at structure sites and staging area
Grader	Road construction and maintenance
Jackhammer	Break concrete and asphalt
Line truck	Install clearance structures Pull cables/connections
Loader	Demolition Load dump trucks
Pickup trucks	Transport construction personnel
Portable generators	Operate power tools

Table 3-5: Anticipated Construction Equipment

Equipment Type	Equipment Use
Pulling rig	Pull conductor into position or duct and secure it at the correct tension
Reel trailer	Feed new conductor to the pulling and tensioner Collect old conductor
Relay/Telecommunication van	Transport and support construction personnel
Roller	Repair streets
Scraper	Grade pads and access roads
Splice trailer	Store splicing supplies
Tool van	Tool storage
Tractor/Trailer Unit	Transport materials at structure sites and staging area
Trencher	Trenching for underground telecommunication line
Wire truck	Hold spools of wire
Water truck	Provides water for dust suppression and other construction needs.

In addition to use of the equipment identified above, pick-up trucks and construction worker vehicles are anticipated to travel daily to and from the work areas for each component of the Proposed Project. It is anticipated that additional maintenance and/or delivery trucks would travel to and from the staging areas between two and three times per week, or up to four times per week during peak activities.

3.6.3 CONSTRUCTION TRAFFIC

All construction vehicles and equipment would enter the Proposed Project area on West Jayne Avenue. Vehicles would turn onto the north-south access road from West Jayne Avenue. Although some disruption to traffic flow may occur when trucks ingress or egress from the north-south access road, such events would be periodic and temporary. Signage and/or flagmen would be used to reduce potential disruptions to traffic flow and to maintain public safety during construction. Parking of worker vehicles would occur within the staging area adjacent to the STATCOM Substation facility. As truck traffic would occur on a county-maintained roadway, a county of Fresno Traffic Control Permit and traffic control plan may be required. Implementation of a traffic control plan (**APM TRA-1**) required would further reduce impacts to traffic congestion.

The peak vehicle trips would be from approximately March 2022 through August 2022 during the earthwork and grading of the Proposed Project (e.g., site development and below-grade construction activities) due to the hauling away or importation of fill. Total maximum daily vehicle trips (i.e., roundtrips) during this time period would be approximately 45 per day, consisting of approximately 25 truck trips and 20 worker trips. Maximum daily truck trips include approximately 18 dump trucks (14 rock deliveries and 4 excess material haul off), four water trucks, and three equipment delivery trucks. Other periods of the Proposed Project duration would have lower average worker vehicle trips and would, therefore, have correspondingly lower impacts. **Table 3-6, Estimated Average Daily Construction Traffic**, outlines the average daily truck and worker-related vehicle trips, as well as the vehicles miles traveled per construction phase.

Table 3-6: Estimated Average Daily Construction Traffic

Construction Phase	Average Daily Truck Trips	Average Daily Worker Trips	Average Daily Truck VMT ¹	Average Daily Worker VMT ²	Total Daily Average VMT
Site Development (includes survey, road work, site and staging yard preparation)	15	8	600 miles	800 miles	1,400 miles
Below-Grade Construction	10	15	400 miles	1,500 miles	1,900 miles
Above-Grade Construction and Equipment Installation	5	15	200 miles	1,500 miles	1,700 miles
Commissioning and Testing	5	5	200 miles	500 miles	700 miles
¹ VMT based on a 20 mile radius for all truck trips.					
² VMT based on a 50 mile radius for all worker trips.					

Vehicle trips generated by construction personnel would generally occur with workers arriving at the site in the morning and leaving the site at the end of the day, with limited worker-related trips to or from the worksite during the course of the day. Construction activities would occur Monday through Saturday during daylight hours. To reduce the potential number of daily worker-related vehicle trips to and from the site, LSPGC would encourage carpooling from their respective places of employment or meet at a Park and Ride parking lot to the greatest extent possible.

3.6.4 CONSTRUCTION SCHEDULE

LSPGC estimates that construction of the Proposed Project would take a total of approximately 22 months to complete, depending upon unforeseen/unpredictable factors such as weather. Construction is scheduled to begin in March 2022 and run through December 2023. The complete construction schedule, outlined by task, is summarized in **Table 3-7, Proposed Construction Schedule**.

Table 3-7: Proposed Construction Schedule

STATCOM Substation	Start Date	End Date	Number of Workdays
Site Development (includes survey, road work, site and staging yard preparation)	03/2022	05/2022	90
Below-Grade Construction	06/2022	08/2022	90
Above-Grade Construction and Equipment Installation	09/2022	08/2023	360
Commissioning and Testing	06/2023	12/2023	210

3.6.5 WORK SCHEDULE

Construction activities on the Proposed Project would generally be scheduled to occur during daylight hours six days per week (Monday through Saturday). Night work is not anticipated to be necessary, but in case it is required, Fresno County and CPUC approval would be obtained. Construction activities could infrequently be scheduled outside of these hours to avoid or reduce

schedule delays, complete construction activities, such as continuous concrete pours, to accommodate the schedule for system outages, or to address emergencies.

3.7 POST-CONSTRUCTION

3.7.1 COMMISSIONING AND TESTING

Commissioning and testing would begin with pre-commissioning activities that include equipment fit-up inspections and simple electrical tests to ensure the equipment is connected properly. After pre-commissioning, the first commissioning activities would include transformer energization followed by auxiliary electrical tests. After confirmation that the transformer and medium voltage electrical system are working properly, functional tests would begin on the STATCOM to ensure the power electronic devices operate as designed. This includes various performance tests to ensure the STATCOM is able to meet all necessary electrical output. While running these tests, the STATCOM cooling system would be tested to confirm adequate cooling of the power electronic devices. Lastly, the power electronic devices and protection/control system would be tested and programmed per the project requirements. After this, the Proposed Project would be ready for energization.

Commissioning and testing would require the use of pick-up trucks, forklifts, and manlifts and would utilize approximately five to 10 construction personnel to be on-site. Commissioning and testing of the Proposed Project would take approximately seven months between June 2023 and December 2023, for a total duration of 210 days, at which point the Proposed Project would be fully functional and ready for commercial operation.

3.7.2 LANDSCAPING

The Proposed Project is located within an active agricultural area adjacent to an existing substation facility with no nearby residences. Therefore, LSPGC is not proposing any landscaping at the entrance or around the STATCOM Substation facility.

3.7.3 DEMOBILIZATION AND SITE RESTORATION

3.7.3.1 Demobilization

Following completion of construction, the process of demobilization would begin. First, all equipment not needed for the remaining testing and revegetation would be removed. Next, all temporarily disturbed work areas would be restored to their pre-construction conditions. See below for site restoration details.

3.7.3.2 Site Restoration

LSPGC would restore all areas (including the borrow area) that are temporarily disturbed by the Proposed Project activities to approximate pre-construction conditions. All areas would be carefully assessed to be sure all residual construction debris and waste is removed and transported off-site to an approved disposal facility. Any types of Proposed Project waste materials that are routinely recycled would be recycled in an appropriate fashion at an approved disposal facility. LSPGC would conduct a final inspection to ensure that cleanup activities are successfully completed as required. Areas that are disturbed by grading, augering, or equipment movement would be restored to their original contours and drainage patterns. Work areas would

be decompacted, and salvaged topsoil materials would be re-spread following recontouring to aid in restoration of temporary disturbed areas. Revegetation activities would be conducted in accordance with the Proposed Project SWPPP and APMs recommended herein. Restoration could include recontouring, reseeding and planting replacement vegetation, as appropriate. Additional restoration opportunities could include preparing the site for future utility uses. Erosion control measures may be required and would also be implemented in accordance with the Proposed Project SWPPP and APMs recommended herein.

3.8 OPERATION AND MAINTENANCE

3.8.1 REGULATIONS AND STANDARDS

O&M of the Proposed Project would be conducted in accordance with all applicable Federal Energy Regulatory Commission (FERC), NERC, California Public Utilities Commission (CPUC), or CAISO requirements. Any O&M work (e.g., high voltage capital repair or replacement) would also be conducted in accordance with NESC, National Electrical Code (NEC), OSHA and other applicable regulations and standards. Furthermore, since the Proposed Project is not located within a high fire threat area, as identified by California Department of Forestry and Fire Protection (CAL FIRE) or the CPUC, a Wildfire Management Plan is not required for O&M activities.

3.8.2 SYSTEM CONTROLS AND OPERATION STAFF

Because the Proposed Project would be unstaffed, the STATCOM Substation facility would be remotely monitored by LSPGC's control center, which is staffed 24 hours a day, seven days a week. If equipment malfunctions, O&M personnel would be dispatched to the site to investigate the problem and take appropriate corrective action. The Proposed Project would be operated by LSPGC's control center in Austin, Texas and LSPGC's local maintenance/technical staff, utilizing other existing LSPGC staff and outside resources for maintenance and emergency response. The Proposed Project would be incorporated into LSPGC's existing programs with existing equipment, experienced staff, and trusted contractors to provide operational and cost efficiencies with reduced risks. The STATCOM Substation would be unmanned during O&M. The Proposed Project would also be monitored by CAISO's control center in Folsom, California, and CAISO would have operational control of the STATCOM Substation facility with authority to direct LSPGC's control center.

LSPGC currently has five staff in its transmission maintenance group with an average experience of over 15 years. One additional local, California-based field personnel would also be added in 2023 to support maintenance of the facilities. LSPGC would also have a local, California-based electrical engineer available to support any technical aspects of the Proposed Project. Day-to-day management of the Proposed Project would be by LSPGC's asset management teams based in Texas and Missouri.

3.8.3 INSPECTION PROGRAMS

In general, monthly inspections would be performed on the STATCOM Substation to inspect each required piece of equipment and check that no obvious abnormalities exist. This would be performed at the highest extent possible without taking the STATCOM Substation out of service. It is anticipated that the STATCOM Substation facility would be taken out of service to perform more extensive checks and maintenance on the main components of the facility on an annual basis. Due to the diversity of equipment and the individual system components, a small,

specialized team would execute the varying degrees of monthly and annual maintenance requirements. Inspection and maintenance would be performed by a small crew of one to two high voltage technicians and one to two personnel provided by the equipment vendor with support provided by LSPGC staff.

3.8.4 MAINTENANCE AND OPERATIONS PROGRAMS

Once construction is complete, the Proposed Project would be unattended on a typical daily basis. The STATCOM Substation facility would be monitored and controlled by LSPGC's Remote Control Centers, so no new full-time staff would be required for O&M of the facilities. A perimeter fence would enclose the Proposed Project, and all access gates would be locked to prevent the entry of unauthorized individuals. Access would be restricted further by posting signage on the exterior and at the entryway to the STATCOM Substation facility.

LSPGC would regularly inspect, maintain, and repair the Proposed Project and access roads following completion of Proposed Project construction. Typical O&M would involve routine inspections and preventive maintenance to ensure service reliability, as well as emergency work to maintain or restore service. LSPGC would perform aerial and ground inspections of the Proposed Project facilities and patrol above-ground components annually.

Routine maintenance is expected to require approximately six trips per year by crews composed of two to four people. Routine operations would require one or two workers in a light utility truck to visit the Proposed Project on a monthly basis. It is anticipated that one annual major maintenance inspection would occur, requiring an estimated crew of two to four personnel. This inspection would take approximately one week to complete. Nighttime maintenance activities are not expected to occur more than once per year.

3.8.5 VEGETATION MANAGEMENT PROGRAMS

In accordance with fire break clearance requirements in PRC 4292 and Title 14, Section 1254 of the CCR, LSPGC would trim or remove flammable vegetation in the area surrounding the Proposed Project site, interconnection transmission line, and distribution poles to reduce potential fire and other safety hazards. One-person crews typically conduct this work using mechanical equipment consisting of weed trimmers, rakes, shovels, and leaf blowers. LSPGC would typically inspect the STATCOM Substation facility on an annual basis to determine if brush clearing is required.

The PG&E Gates Substation that is located to the south of the Proposed Project would also be subject to the regulations described above. PG&E actively removes all vegetation from their property, within and outside the established fence-line. The combination of LSPGC and PG&E's vegetation management activities would ensure a continuous defensible area around both facilities.

3.9 DECOMMISSIONING

3.9.1 DECOMMISSIONING

Prior to removal or abandonment of the facilities, LSPGC would prepare a removal and restoration plan. The removal and restoration plan would address removal of the STATCOM Substation facility from the permitted area, any requirements for restoration and revegetation, and the

potential preparation of the property for future utility uses. The removal and restoration plan would then be approved by the CPUC before implementation.

3.10 ANTICIPATED PERMITS AND APPROVALS

3.10.1 ANTICIPATED PERMITS AND APPROVALS

The CPUC is the lead California agency for this Proposed Project. LSPGC must comply with CPUC's GO 131-D Section III-B, which contains the permitting requirements for construction of the Proposed Project (CPUC, 1995). This Proponent's Environmental Assessments (PEA) was prepared as part of an application to obtain a Permit to Construct (PTC) for the Proposed Project. In addition to the PTC, LSPGC may be required to obtain several other permits from federal, state, and local agencies. **Table 3-8, *Anticipated Permits and Approvals*** lists the permits, approvals, and licenses that LSPGC anticipates obtaining from jurisdictional agencies.

Table 3-8: Anticipated Permits and Approvals

Agency	Permit/ Approvals¹	Permit Trigger	Application Process	Timing
Fresno County	Encroachment and Traffic Control Permit	Construction within the public right-of-way, specifically within West Jayne Avenue.	Submit encroachment permit application to County of Fresno for review and approval.	Prior to the start of construction within the Public ROW
Fresno County	Building and Grading Permits (non-discretionary)	Construction of the control enclosure (building permit) and grading/fill for STATCOM Substation pad (grading permit)	Submit grading and/or permit application to County of Fresno for review and approval.	Prior to the start of construction of the STATCOM Substation.
Fresno County	Subdivision Map Act	Authorization to subdivide private property.	Submit parcel map waiver application to County of Fresno for review and approval.	Prior to the issuance of the Project's Notice to Proceed.
Fresno County	Williamson Act Review	Construction of project on land subject to a Williamson Act contract.	<p>One of four options, to be determined by Fresno County and applicant.</p> <p>a. Compatibility determination from County staff.</p> <p>b. Board of Supervisors cancellation of contract as applied to project site by approval of petition for cancellation.</p> <p>c. Eminent domain: after CPUC approval of Proposed Project, LSPGC must make resolution of necessity and commence eminent domain process pursuant to California law.</p> <p>d. Eminent domain in lieu: after CPUC approval of the Proposed Project, landowner sells property to LSPGC in lieu of condemnation.</p>	Prior to start of construction.

¹ Permits/approvals listed below are potentially required and do not necessarily represent a comprehensive list of all possible permits/approvals required for the proposed project.

Table 3-8: Anticipated Permits and Approvals

Agency	Permit/ Approvals¹	Permit Trigger	Application Process	Timing
San Joaquin Valley Air Pollution Control District (SJVAPD)	Rule 9510, Indirect Source Review	Rule 9510 requires development projects exceeding listed square footage thresholds to submit air impact assessment applications when applying for a final discretionary approval from a public agency. Projects that have a mitigated baseline at or above two tons per year of NOx and two tons per year of PM10 must satisfy additional mitigation requirements. These include mitigating exhaust emissions from construction equipment greater than 50 horsepower (hp) to 20% below statewide average NOx emissions and 45% below statewide average PM10 exhaust emissions. Such projects must also reduce baseline emissions of NOx and PM10 emissions associated with operations by 33.3% and 50%, respectively, over a period of 10 years (Lowe-Leseth and Hafer, 2005).	Application forms need to be prepared and submitted to the SJVAPD.	Prior to applying for a final discretionary approval.
San Joaquin Valley Air Pollution Control District	Rule 8021 - Dust Control Plan	Rule applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on site, and travel on access roads to and from the site.	Dust Control Plan needs to be prepared and submitted to the SJVAPD.	Prior to the start of construction.

Table 3-8: Anticipated Permits and Approvals

Agency	Permit/ Approvals ¹	Permit Trigger	Application Process	Timing
State Water Resources Control Board (SWRCB)	Section 401 of the Federal Clean Water Act, National Pollutant Discharge Elimination System General Permit for Discharge of Construction Related Storm Water	As directed by the State Water Resources Control Board, monitor development and implementation of SWPPPs and other aspects of the National Pollutant Discharge Elimination System permit and 401 certification program. SWPPPs are required for storm water discharges associated with construction activities that disturb more than one acre of land.	Prepare SWPPP and submit Notice of Intent with the SWRCB.	Prior to the start of construction.
California Public Utilities Commission (CPUC)	California Public Utilities Code Section 1001 et seq. and CPUC General Order No. 131-D Permit to Construct (PTC)	Compliance with General Order 131-D for substation and transmission line facilities and CEQA review and overall approval of the proposed project, including approval of a Permit to Construct.	Submit PTC Application and Proponents Environmental Assessment to CPUC. The CPUC would initiate the CEQA process and make a proposed and final PTC ruling.	Prior to the start of issuance of the Project's PTC.

3.10.2 RIGHTS-OF-WAY OR EASEMENT APPLICATIONS

LSPGC would acquire approximately 20 acres of land through the purchase of a portion of a single, privately-owned parcel, which is approximately 230 acres, for construction and O&M of the Proposed Project. The approximately 210 acres that remain within this larger parcel would retain its agricultural use and public access rights and would not be physically constrained as a result of the land transaction. LSPGC would obtain the entirety of the 20-acre parcel despite the fact that only a portion of it is required for O&M of the Proposed Project.

In addition to the land purchase transaction, the following discussion describes the land and ROW or easement requirements for each Proposed Project component. These requirements are also summarized in **Table 3-9, Permanent Land and ROW Requirements**.

Table 3-9: Permanent Land and ROW Requirements

Proposed Project Component	Approximate Length (feet)	Approximate Area (acres)
North-South Access Road (including the telecommunication line)	2,900	1.35
Source: LSPGC Table contents based upon preliminary engineering and are subject to change.		

As identified above, the Proposed Project would require a new easement from PG&E for the access road along the eastern border of the PG&E Gates Substation property boundary, and LSPGC would grant PG&E an easement for the minor section of the 500 kV interconnection lines that would extend beyond the property line into the Proposed Project site. The easement for the Proposed Project's access road would include rights for the underground telecommunication line. Because PG&E is subject to the jurisdiction of the CPUC, it must also comply with Public Utilities Code Section 851. Among other things, this code provision requires PG&E to obtain CPUC approval of leases and licenses to use PG&E property, including ROW granted to third parties. Obtaining CPUC approval for a Section 851 application requires compliance with CEQA. LSPGC, in conjunction with PG&E, would file a Section 851 application concurrently with the Proposed Project's PTC application.

3.11 APPLICANT PROPOSED MEASURES

3.11.1 APPLICANT PROPOSED MEASURES

LSPGC would be responsible for overseeing the assembly of construction and environmental teams that would implement and evaluate the Proposed Project APMs. LSPGC maintains an environmental compliance management program to allow for implementation of the APMs to be monitored, documented, and enforced during each Proposed Project phase, as appropriate. All those contracted by LSPGC to perform this work would be contractually bound to properly implement the APMs to ensure their effectiveness in reducing potential environmental effects.

Implementation of the proposed APMs would be the responsibility of the environmental compliance team. The team would include an environmental project manager, resource specialists, and environmental monitors. All APMs would be implemented consistent with applicable federal, state, and local regulations. The environmental compliance team would be responsible for the inspection, documentation, and reporting of LSPGC compliance with all APMs as proposed. As needed, environmental specialists would be retained to verify that all APMs are properly implemented during the construction phase.

The APMs are described in **Table 3-10, Applicant Proposed Measures** and are described in detail in **Section 4.0, Environmental Analysis** which includes an analysis of why the APM was selected and how it would reduce and/or minimize potential impacts. In addition, all applicable CPUC Draft Environmental Measures were included as need to further reduce potential impacts.

If conditions occur where construction may potentially adversely affect a known or previously unknown environmentally sensitive resource, or if construction activities significantly deviate from Proposed Project requirements, LSPGC monitors and/or contract administrators would have the authority to halt construction activities, if needed, until an alternative method or approach can be identified. Any concerns that arise during implementation of the APMs would be communicated to the appropriate authority to determine if corrective action is required, or the concerns would be addressed on site, as applicable. As the proposed APMs are implemented, environmental monitors from LSPGC would be responsible for the review and documentation of such activities. Field notes and digital photographs would be used to document and describe the status of APMs as necessary.

Table 3-10: Applicant Proposed Measures

APM Number	Description
<i>Aesthetics</i>	
APM AES-1	All Proposed Project sites would be maintained in a clean and orderly state. Construction staging areas would be sited away from public view where possible. Nighttime lighting would be directed away from residential areas and have shields to prevent light spillover effects. Upon completion of project construction, project staging and temporary work areas would be returned to pre-project conditions, including re-grading of the site and re-vegetation or re-paving of disturbed areas to match pre-existing contours and conditions.
APM AES-2	Structures and equipment at the proposed STATECOM Substation facility would be a non-reflective finish and neutral gray color.
<i>Agriculture and Forestry Resources</i>	
APM AGR-1	<p>Prior to commencing construction of the Proposed Project, LSPGC must ensure that the Williamson Act contract for the 20-acre portion of the Proposed Project site impacted by the Proposed Project is:</p> <ul style="list-style-type: none"> • Cancelled pursuant to Title 5, Division 1, Part 1, Chapter 7, Article 5 of the California Government Code; • Determined by Fresno County to be consistent with the Proposed Project; or • Nullified via eminent domain or eminent domain in lieu pursuant Title 5, Division 1, Part 1, Chapter 7, Article 6 of the California Government Code
<i>Air Quality</i>	
APM AQ-1	<p>The Proposed Project would ensure that at least 32 percent of all diesel-powered equipment use (tracked as horse-power hours) during construction year 2022 is from equipment that meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards.</p> <p>Prior to the commencement of construction, LSPGC shall develop a diesel-powered equipment use hours tracking tool and procedure. The tracking tool shall be utilized by the Project to keep track of the certified engine tier and daily equipment use hours of all off-road diesel-powered equipment. If all diesel-powered equipment is certified Tier 4, the tracking tool would not be required; however, the Project would be required to verify, record, and track the engine tier of all equipment. The tracking tool shall be maintained by the Project and tracking updates shall be submitted to the CPUC on a monthly basis to track the Project's compliance. Records of the engine tier of all equipment shall be kept onsite and made available to the CPUC upon request.</p>
APM AQ-2	The Proposed Project would comply with SJVAPCD Rule 8021 and would prepare and implement a Dust Control Plan for approval by the SJVAPCD Air Pollution Control Officer (APCO). The Dust Control Plan would include specific dust control measures as prescribed within Rule 8021, or as otherwise requested by the APCO. This plan would be submitted and approved prior to construction.
APM AQ-3	The Proposed Project would comply with AB 203 and provide Valley Fever Awareness training to all construction workers, inspectors, monitors, and any other project personnel that are required to perform work in or near disturbed soils or dust emissions at the Proposed Project site. The Valley

Table 3-10: Applicant Proposed Measures

APM Number	Description
	Fever Awareness training materials would be prepared by a qualified professional, adapted from agency published trainings (CDPH, CDC, etc.), or otherwise produced by a qualified source. The Valley Fever Awareness training would be incorporated into the Proposed Project's overall Worker Environmental Awareness Program (WEAP) training.
Biological Resources	
APM BIO-1	Speed of vehicles driving along proposed access roads and on the Proposed Project site during construction and O&M would be limited to 15 mph. In addition, construction and maintenance employees would be advised that care should be exercised when commuting to and from the Proposed 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 (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 the Proposed Project's 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 or trenches that are not be filled at the end of a workday would be covered, or a wildlife escape ramp would be installed to prevent the inadvertent entrapment of wildlife species.

Table 3-10: Applicant Proposed Measures

APM Number	Description
APM BIO-7	The use of outdoor lighting during construction and O&M would be minimized whenever practicable.
APM BIO-8	A WEAP would be implemented to educate all construction and O&M workers on site-specific biological and non-biological resources and proper work practices to avoid harming wildlife during construction or O&M activities.
Cultural Resources	
APM CUL-1	<p>LSPGC would design and implement a Worker Environmental Awareness Program (WEAP) that would be provided to all Proposed Project personnel who may encounter and/or alter historical resources or unique archaeological properties, including construction supervisors and field personnel. The WEAP would be submitted and approved by the CPUC prior to construction. No construction worker would be involved in ground disturbing activities without having participated in the WEAP. The WEAP would include, at a minimum:</p> <ul style="list-style-type: none"> • Training on how to identify potential cultural resources and human remains during the construction process; • A review of applicable local, state and federal ordinances, laws and regulations pertaining to historic preservation; • A discussion of procedures to be followed in the event that unanticipated cultural resources are discovered during implementation of the Proposed Project; • A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and LSPGC policies; and • A statement by the construction company or applicable employer agreeing to abide by the WEAP, LSPGC policies and other applicable laws and regulations. <p>The WEAP may be conducted in concert with other environmental or safety awareness and education programs for the Proposed Project, provided that the program elements pertaining to cultural resources are provided by a qualified archaeologist.</p>
APM CUL-2	If proposed facilities and ground-disturbing activities move outside the previously surveyed footprint, those areas would be subjected to a cultural resources inventory to ensure that any newly identified cultural resources are avoided by ground disturbing activities.
APM CUL-3	If subsurface prehistoric or ethnohistoric resources are encountered during construction, archaeological and Native American monitoring is recommended during all excavation associated with the Proposed Project. A qualified archaeologist and a member of the Dumna Wo-Wah Tribal Government shall be retained by LSPGC to monitor excavation associated with the Proposed Project to ensure that there is no impact to any significant unanticipated cultural resource. Prior to construction, LSPGC would consult with a designated representative of the Dumna Wo-Wah Tribal Government on the appropriate course of action to be taken should unanticipated cultural materials, and specifically human remains, be discovered during construction.

Table 3-10: Applicant Proposed Measures

APM Number	Description
APM CUL-4	In the event that previously unidentified cultural resources are uncovered during implementation of the Proposed Project, all work within 100 feet (30 meters) of the discovery would be halted and redirected to another location. LSPGC's qualified archaeologist would inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts would occur, the resource would be documented on State of California Department of Parks and Recreation cultural resource records and no further effort would be required. If the resource cannot be avoided and may be subject to further impact, LSPGC would evaluate the significance and CRHR eligibility of the resources and, in consultation with the CPUC, determine appropriate treatment measures. Preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Section 15126.4(b)(3), if it is demonstrated that resources cannot feasibly be avoided, LSPGC's qualified archaeologist, in consultation with the CPUC and, if the unearthed resource is prehistoric or Native American in nature, the Native American monitor, shall develop additional treatment measures, such as data recovery consistent with CEQA Guidelines 15126.4(b)(3)(C)-(D). Archaeological materials recovered during any investigation shall be curated at an accredited curation facility.
APM CUL-5	Avoidance and protection of inadvertent discoveries that contain human remains shall be the preferred protection strategy where feasible and otherwise managed pursuant to the standards of CEQA Guidelines 15064.5(d) and (e). If human remains are discovered during construction or O&M activities, all work shall be diverted from the area of the discovery, and the CPUC shall be informed immediately. The Applicant shall contact the County Coroner to determine whether or not the remains are Native American. If the remains are determined to be Native American, the Coroner would contact the NAHC. The NAHC would then identify the person or persons it believes to be the most likely descendant of the deceased Native American, who in turn would make recommendations for the appropriate means of treating the human remains and any associated funerary objects. No part of the Proposed Project is located on federal land.
Geology, Soils, and Paleontological Resources	
APM GEO-1	<p>The following measures would be implemented during construction to minimize impacts from geological hazards and disturbance to soils:</p> <ul style="list-style-type: none"> • Keep vehicle and construction equipment within the limits of the Proposed Project and in approved construction work areas to reduce disturbance to topsoil; • Prior to grading, salvage topsoil to a depth of six inches or to actual depth if shallower (as identified in site-specific geotechnical investigation report) to avoid mixing of soil horizons; • Avoid construction in areas with saturated soils, whenever practical, to reduce impacts to soil structure and allow safe access. Similarly, avoid topsoil salvage in saturated soils to maintain soil structure;

Table 3-10: Applicant Proposed Measures

APM Number	Description
	<ul style="list-style-type: none"> • Keep topsoil material on-site in the immediate vicinity of the temporary disturbance or at a nearby approved work area to be used in restoration of temporary disturbed areas. Temporary disturbance areas would be re-contoured following construction to match pre-construction grades. Areas would be allowed to re-vegetate naturally or would be reseeded with a native seed mix from a local source if necessary. On-site material storage would be sited and managed in accordance with all required permits and approvals; and • Keep vegetation removal and soil disturbance to a minimum and limited to only the areas needed for construction. Removed vegetation would be disposed of off-site to an appropriate licensed facility or can be chipped on-site to be used as mulch during restoration.
APM GEO-2	The structural requirements of the CBC are applicable to certain structural components of the Proposed Project, including the control enclosures. LSPGC and/or its contractors would design such structures to comply with such CBC standards and shall adhere to and implement all design recommendations and parameters established in the Proposed Project's Supplemental Geotechnical Engineering Report to be prepared and submitted to the CPUC upon completion.
APM PALEO-1	In the unlikely event that fossils are unearthed during earthwork activities (i.e., an inadvertent discovery), earthwork within the vicinity of the discovery shall immediately halt, and a qualified paleontologist should evaluate the discovery. Earthwork shall be diverted until the significance of the fossil discovery can be assessed by the qualified paleontologist. If the fossil discovery is deemed significant, the fossil shall be recovered using appropriate recovery techniques based on the type, size, and mode of preservation of the unearthed fossil. Earthwork may resume in the area of the fossil discovery once the fossil has been recovered and the qualified paleontologist deems the site has been mitigated to the extent necessary. Additional earthwork following the fossil discovery may be monitored for paleontological resources on an as-needed basis, at the discretion of the qualified paleontologist.
APM PALEO-2	Recovered fossils shall be prepared, identified, catalogued, and stored in a recognized professional repository (e.g., the SDNHM, the University of California Museum of Paleontology) along with associated field notes, photographs, and compiled fossil locality data. Donation of the fossils should be accompanied by financial support for initial specimen curation and storage. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils. This report shall be submitted to appropriate agencies, as well as to the designated repository.
Greenhouse Gas Emissions	
APM GHG-1	The following measures shall be implemented to minimize greenhouse gas emissions from all construction sites:

Table 3-10: Applicant Proposed Measures

APM Number	Description
	<ul style="list-style-type: none"> • If suitable park-and-ride facilities are available in the Proposed Project vicinity, construction workers shall be encouraged to carpool to the job site. • Demolition debris shall be recycled for reuse to the extent feasible. • The contractor shall use line power instead of diesel generators at all construction sites where line power is available. • The contractor shall maintain construction equipment per manufacturing specifications.
Hazards, Hazardous Materials, and Public Safety	
APM HAZ-1	<p>A site-specific SPCCP would be prepared prior to the initiation of construction. In the event of an accidental spill, the Proposed Project would be equipped with secondary containment that meets SPCCP Guidelines. The secondary containment would be sufficiently sized to accommodate accidental spills.</p>
APM HAZ-2	<p>A HMMP would be prepared and implemented for the Proposed Project. The plan would be prepared in accordance with relevant state and federal guidelines and regulations (e.g., Cal/OSHA). The plan would include the following information related to hazardous materials and waste, as applicable:</p> <ul style="list-style-type: none"> • A list of hazardous materials present on-site during construction and O&M to be updated as needed along with product Safety Data Sheets and other information regarding storage, application, transportation, and disposal requirements; • A Hazardous Materials Communication (i.e., HAZCOM) Plan; • Assignments and responsibilities of Proposed Project health and safety roles; • Standards for any secondary containment and countermeasures required for hazardous materials; • Spill response procedures based on product and quantity. The procedures would include materials to be used, location of such materials within the Proposed Project area, and disposal protocols; and • Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction. This would include termination of work within the area of suspected contamination sampling by an OSHA trained individual and testing at a certified laboratory. <p>The Proposed Project would also be equipped with lead-acid batteries to provide backup power for monitoring, alarm, protective relaying, instrumentation and control, and emergency lighting during power outages. Secondary containment would be constructed around and under the battery racks, and the HMMP would address containment from a battery leak.</p> <p>The plan would be provided to the CPUC prior to construction for recordkeeping. Plan updates would be made and submitted as needed if</p>

Table 3-10: Applicant Proposed Measures

APM Number	Description
	construction activities change whereas the existing plan does not adequately address the Proposed Project.
APM HAZ-3	In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil shall be tested, and if contaminated above hazardous waste levels, shall be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil shall require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.
APM HAZ-4	<p>LSPGC shall implement ongoing fire patrols during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods. During Red Flag Warning events, as issued daily by the National Weather Service, all construction/maintenance activities shall cease, with an exception for transmission line testing, repairs, unfinished work, or other specific activities which may be allowed if the facility/equipment poses a greater fire risk if left in its current state. Although the Proposed Project area is not located within an area designated as a Very High or High Fire Hazard Severity Zone, LSPGC will prepare a Construction Fire Prevention Plan prior to construction.</p> <p>All construction/maintenance crews and inspectors shall be provided with radio and cellular telephone access that is operational in all work areas and access routes to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction/maintenance activities at each work site. All fires shall be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition. All construction/maintenance personnel shall be trained in fire-safe actions, initial attack firefighting, and fire reporting. All construction/maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. All construction/maintenance personnel shall carry at all times a laminated card and be provided a hard hat sticker that list pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on laminated contact cards and hard hat stickers shall be updated and redistributed to all construction/maintenance personnel and outdated cards and hard hat stickers shall be destroyed prior to the initiation of construction/maintenance activities on the day the information change goes into effect.</p> <p>Construction/maintenance personnel shall have fire suppression equipment on all construction vehicles. Construction/maintenance personnel shall be required to park vehicles away from dry vegetation. Water tanks, fire extinguishers, and/or water trucks shall be sited or available at active project sites for fire protection during construction. The Applicant shall coordinate with applicable local fire departments prior to construction/maintenance activities to determine the appropriate amounts of fire equipment to be carried on vehicles and, should a fire occur, to coordinate fire suppression activities.</p>

Table 3-10: Applicant Proposed Measures

APM Number	Description
<i>Hydrology and Water Quality</i>	
APM WQ-1	<p>Because the Proposed Project involves more than an acre of soil disturbance, a SWPPP would be prepared as required by the state NPDES General Permit for Discharges of Stormwater Associated with Construction Activity. This plan would be prepared in accordance with the Water Board guidelines and other applicable erosion and sediment control BMPs. Implementation of the plan would help stabilize disturbed areas and would reduce erosion and sedimentation. The SWPPP would designate BMPs that would be followed during and after construction of the Proposed Project, examples of which may include the following erosion-minimizing measures:</p> <ul style="list-style-type: none"> • Using drainage control structures (e.g., straw wattles or silt fencing) to direct surface runoff away from disturbed areas; • Strictly controlling vehicular traffic; • Implementing a dust-control program during construction; • Restricting access to sensitive areas; • Using vehicle mats in wet areas; or • Revegetating disturbed areas, where applicable, following construction. <p>In areas where soils are to be temporarily stockpiled, soils would be placed in a controlled area and would be managed with similar erosion control techniques. Where construction activities occur near a surface waterbody or drainage channel and drainage from these areas flows towards a waterbody or wetland, stockpiles would be placed at least 100 feet from the waterbody or would be properly contained (such as beaming or covering to minimize risk of sediment transport to the drainage). Mulching or other suitable stabilization measures would be used to protect exposed areas during and after construction activities. Erosion-control measures would be installed, as necessary, before any clearing during the wet season and before the onset of winter rains. Temporary measures, such as silt fences or wattles intended to minimize erosion from temporarily disturbed areas, would remain in place until disturbed areas have stabilized.</p>
APM WQ-2	<p>Groundwater encountered during construction would be handled and discharged in accordance with all state and federal regulations including the following:</p> <ul style="list-style-type: none"> • Recovered groundwater would be contained on site and tested prior to discharge; • If testing determines water is suitable for land application, discharge may be applied to flat, vegetated, upland areas, used for dust control, or used in other suitable construction operations (e.g., concrete mixing); • Land application would be made in a manner that discharge does

Table 3-10: Applicant Proposed Measures

APM Number	Description
	<p>not result in substantial erosion and would not be made directly to receiving waters or storm drains;</p> <ul style="list-style-type: none"> • Water unsuitable for land application would be disposed of at an appropriately permitted facility; and • Discharge to surface waters or storm drains may occur only if permitted by the agency(ies) with jurisdiction over the resource (e.g., USACE, RWQCB, and/or CDFW, as applicable).
Public Services	
APM PS-1	LSPGC would coordinate construction activities with local law enforcement and fire protection agencies. Emergency service providers would be notified of the timing, location, and duration of construction activities.
Transportation	
APM TRA-1	LSPGC would prepare a Traffic Control Plan to describe measures to be taken to guide traffic (such as signs and workers directing traffic), safeguard construction workers, provide safe passage, and minimize traffic impacts. LSPGC would follow its standard safety practices as needed, including installing appropriate barriers between work zones and transportation facilities, posting adequate signs, and using proper construction techniques. LSPGC would follow the recommendations in this manual regarding basic standards for the safe movement of traffic on highways and streets in accordance with Section 21400 of the California Vehicle Code. If required for obtaining a local encroachment permit, LSPGC would establish a Traffic Management Plan (TMP) to address haul routes, timing of heavy equipment and building material deliveries, potential street and/or lane closures, signing, lighting, and traffic control device placement. Construction activities would be coordinated with local law enforcement and fire protection agencies. Emergency service providers would be notified as required by the local permit of the timing, location, and duration of construction activities.
Utilities and Service Systems	
APM UTIL-1	The Applicant shall notify all utility companies with utilities located within or crossing the Proposed Project Rights-of-Way (ROW) to locate and mark existing underground utilities along the entire length of the Proposed Project at least 14 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-party utilities and underground excavations is less than 5 feet, the Applicant shall submit the intended construction methodology to the owner of the third-party utility for review and approval at least 30 days prior to construction. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.

4.0 ENVIRONMENTAL ANALYSIS

4.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?				X
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d.	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

This section describes the Aesthetics within the vicinity of the Proposed Project as well as potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.1.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

4.1.1.1 Landscape Setting

The Proposed Project lies within an unincorporated portion of southern Fresno County within California's Central Valley. The Coastal Range rises above the valley floor approximately ten miles to the west of the Proposed Project site consisting of a gently sloping alluvial plain, ranging in elevation from approximately 370 feet in Sanger to 325 feet in Fresno. The Sierra Nevada mountain range can be seen on clear days approximately 65 miles to the east and consists of a gently sloping alluvial plain. On clear days, when distant landscape elements are discernible, a

number of the higher peaks and mountains of the Sierra Nevada range, several reaching over 10,000 feet above sea level, are visible from some places in the general area.

Commercial agriculture has long been the dominant land use in the Proposed Project area, served by a well-developed network of roadways, railroads, and waterways. Interstate 5 (I-5), a major north-south freeway connecting population centers within the Central Valley and beyond, is located approximately two miles west of the Proposed Project site, while approximately one mile to the east is State Route (SR) 269/Lassen Avenue, connecting rural communities within the agricultural dominated landscape. Agricultural fields and facilities, such as vineyards, are characteristic features in the Proposed Project vicinity, while numerous canals and waterways traverse the landscape including the Blakeley Canal, which runs from north to south within four miles to the east of the Proposed Project site.

The comparatively flat terrain surrounding the Proposed Project site is dominated by vineyards, orchards, and row crops organized into rectangular parcels that are bisected by a grid of paved or unpaved roadways. West Jayne Avenue, which passes adjacent to the Proposed Project area on the south is a relatively heavily-travelled, two-lane roadway that serves as the main thoroughfare for motorists traveling between the community of Coalinga, I-5, Pleasant Valley State Prison, and State Highway 41 at its eastern terminus. South Trinity Avenue, adjacent to the Proposed Project's eastern perimeter, is an unimproved, two-lane private road that provides access to numerous agricultural fields.

With the exception of two gas stations, a recreational vehicle (RV) park, and a cold storage facility at the intersection of I-5 and West Jayne Avenue, the immediate area of the Proposed Project site is sparsely inhabited. Electric utility structures are established landscape features in the Proposed Project area. The PG&E Gates Substation is the nexus for several high voltage power lines that converge on the Proposed Project area from the southeast, northeast, and west, in addition to local wood-pole supported power and distribution lines that run along both sides of South Trinity Avenue and West Jayne Avenue.

4.1.1.2 Scenic Resources

As illustrated on **Figure 4.1-1, *Scenic Resources***, there are no scenic vistas, highways, national scenic areas, or other scenic resources within and surrounding the Proposed Project area. The nearest scenic resource to the Proposed Project site is an eligible state scenic highway which includes a portion of SR-198 located north of the city of Coalinga, approximately 13 miles to the east. No other identifiable scenic resources are located within the Proposed Project area.

4.1.1.3 Viewshed Analysis

For purposes of describing a Proposed Project's visual setting and assessing potential visual impacts, the viewshed has been broken down into foreground, middle ground, and background distance zones. Background views extend to the visual horizon, which is approximately five miles from the site, and therefore, an analysis of the visual impact using a five-mile buffer was created. The foreground is defined as the zone within 0.25 to 0.5 mile from the viewer. Landscape details are most noticeable, and objects generally appear most prominent when seen in the foreground. The middle ground can be defined as a zone that extends from the foreground up to three to five miles from the viewer, and the background extends from about three to five miles to beyond (Smardon et al., 1986).

The Proposed Project's viewshed is defined as the general area from which a proposed project is visible. Viewing distance is a key factor that affects the potential degree of a proposed project's visibility. Visual details generally become apparent to the viewer when they are observed in the foreground, at a distance of 0.25 to 0.5 mile or less. However, there are no sensitive receptors or viewsheds from this foreground viewpoint. This analysis primarily considers visual effects from one to five miles away (e.g., middle ground and background), where the Proposed Project is potentially visible and change could be noticeable because the Proposed Project involves construction of new take-off structures that would be approximately 135 to 199 feet in height located in a flat agricultural landscape that affords open views toward the Proposed Project site.

Figure 4.1-1, *Scenic Resources* illustrates the flat, agricultural nature that is present in the immediate north, west, and east foreground and middle ground zones within a five-mile buffer of the Proposed Project site. The background zones consist of Kettleman Hills North Dome (southwest of the Proposed Project site) and Guljaral Hills (west of the Proposed Project site). The view to the south in the immediate foreground consists of the existing PG&E Gates Substation, as well as a solar power generating facility. From all viewsheds, high voltage transmission lines traveling in all directions are visible.

4.1.1.4 Landscape Units

The Proposed Project is located within the Central Valley geographic zone, also referred to as the Great Valley (California Water Science Center, 2020). More refined within the Central Valley, the Proposed Project site is located within San Joaquin Valley, which has an approximate elevation of zero to 500 feet above sea level (California Water Science Center, 2020). The vegetation in San Joaquin Valley includes crops such as grapes, tomatoes, cotton, and a magnitude of other fruits and vegetables (Water Education Foundation, 2020). The land uses in the San Joaquin Valley mainly consist of agriculture, industrial, and transportation as depicted in **Figure 4.11-1, *Land Use and Zoning***. The landscape within and surrounding the Proposed Project area (approximately five-mile buffer) consists mainly of active agriculture with the closest residence approximately 1.8 miles from the Proposed Project site. There are a few scattered developments in the immediate area of the Proposed Project site, consisting of two gas stations, an RV park, and a cold storage facility at the intersection of I-5 and West Jayne Avenue.

In addition, the surrounding visual characteristics within a five-mile buffer of the Proposed Project site include multiple existing 500 kilovolt (kV), 230 kV, and <100 kV transmission lines, traveling in all directions. I-5, on which motorists travel northwest or southeast, is located within two miles southwest of the Proposed Project site. Directly south of the Proposed Project site is the existing PG&E Gates Substation, as depicted on **Figure 4.1-2, *Representative Viewpoints***.

Located directly west of the Proposed Project site on the five-mile buffer line are the Guljaral Hills, positioned between West Jayne Avenue and South El Dorado Ave. The Guljaral Hills are a range of low hills with an elevation of 630 feet. Directly east of Guljaral Hills, approximately 4.3 miles from the Proposed Project site, is Paramount Farms. Located southwest of the Proposed Project site on the five-mile buffer line is Kettleman Hills (North Dome). Kettleman Hills is a low mountain range that is about 30 miles long and 1,362 feet high which runs parallel with the San Andreas Fault to the west.

4.1.1.5 Viewers and Viewer Sensitivity

Motorists represent the largest affected viewer group, consisting primarily of those traveling along West Jayne Avenue. The closest residence is approximately 1.8 miles from the Proposed Project site. Less numerous are users of single-lane, rural roadways bisecting the area that primarily serve as access routes to agricultural operations and scattered rural residences. Motorists include a variety of roadway travelers, both local and regional travelers who are familiar with the visual setting, and travelers using the roadway on a less regular basis such as those seeking alternate routes to recreation destinations in the Coastal Range (e.g., Pinnacles National Park), west of the Proposed Project site. I-5 has a speed limit of 70 mph; therefore, affected views are generally brief, typically lasting less than a few minutes depending on traffic volume. In addition, the speed limit on SR 269/South Lassen Avenue and West Jayne Avenue is 55 mph, with slightly longer yet similar viewing times as I-5. Viewer sensitivity is considered low to moderate.

While there are no designated bike lanes on any road near the Proposed Project site, commuter and recreational cyclists could be present. Both of the previous viewing groups currently observe the existing PG&E Gates Substation; therefore, the addition of the Proposed Project site would only slightly change the viewer sensitivity.

4.1.1.6 Representative Viewpoints

In consultation with the California Public Utilities Commission (CPUC), six Key Observation Points (KOP) were identified in the Proposed Project area. **Figure 4.1-2, Representative Viewpoints** identifies the KOP locations (KOP A-F). **Figures 4.1-3 through 4.1-8** present a set of photographs taken from KOP locations within the Proposed Project viewshed and convey a general sense of the visual landscape character found in the vicinity. KOP locations and view directions are noted in captions below each photograph. **Table 4.1-1, Summary of Representative Viewpoints** includes the viewpoint and location, the figure number, potentially affected viewer type, viewing direction and distance, capture time and date, camera body and lens, and lens focal length and camera height. The photographs depict views from locations along public view corridors within the Proposed Project area. These viewpoints include I-5 looking southeast (KOP A), I-5 and West Jayne Avenue intersection looking east (KOP B), Lassen Avenue and West Jayne Avenue intersection looking northwest (KOP C), Lassen Avenue looking northwest (KOP D), Interstate 5 rest area looking north (KOP E), and West Jayne Avenue west of Interstate 5 looking northeast (KOP F). For purpose of analysis, visual effects of middle ground views (extends from the foreground up to three miles from the viewer) are compared to more distant views (up to five miles) in the following discussion. There are no sensitive receptors of viewsheds identified through consultation with the CPUC in foreground views (within approximately 0.5 mile of the Proposed Project site). However, a rendering looking northeast of the Proposed Project site is included in **Figure 4.1-9, Representative Rendering** to show the Proposed Project facilities.

Table 4.1-1: Summary of Representative Viewpoints

Viewpoint and Location	Figure	Potentially Affected Viewer Type	Viewing Direction & Distance	Capture Time & Date	Camera Body & Lens	Lens Focal Length & Camera Height
KOP A – I-5 Looking Southeast	Figure 4.1-3	Motorists on major highway	Southeast - approximately 3 miles northwest of intersection with West Jayne Avenue	12:23pm 08-03-20	Canon EOS – 10 x Mark II	50 millimeter (mm) 5 feet
KOP B – I-5 / West Jayne Avenue Intersection Looking East	Figure 4.1-4	Motorists on primary roadway	East - near West Jayne Avenue / I-5 intersection – approximately 2 miles away	12:41pm 08-03-20	Canon EOS – 10 x Mark II	50mm 5 feet
KOP C –Lassen Avenue and West Jayne Avenue Intersection Looking Northwest	Figure 4.1-5	Motorists on primary roadways	Northwest – approximately 1 mile away from Proposed Project site	12:50pm 08-03-20	Canon EOS – 10 x Mark II	50mm 5 feet
KOP D – Lassen Avenue Looking Northwest	Figure 4.1-6	Motorists on primary roadway	Northwest – approximately 2 miles away from Proposed Project site	1:21pm 08-03-20	Canon EOS – 10 x Mark II	50mm 5 feet
KOP E – I-5 Rest Area Looking North	Figure 4.1-7	Motorists on major highway	North - approximately 4 miles south of Proposed Project site	1:05pm 08-03-20	Canon EOS – 10 x Mark II	50mm 5 feet
KOP F –West Jayne Avenue West of I-5 Intersection Looking Northeast	Figure 4.1-8	Travelers / visitors to area	Northeast – approximately 2.5 miles away from Proposed Project site	1:23pm 08-03-20	Canon EOS – 10 x Mark II	50mm 5 feet

As indicated by these photographs, views toward the Proposed Project site include varied levels of screening depending on the combination of vineyard, orchard, row crop, or amount of fallow cropland cover.

Figure 4.1-3, KOP A I-5 Looking Southeast shows a mid-range view from I-5 looking southeast to the Proposed Project site (approximately three miles away) from a motorist's perspective. The foreground of the photo shows travel lanes. The middle ground of the photo shows the existing PG&E Gates Substation, with high voltage transmission lines present.

Figure 4.1-4, KOP B I-5 and West Jayne Avenue Intersection Looking East shows a mid-range view from I-5 and West Jayne Ave intersection looking east toward the Proposed Project site (approximately two miles away) from a motorist's perspective. In the foreground of the photo, there is a field located on the corner of I-5 and West Jayne Avenue, as well as roadside vegetation and agriculture. The middle ground of the photo shows the existing PG&E Gates Substation, as well as high voltage transmission lines.

Figure 4.1-5, KOP C Lassen Avenue and West Jayne Avenue Intersection Looking Northwest shows a mid-range view from the intersection of Lassen Avenue and West Jayne Avenue looking northwest toward the Proposed Project site (approximately 1.1 mile away) from a motorist's perspective. In the immediate foreground of the photo, there are two wood utility poles, as well as existing vineyards. In the middle ground of the photo, the existing PG&E Gates Substation is visible, consisting of high voltage transmission lines. In the background of the photo, Guljaral Hills is visible.

Figure 4.1-6, KOP D Lassen Avenue Looking Northwest shows a mid-range view from Lassen Avenue looking northwest toward the Proposed Project site (approximately 1.8 miles away) from a motorist's perspective. The entire mid-ground view from the photograph location consists of trees in an agricultural field. The background of the photo is not visible.

Figure 4.1-7, KOP E I-5 Rest Area Looking North shows a far-range view from I-5 rest area looking north toward the Proposed Project site (approximately 3.7 miles away) from a motorist's perspective. In the foreground of the picture, construction debris is visible surrounded by a chain link fence. In the middle ground viewshed, there is active vegetation and agriculture. In the distant background, the existing PG&E Gates Substation and high voltage transmission lines are slightly visible.

Figure 4.1-8, KOP F West Jayne Avenue West of I-5 intersection Looking Northeast shows a mid-range view from West Jayne Avenue (west of I-5) looking northeast toward the Proposed Project site (approximately 2.1 miles away) from a motorist's perspective. In the direct foreground, there is undeveloped land. In the middle ground of the photograph, I-5 shows visible with agricultural fields. In the background, the existing PG&E Gates Substation is visible, as well as existing high voltage transmission lines.

4.1.1.7 Representative Photographs

Viewpoint locations and view directions are noted in captions below each photograph. As summarized in **Table 4.1-1, Summary of Representative Viewpoints**, the photographs depict views from locations along public viewshed within the Proposed Project area.

4.1.1.8 Visual Resource Management Areas

There are no classified Visual Resource Management Areas located within the Proposed Project area because it is not located on federal public lands (U.S. Department of the Interior Bureau of Land Management, 2020) (U.S. Department of Transportation: Federal Highway Administration, 2015).

4.1.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.1.2.1 Regulatory Setting

Federal

There are no applicable regulations for Aesthetics that apply to the Proposed Project given the Proposed Project's location on private lands and distance from federally managed lands.

State

California Scenic Highway Program

California's Scenic Highway Program, a provision of the Streets and Highways Code, was established by the Legislature in 1963 to preserve and enhance the natural beauty of California. The State Scenic Highway Program includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives the designation from Caltrans. A city or county may propose to add routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for a highway to be officially designated.

There are no designated state scenic highways in the Proposed Project area. A review of California Scenic Highway Program indicates that the nearest eligible state scenic highway is a portion of SR-198, north of Coalinga near oilfields, approximately 11.5 miles west of the Proposed Project site. The Proposed Project site would not be visible from this distance.

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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local related policies, plans or programs for informational purposes.

Fresno County General Plan

Encompassing a variety of agricultural and urban settings along with valley grassland and high mountainous terrain, Fresno County's diverse landscape scenery is recognized in the General Plan for its value both to the general quality of life in the county and the region's economic vitality, including an expanding tourism industry. The Fresno County 2000 General Plan's Agriculture and Land Use Element and Open Space and Conservation Element, adopted in October 2000 and amended through 2013 (Fresno County, 2013), contains a number of goals and policies designed to protect the scenic resources of the county.

Goal LU-D

To promote continued agricultural uses along Interstate 5, protect scenic views along the freeway, promote the safe and efficient use of the freeway as a traffic carrier, discourage the establishment of incompatible and hazardous uses along the freeway, and provide for attractive, coordinated development of commercial and service uses that cater specifically to

highway travelers, and of agriculturerelated uses at key interchanges along Interstate 5.

Goal OS-K To conserve, protect and maintain the scenic quality of Fresno County and discourage development that degrades areas of scenic quality.

Policy OS-K.1 The County shall encourage the preservation of outstanding scenic views, panoramas, and vistas wherever possible.

In addition, the following provisions pertaining to aesthetic resources along the county's roadways, including language addressing placement of electrical utilities is contained in this General Plan Element.

Goal OS-L.1 To conserve, protect and maintain the scenic quality of land and landscape adjacent to scenic roads in Fresno County.

Policy OS-L.1 Scenic Roadway System: The County designates a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways.

Policy OS-L.3 Scenic Roadway Management: The County shall manage the use of land adjacent to scenic drives and scenic highways based on a number of principles, including the following:

Proposed high voltage overhead transmission lines, transmission line towers, and cell towers shall be routed and placed to minimize detrimental effects on scenic amenities visible from the right-of-way.

4.1.3 IMPACT QUESTIONS

4.1.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Aesthetics come from the California Environmental Quality Act (CEQA), Appendix G (as amended in December 2019), Environmental Checklist. According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

- Have a substantial adverse effect on a scenic vista; or
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; or
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Aesthetics.

4.1.4 IMPACT ANALYSIS

The visual impact analysis evaluates the visual changes that would occur from implementing the Proposed Project using the standards of quality, consistency, and symmetry typically used for a visual assessment. This assessment is based on a review of maps, site photographs, aerial photographs, Proposed Project-specific technical drawings, and the rendering of the Proposed Project. This analysis also focuses on those KOPs discussed above in **Section 4.1.1, *Environmental Setting***. Analysis of the impacts on existing visual resources from implementing the Proposed Project is based on evaluation of the extent and implications of the visual changes, considering the following factors:

- Specific changes in the visual character, and specifically valued qualities of the affected environment ;
- Visual context of the affected environment; and
- Number of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by actions that would be taken under the Proposed Project.

The impact analysis below primarily focuses on above-ground Proposed Project components having the largest potential to change the existing visual resources, including construction of the Proposed Project and permanent above-ground Proposed Project components. An assessment of visual quality is subjective, and reasonable disagreement can occur as to whether alterations in the visual character of the potentially affected area would be adverse or beneficial.

4.1.4.1 Visual Impact Analysis

Would the project have a substantial adverse effect on a scenic vista?

No Impact. CEQA requires the Proposed Project site be evaluated as to whether its implementation has a substantial, adverse effect on a scenic vista. For purposes of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. There are no designated scenic vistas within the Proposed Project viewshed; therefore, no impacts would occur under this criterion.

Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. As documented in **Section 4.1.1.2, *Scenic Resources***, there are no designated scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings with state scenic highways within view of the Proposed Project; therefore, no impacts would occur under this criterion.

Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Less-Than-Significant Impact.

Temporary Construction Impacts

Construction-related visual impacts of the Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings. During construction, visual impacts would include the presence of workers, portable buildings, construction equipment, and vehicles associated with the installation of the substation components and new electric line structures. Construction is anticipated to last approximately 22 months. To varying degrees, construction activity could be noticeable to motorists travelling near the West Jayne Avenue/South Trinity Avenue intersection. Most of this activity would be limited to locations set back from roadways. In addition, the Proposed Project is located within a general area where mechanized agricultural production activities occur that typically employ the use of trucks and other equipment that is not unlike Proposed Project-related construction equipment. Due to the above factors, as well as their limited duration, construction-related visual effects would be less than significant. Implementation of **Applicant Proposed Measure (APM) AES-1** would further minimize these less-than-significant impacts.

Permanent Visual Impacts

The Proposed Project entails removing an approximately 20-acre portion of an existing vineyard for the Proposed Project site adjacent to, and generally north of, the existing PG&E Gates Substation. The Proposed Project facilities would resemble similar physical characteristics to the existing PG&E Gates Substation, as they are similar types of structures and facilities. KOP photos included in **Figure 4.1-3** through **4.1-8** show the existing PG&E Gates Substation facilities, and existing high voltage transmission lines are noticeable in the middle ground from transportation corridors. The new facilities would add similar type features, including high voltage transmission lines and structures, but not change the viewshed for motorists. Although permanent removal of agricultural crops would be required adjacent to the already cleared PG&E Gates Substation and to enable construction of the new facilities, this would take place in an area where vegetation clearing routinely occurs as a result of agricultural operations, and therefore, the visual change would be minor and not particularly noticeable to the public.

The six KOP locations were chosen due to their proximity to the Proposed Project site and are locations where viewers may be sensitive to visual change. The KOPs that were provided in **Table 4.1-1, Summary of Representative Views** illustrate that visual simulations are not needed for the existing conditions because the visual change would be minimal, and the closest sensitive viewers are over one mile away in transportation corridors.

Figure 4.1-9, Representative Rendering, depicts a 3D photorealistic model (referred to as a rendering) of the Proposed Project site. The rendering shows the facilities that would be constructed on site and proposed site conditions following construction. This figure, looking northwest on the Proposed Project site, shows that it is consistent from a land use and visual perspective with the existing PG&E Gates Substation, including similar facility types and existing high voltage transmission lines.

The previous section includes a discussion of the potential visual change, in regard to the Proposed Project. Each KOP shows the current views toward the Proposed Project site with the existing PG&E Gates Substation and high voltage transmission lines from six prominent locations within the immediate area. The view from **Figure 4.1-3, KOP A, I-5 Looking Southeast** would consist of little to no visual change with the implementation of the Proposed Project. The existing PG&E Gates Substation is visible in the middle ground of the photo; therefore, the Proposed Project would resemble the existing view, with the addition of more transmission lines. Similarly, the view from **Figure 4.1-4, KOP B, I-5/West Jayne Avenue Intersection Looking East** would also experience little to no visual change. The existing PG&E Gates Substation is visible in the middle ground of the photo, and the addition of the Proposed Project site would not significantly change the viewshed.

In addition, the view from **Figure 4.1-5, KOP C, Lassen Avenue and West Jayne Avenue Intersection Looking Northwest** would also experience little to no visual change. This view is the closest of the KOP locations to the Proposed Project site; however, with the existing PG&E Gates Substation present, the addition of the Proposed Project would not change the visual character or quality at the site. The view from **Figure 4.1-6, KOP D, Lassen Avenue Looking Northwest** would experience no visual change from the Proposed Project site. The entire view from KOP D consists of trees that are tall enough to block the existing PG&E Gates Substation and, therefore, block the Proposed Project site. The view from **Figure 4.1-7, KOP E I-5 Rest Area Looking North** is the furthest KOP location, so the existing PG&E Gates Substation is faintly present in the far background of the photo. Therefore, the implementation of the Proposed Project would not significantly change the viewshed. The view from **Figure 4.1-8, KOP F, West Jayne Avenue West of I-5 Intersection Looking Northeast** would experience little to no visual change. The existing PG&E Gates Substation is visible in the background; however, from this view location, the Proposed Project site would be located directly behind the existing facilities. Therefore, there would be no significant visual change for motorists.

As described above, the changes brought about by implementing the Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings. While the Proposed Project site would be noticeable to some viewers, the changes are generally incremental, particularly when viewed in the context of the surrounding development and landscape. Therefore, the visual impact would be less than significant. Implementation of **APM AES-2** would further minimize these less-than-significant impacts.

Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less-Than-Significant Impact.

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. Photocell controlled lighting 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 when required. All lighting provided would be shielded and pointed down to minimize glare onto surrounding properties and habitats. Light fixtures would be located near major outdoor

equipment, general substation areas, and building exteriors. Lights would be mounted on A-frames, H-frames and Shield wire poles, structures, poles, and supplementary buildings as required.

It is anticipated no aeronautical obstruction lighting would be implemented at the Proposed Project site. No structures would exceed 199 feet; therefore, FAA notification is not required. Nighttime lighting would only be used for security purposes and would be down shielded to prevent glare. No structures would require lighting based on FAA standards. As noted in **Section 4.15, Public Services**, the Proposed Project site is not located within a flight pathway. Therefore, the FAA flight tool would not be required.

Glare

Glare exists when a high degree of contrast occurs between bright and dark areas in a field of view making it difficult for the human eye to adjust to differences in brightness. **APM AES-2**, which calls for the use of a dull earthtones in a non-reflective finish on new chain-link fencing, new substation equipment and equipment enclosures, would minimize the potential effect of glare. With the implementation of this APM, the impacts would be less than significant.

Nighttime Lighting

No nighttime construction is planned as part of the Proposed Project. However, in the case of an emergency or to support continuous operations such as concrete foundation pours, if work must be accomplished at night, portable temporary lighting would be directed exclusively to on-site locations and used to illuminate the immediate work area. Current project plans call for construction activities to take place during daylight hours and for nighttime construction activities to be avoided, whenever possible. Nighttime maintenance activities are not expected to occur more than once per year.

If nighttime lighting were to occur, **APM AES-1** would be implemented to ensure new sources of substantial light or glare would be avoided and security lighting at the substation would be directed on-site and hooded to reduce potential visibility from off-site locations. With the implementation of this APM, the impacts would be less than significant.

4.1.5 CPUC DRAFT ENVIRONMENTAL MEASURES

The CPUC recommended a Draft Environmental Measure for Aesthetics. The recommended APM has been included in **Section 4.1.6** as **APM AES-1**.

4.1.6 APPLICANT PROPOSED MEASURES

The following Aesthetics specific APM would be implemented on the Proposed Project:

APM AES-1

All project sites would be maintained in a clean and orderly state. Construction staging areas would be sited away from public view where possible. Nighttime lighting would be directed away from residential areas and have shields to prevent light spillover effects. Upon completion of project construction, project staging and temporary work areas would be returned to pre-project

conditions, including re-grading of the site and re-vegetation or re-paving of disturbed areas to match pre-existing contours and conditions.

APM AES-2

Structures and equipment at the proposed STATCOM Substation facility would be a non-reflective finish and neutral earth-tone colors.

4.2 AGRICULTURAL AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effect, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provide in Forest Protocols adopted by the California Air Resources Board. Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d.	Result in the loss of forest land or conversion of forest land to non-forest use?				X
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			X	

This section describes the Agricultural and Forest Resources within the vicinity of the Proposed Project, as well as potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 Agricultural Resources

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

Fresno County leads California in agricultural production. Almonds, livestock, and grapes are the county's top commodities (California Department of Food and Agriculture, 2019). Agriculture is the primary land use in Fresno County in terms of acreage, as shown in **Table 4.2-1, *Inventory of Fresno County Land Use Categories (2016)***. Prime Farmland alone accounts for 27.7 percent of the Fresno County's lands.

Table 4.2-1: Inventory of Fresno County Land Use Categories (2016)

Category	Acres	Percentages
Prime Farmland	675,722	27.7
Farmland of Statewide Importance	397,134	16.3
Unique Farmland	94,902	3.9
Farmland of Local Importance	191,782	7.9
<i>Important Farmland Subtotal</i>	<i>1,359,540</i>	<i>55.8</i>
Grazing Land	822,697	33.8
<i>Agricultural Land Subtotal</i>	<i>2,182,237</i>	<i>89.5</i>
Urban and Built-up Land	128,910	5.3
Other Land	121,445	5.0
Water Area	4,908	0.2

Source: California Department of Conservation, 2020a

Agriculture is the dominant land use within two miles of the Proposed Project site, excluding the adjacent existing PG&E Gates Substation and the adjacent existing solar development. The Proposed Project site is currently planted with grapevines and is actively farmed using irrigation. Additional grapevines are located adjacent to the Proposed Project site on the west and north and across the existing dirt access road to the east.

Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

The Proposed Project site is designated as Prime Farmland and all adjacent areas located to the north, east, and west (within one mile) are designated as Prime Farmland as well. The existing PG&E Gates Substation is designated as Urban Built-Up Land and the two parcels adjacent to the existing PG&E Gates Substation are designated as Farmland of Local Importance (California Department of Conservation, 2020b). See **Figure 4.2-1, *Agricultural Resources***.

Williamson Act

The Proposed Project site is located on agricultural land subject to an active Williamson Act contract, and all adjacent lands (within one mile) are also under active Williamson Act contracts, excluding the two PG&E-owned parcels located to the south (Fresno County, 2020a).

Zoning Districts

The Proposed Project is zoned AE-20 (Exclusive Agricultural District, 20-acre minimum lot size) (Fresno County, 2018). The AE-20 District is intended to be an exclusive district for agriculture and for those uses that are necessary and an integral part of agricultural operations. This district is also intended to protect the general welfare of the agricultural community from encroachments of nonrelated agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district. The area to the southwest of the Proposed Project site that is designated as AE-40 (Exclusive Agriculture District, 40-acre minimum lot size) has the same intended zoning as AE-20 except it has a 40-acre minimum lot size (Fresno County, 2018).

Electrical transmission substations and electric distribution substations that are subject to local jurisdiction are permitted uses in AE Districts and are subject to review and approval by the Fresno County Director of the Department of Public Works and Planning who must make the following findings:

- That the site of the proposed use is adequate in size and shape to accommodate said use and all yards, spaces, walls and fences, parking, loading, landscaping and other features required by this Division, to adjust said use with land and uses in the neighborhood.
- That the site for the proposed use relates to streets and highways adequate in width and pavement type to carry the quantity and kind of traffic generated by the proposed use.
- That the proposed use would not be detrimental to the character of the development in the immediate neighborhood or the public health, safety, and general welfare.
- That the proposed development be consistent with the General Plan (Fresno County Municipal Code, Section 872).

Electric transmission facilities that are regulated by the California Public Utilities Commission (CPUC) are not subject to local land use and zoning regulations or discretionary permits. See **Section 4.2.2, Regulatory Setting** below for additional details.

4.2.1.2 Forestry Resources

There are no applicable forestry resources, forest land, timberland, or timberland zoned timberland production areas in the Proposed Project area as defined by Public Resources Code 12220(g)25, Public Resources Code 4526, or Government Code Section 51104(g).

4.2.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.2.2.1 Regulatory Setting

Federal

There are no applicable regulations for Agricultural or Forestry Resources that apply to the Proposed Project.

State***Williamson Act***

The California Land Conservation Act, better known as the Williamson Act, is designed to preserve agricultural and open space land (California Government Code Section 51200 et seq.). It establishes a program of private landowner contracts that voluntarily restrict land to agricultural and open space uses. In return, Williamson Act parcels receive a lower property tax rate consistent with their actual use instead of their market rate value. Lands under contract may also support uses that are “compatible with the agricultural, recreational, or open-space use of [the] land” subject to the contract (California Government Code Section 51201[e]).

Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC), under the Division of Land Resource Protection, has established the Farmland Mapping and Monitoring Program (FMMP) to monitor the conversion of the state’s farmland to and from agricultural use. The FMMP maps agriculturally viable lands and designates specific categories including Prime, Unique, non-Prime, or Farmland of Statewide Importance.

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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 agriculture and forestry plans and regulations for informational purposes, and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County General Plan

The Fresno County General Plan encourages maintaining agriculturally designated lands for agriculture use, directing urban growth away from agricultural land to areas of Fresno County where public facilities and infrastructure are available or can be provided consistent with the adopted General Plan or Community Plan (Fresno County, 2000).

Fresno County, Zoning Ordinances, Agriculture

The AE District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of nonrelated agricultural uses which by their nature would be injurious to the physical and economic well-being of the agricultural district (Fresno County, 2020b).

4.2.3 IMPACT QUESTIONS

4.2.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Agricultural and Forestry resources come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, in determining whether impacts to agricultural resources are significant environmental effect, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provide in Forest Protocols adopted by the California Air Resources Board. A project may cause a potentially significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use; or
- Conflict with existing zoning for agricultural use, or a Williamson Act contract; or
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)); or
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

4.2.3.2 Additional CEQA Impact Questions

Pursuant to CPUC's *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (2019), there are no additional CEQA Impact Questions required for Agricultural and Forestry Resources.

4.2.4 IMPACT ANALYSIS

4.2.4.1 Impact Analysis

In determining whether impacts to agricultural resources are significant environmental effect, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provide in Forest Protocols adopted by the California Air Resources Board.

Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less-Than-Significant Impact. The Proposed Project would require the permanent conversion of less than 10 acres of Prime Farmland to non-agricultural use to accommodate the STATCOM, switchyard and associated facilities, and ancillary facilities such as a stormwater detention basin, access roads, and parking. The remaining acreage of the 20-acre applicant-owned parcel would not be developed and would remain available for future agricultural use. However, the almost 10-acre site, after the Proposed Project's use and decommissioning, is anticipated to be used for infrastructure since it is located adjacent to existing PG&E Gates Substation and infrastructure facilities. The amount of Prime Farmland that would be converted to non-agricultural land is less than 10 acres, which California Government Code Section 51222 recognizes as the minimum size a parcel needs to be to sustain agricultural use in the case of prime agricultural land. LSPGC has included **Applicant Proposed Measure (APM) AGR-1**, as detailed below, and therefore, the Proposed Project would have a less-than-significant impact from the conversion of less than 10 acres of Prime Farmland to non-agricultural use.

Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less-Than-Significant Impact. The Proposed Project would not conflict with existing zoning for agricultural use, as electrical substations are allowed uses in AE zoning districts provided they meet certain requirements (e.g., not be detrimental to the character of the development in the immediate neighborhood or the public health, safety, and general welfare; and be consistent with the General Plan) (Fresno County Municipal Code, Section 872).

As part of the Proposed Project, LSPGC holds an option to purchase 20 acres of a 230-acre parcel which is under a Williamson Act contract. Implementation of the Proposed Project would impact only the 20-acre portion of the Williamson Act contract. The remaining portion of the Williamson Act contract (210 acres) would remain be unaffected. Because the Proposed Project has potential to conflict with an existing Williamson Act, impacts could be significant.

There are four primary ways a project such as the Proposed Project can avoid conflicting with a Williamson Act contract.

First, the property owner can elect not to renew the Williamson Act contract at the end of its term. Here, however, this process would take ten years. Because the Proposed Project must be operational no later than 2024, nonrenewal is not a feasible means of avoiding a Williamson Act contract conflict in this instance.

Second, the property owner can obtain a determination from the county that the proposed use is compatible with the Williamson Act contract. Section 51238.3 of the Williamson Act provides that compatible uses defined at the time a contract was originally signed determine which uses are presently compatible under the contract. Here, compatible uses under the Williamson Act contract for the agricultural property in question are, by the contract's terms, determined by reference to the county ordinance that was in effect at the time the contract was signed. Specifically, the original 1970 contract provides that the property "shall be subject to all restrictions and conditions adopted by resolution by the Board of Supervisors of Fresno County, California on November 4, 1969 and recorded November 5, 1969." Exhibit A of the County's 1969 Williamson Act resolution provides that "[p]ublic utility and public services, structures, uses and buildings" are compatible uses. The Proposed Project would be a public utility structure approved by the CPUC. The Proposed Project is, therefore, compatible with the existing Williamson Act contract for the project site.

Third, the county and the landowner can cancel the 20-acre portion of the contract that covers the Proposed Project area. The Williamson Act allows landowners to petition the county for cancellation of any contract as to all or any part of the contracted property. Once a petition is filed, the cancellation process proceeds in two phases. First, the county decides whether to approve a tentative cancellation of the contract, subject to conditions of approval. Tentative cancellation is appropriate where (i) cancellation is consistent with the purposes of the Williamson Act, or (ii) cancellation is in the public interest. Second, the county must approve *final* cancellation. Final cancellation requires that (i) the landowner must pay the applicable cancellation fee (at least 12.5 percent of the assessed value of the property), and (ii) the landowner must obtain all permits necessary to commence construction of the alternative land use described in the proposal.

Here, the Proposed Project is in the public interest, as it is a key infrastructure project designed to maintain stability of the electric grid. California's recent blackouts have only underscored the need for dynamic reactive support systems like the Proposed Project. The Proposed Project also appears to be consistent with the purposes of the Williamson Act. Cancellation is unlikely to result in the removal of adjacent lands from agricultural use, given the relatively small footprint of the Proposed Project, its location adjacent to an existing substation, and the fact that it would not introduce a use incompatible with agricultural uses on adjacent lands. Similarly, given that the Proposed Project is an unmanned facility designed to complement the adjacent substation, it is not likely to result in discontinuous patterns of urban development. As explained in **Section 4.11, Land Use and Planning** and depicted in **Figure 4.11-1, Land Use and Zoning**, the Proposed Project is consistent with Fresno County's General Plan. Finally, particularly given the importance of locating the Proposed Project, in close proximity to the existing PG&E Gates Substation, there is no proximate noncontracted land which is available and suitable for the proposed use. Thus, cancellation is warranted here.

Fourth, and finally, conflict with a Williamson Act contract can be avoided by cancelling the contract by eminent domain. By statute, when a public entity files an eminent domain action, any underlying Williamson Act contract is automatically deemed null and void. The same rules apply to eminent domain in lieu: when land is acquired in lieu of eminent domain for a public improvement by a public agency or person, the Williamson Act contract is automatically deemed null and void. (California Government Code Section 51295). Because LSPGC would be authorized as a “public utility” upon approval of the Proposed Project’s Permit to Construct from the CPUC, it may cancel the Williamson Act for the Proposed Project site via eminent domain or eminent domain in lieu.

In order to reduce impacts associated with a Williamson Act conflict, **APM AGR-1** (Williamson Act Cancellation Regulatory Process) would ensure that conflicts with a Williamson Act contract are avoided via cancellation, a consistency determination, or eminent domain. With implementation of **APM AGR-1**, impacts would be less than significant.

Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. No areas of forest land, timberland, or timberland zoned Timberland Production are located within the Proposed Project area. The Proposed Project would not conflict with the zoning or cause the rezoning of forest lands or result in the conversion of timberland. Therefore, no impacts would occur under this criterion.

Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No areas of forest land are located within the Proposed Project area. The Proposed Project would not result in the loss or conversion of forest land to non-forest use. Therefore, no impacts would occur under this criterion.

Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less-Than-Significant Impact. As discussed above, the Proposed Project would not result in the temporary or permanent loss of forest land. The Proposed Project would result in the loss of less than 10 acres of agricultural land to non-agricultural uses. The permanent conversion of farmland to non-agricultural use has been minimized to the extent practicable while still meeting the Proposed Project’s purpose and need. In addition, the amount of agricultural land that would be converted to non-agricultural land is less than 10 acres, which is noted in California Government Code Section 51222 as the size of a parcel large enough to sustain agricultural use in the case of prime agricultural land. Therefore, impacts would be less than significant. In addition, LSPGC has included **APM AGR-1**, pursuant to which, all impacts to agricultural land would be adequately assessed and avoided, minimized, or appropriately mitigated to less than significant by ensuring that the Williamson Act contract for the 20-acre portion of the Proposed Project site is cancelled, consistent, or nullified.

The Proposed Project O&M activities would not result in the conversion of farmland or forest land. Stormwater and any potential pollutants or hazardous materials generated at the substation would be retained on-site or disposed of at properly licensed facilities and, thus, would not affect the adjacent agricultural uses. Therefore, O&M activities would not have any adverse impact on agricultural activities.

4.2.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Agriculture and Forestry Resources.

4.2.6 APPLICANT PROPOSED MEASURES

The following utilities specific APMs would be implemented on the Proposed Project.

APM AGR-1

Prior to commencing construction of the Proposed Project, LSPGC must ensure that the Williamson Act contract for the 20-acre portion of the Proposed Project site impacted by the Proposed Project is:

- Cancelled pursuant to Title 5, Division 1, Part 1, Chapter 7, Article 5 of the California Government Code;
- Determined by Fresno County to be consistent with the Proposed Project; or
- Nullified via eminent domain or eminent domain in lieu pursuant Title 5, Division 1, Part 1, Chapter 7, Article 6 of the California Government Code

4.3 AIR QUALITY

Where available, the significance criteria by the applicable air quality management district or air pollution control district may be relied upon to the following determinations. Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?			X	
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c.	Expose sensitive receptors to substantial pollutant concentrations?			X	
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

This section describes the existing Air Quality within the vicinity of the Proposed Project as well as potential impacts to Air Quality that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.3.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

4.3.1.1 Air Quality Plans

The state of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as “non-attainment areas” for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the PM_{2.5} standard, and many areas are in non-attainment for PM₁₀ as well. California, therefore, created the California State Implementation Plan (SIP), which is designed to provide control measures needed to attain ambient air quality standards. The Proposed Project is located within the county of Fresno which is located within the San Joaquin Valley Air Basin (SJVAB) which is a large air basin within that state. The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the government agency which regulates sources of air pollution within the

county of Fresno, and it is the jurisdictional entity that is responsible for implementing the SIP. The SJVAPCD developed a Regional Air Quality Management plan to provide control measures to try to achieve attainment status for state ozone standards. An attainment plan is available for ozone, Particulate Matter and Carbon Monoxide (SJVAPCD, 2020a). The attainment status for criteria pollutants within SJVAB is shown in **Table 4.3-1, San Joaquin Valley Attainment Status by Pollutant**.

Table 4.3-1: San Joaquin Valley Attainment Status by Pollutant		
Criteria Pollutant	Federal Designation	State Designation
Ozone (1-Hour)	No Federal Standard*	Nonattainment/Severe
Ozone (8-Hour)	Nonattainment/Extreme**	Nonattainment
PM10	Attainment	Nonattainment
PM2.5	Non-Attainment***	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
<p>* Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.</p> <p>** Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).</p> <p>*** The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009). (SJVAPCD, 2020a)</p>		

4.3.1.2 Air Quality

Criteria Pollutants

The Proposed Project is located within the SJVAB. Criteria pollutants are measured using monitoring equipment by SJVAPCD in various locations (stations) throughout the SJVAB. This data is used to determine attainment status when compared to the NAAQS and CAAQS. The SJVAPCD is responsible for monitoring and reporting monitoring data and California Air Resources Board (CARBs) data is updated yearly (CARB, 2020). **Table 4.3-2, Three-Year Ambient Air Quality Summary San Joaquin Valley Air Basin**, identifies the criteria pollutants monitored by SJVAPCD for the basin as an average. **Table 4.3-2** does not contain ambient data for Carbon Monoxide (CO) because SJVAPCD does not monitor CO.

Table 4.3-2: Three-Year Ambient Air Quality Summary San Joaquin Valley Air Basin

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2016	2017	2018	Days Exceeded over 3 years
O ₃ (ppm)	San Joaquin Valley Air Basin Average	1 Hour	0.09 ppm	No Standard	0.131	0.143	0.129	3
		8 Hour	0.070 ppm	0.070 ppm	0.101	0.112	0.101	345
24 Hour		50 µg/m ³	150 µg/m ³	132.5	210	250.4	435	
Annual Arithmetic Mean		20 µg/m ³	No Standard	47.3	48.4	53.0	Not Reported ¹	
24 Hour		No Standard	35 µg/m ³	66.4	113.4	189.8	142	
Annual Arithmetic Mean		12 µg/m ³	15 µg/m ³	16	16.8	18.7	Not Reported ¹	
Annual Arithmetic Mean		0.030 ppm	0.053 ppm	0.012	0.020	0.013	Not Reported ¹	
1 Hour		0.18 ppm	0.100 ppm	0.072	0.066	0.076	Not Reported ¹	
¹ Daily data is not available. The emissions are reported as annual only, and daily exceedances are not tracked or reported (CARB, 2020).								

San Joaquin Valley Fever

The San Joaquin Valley fever, or Valley fever for short, is a respiratory disease caused by fungus spores found within soils within the southwestern United States. According to the California Department of Public Health (CDPH), Valley fever most commonly affects the respiratory system, causing symptoms such as coughing, difficulty breathing, fever, chest pain and general fatigue. While Valley fever can become serious and even fatal, leading to recorded deaths and hospitalizations each year in California, most people who are exposed to the fungus do not become ill (Centers for Disease Control [CDC], 2020). Most cases of Valley fever within California occur in the central valley and central coast regions. Reported cases of Valley fever in California have steadily increased between the years 2000 (approximately 1,000 cases) and 2018 (more than 7,500 cases) (CDPH, 2020). Most reported cases of Valley Fever occur in California and Arizona (CDC, 2020). In 2019, there were a total of 9,004 reported cases in California (CDPH, 2019). On average in California, there are approximately 80 deaths and 1,000 hospitalizations from Valley fever (CDPH, 2020). Valley fever is not communicable, and most cases occur from outdoor exposure (inhalation) of dust. At risk populations include those who work outdoors in high-risk areas, including farmers and construction workers. Fresno County, where the Proposed Project is located, is considered an endemic county by the state of California. Endemic counties are defined as those counties with an annual rate of infection greater than 20 cases per 100,000 population. Specifically, Fresno County reported 621 cases in 2019, with 3,454 reported cases since 2013. In 2019, Fresno County had the second highest total number cases (621) and the fifth highest rate (60.8 cases per 100,000 population) among counties within California.

4.3.1.3 Sensitive Receptor Locations

A graphical representation of the Proposed Project site is shown in **Figure 4.3-1, Construction Site and Sensitive Receptor Locations**. The red point (#1) represents the closest sensitive receptor location (residences) and is roughly 1.8 miles from the Proposed Project site outlined in green. There are no other sensitive receptors within that distance from the Proposed Project site.

4.3.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.3.2.1 Regulatory Setting

Federal

Federal Clean Air Act

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act (CAA), which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the CAA included the development of NAAQS for major air pollutants.

The CAA established two types of air quality standards otherwise known as primary and secondary standards. Primary Standards set limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children, and the elderly. Secondary Standards set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards has set NAAQS for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

- **Carbon Monoxide (CO)** is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.
- **Lead (Pb)** is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.

- **Nitrogen Dioxide (NO₂)** is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO₂ is usually visible as a reddish-brown air layer over urban areas. NO₂ along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness, and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO₂ above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO₂ exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.
- **Particulate Matter (PM₁₀ or PM_{2.5})** is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size, and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM₁₀ particles are 10 microns (µm) or less and PM_{2.5} particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.
- **Ozone (O₃)** is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics, and plastics.
- **Sulfur Dioxide (SO₂)** is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO₂ exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO₂ results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

State

California Air Resources Board

CARB sets the laws and regulations for air quality on the state level. CAAQS is similar to the NAAQS and also restricts four additional contaminants. **Table 4.3-3, *Ambient Air Quality Standards*** on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

- **Visibility Reducing Particles** are particles in the air that obstruct the visibility.
- **Sulfates** are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.
- **Hydrogen Sulfide (H₂S)** is a colorless, toxic, and flammable gas with a recognizable smell of rotten eggs or flatulence. H₂S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H₂S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 Parts per Million (ppm)) can cause a loss of consciousness and possibly death.
- **Vinyl Chloride** also known as chloroethene, is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).

Table 4.3-3: Ambient Air Quality Standards

Pollutant	Average Time	California Standards ¹		Federal Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.070 ppm (137 µg/m3)		
Respirable Particulate Matter (PM10) ⁹	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		-		
Fine Particulate Matter (PM2.5) ⁹	24 Hour	No Separate State Standard		35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	12 µg/m3	15 µg/m3	
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	-	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
Nitrogen Dioxide (NO ₂) ¹⁰	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m3) ⁸	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m3)		0.100 ppm ⁸ (188/ µg/m3)	-	
Sulfur Dioxide (SO ₂) ¹¹	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm ¹⁰ (for Certain Areas)	-	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method) ⁹
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm ¹⁰ (for Certain Areas) (See Footnote 9)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		75 ppb (196 µg/m3)	-	
Lead ^{12,13}	30 Day Average	1.5 µg/m3	Atomic Absorption	-	Same as Primary Standard	-
	Calendar Quarter	-		1.5 µg/m3		
	Rolling 3-Month Average	-		0.15 µg/m3		
Visibility Reducing Particles	8 Hour	See footnote 14				
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

- California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
- On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: (WRCC, 2018)

AB 203

Assembly Bill (AB) No. 203 is an amendment to the California Labor Code that addresses worker awareness training relating to Valley fever. Specifically, AB 203 requires construction employers who work in counties with high rates of Valley fever (i.e., endemic counties) to train their employees on awareness and minimizing the risks of Valley fever (State of California, 2019). Initial trainings had to be implemented by May of 2020, and training must be refreshed annually (CDPH, 2020).

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 Air Quality regulations for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County General Plan

The Fresno County General Plan contains the following Air Quality goal and policies aimed at reducing air emissions from development projects, including the Proposed Project (Fresno County, 2000):

Goal OS-G	To improve air quality and minimize the adverse effects of air pollution in Fresno County. Policies Environmental Assessment and Mitigation
Policy OS-G.13	The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVUAPCD’s particulate matter of less than ten (10) microns (PM ₁₀) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District’s Compliance Division.
Policy OS-G 14	The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

San Joaquin Valley Air Pollution Control District Regulation VIII and Rule 8021

The SJVAPCD Regulation VIII, *Fugitive PM₁₀ Prohibition*, and Rule 8021, *Construction, Demolition, Excavation, Extraction, and other Earthmoving Activities*, include requirements for particulate matter and dust control for applicable projects within the basin (SJVAPCD, 2020b). As intimated by the title, Rule 8021 applies to earthmoving activities, including construction, demolition, and excavations. The intent of Rule 8021 is to reduce the public nuisance from fugitive dust. The key requirements of Rule 8021 are reduction of visible dust emission (VDE) to less than 20 percent opacity and the preparation of a Dust Control Plan. The Dust Control Plan must include specific measure to implemented to reduce the VDE below 20 percent (SJVAPCD, 2004).

San Joaquin Valley Air Pollution Control District Significance Thresholds

The SJVAPCD has established significance thresholds for Criteria Pollutants for use in all county-related Air Quality Impact Assessments and for determining CEQA air quality impacts (SJVAPCD, 2015a). These thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that a project's total air quality impacts are below the state and federal ambient air quality standards. These significance thresholds for construction and daily operations are shown in **Table 4.3-4, SJVAPCD Significance Thresholds for Criteria Pollutants**.

Non-Criteria pollutants such as Hazardous Air Pollutants or Toxic Air Contaminants (TACs) are also regulated by the SJVAPCD. These are broken out into Carcinogens and Non-Carcinogens (Acute and Chronic). A project cannot result in a cancer risk equal to or greater than 20 in one million for the Maximally Exposed Individual (MEI) (SJVAPCD, 2015b). For both Acute and Chronic Non-Carcinogens, a project cannot result in a Hazard Index equal to or greater than one for the MEI (SJVAPCD, 2015b).

Table 4.3-4: SJVAPCD Significance Thresholds for Criteria Pollutants			
Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (Tons/Yr)	Emissions (Tons/Yr)	Emissions (Tons/Yr)
Carbon Monoxide (CO)	100	100	100
Nitrogen Oxide (NO _x)	10	10	10
Reactive Organic Gases (ROG)	10	10	10
Sulfur Oxide (SO _x)	27	27	27
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	15	15	15

In addition, some projects are required to implement PM and NO_x reduction measures as required under District Rule 9510 Indirect Source Review (ISR) which was adopted by the District's Governing Board in 2005 to reduce the impacts of growth in emissions resulting from new land development in the San Joaquin Valley (SJVAPCD, 2005). District Rule 9510 applies to new development projects that would equal or exceed specific size limits called "applicability

thresholds.” The applicability thresholds were established at levels intended to capture projects that emit at least two tons of NO_x or two tons of PM₁₀ per year (SJVAPCD, 2012).

4.3.2.2 Air Permits

The Proposed Project does not propose any stationary emission source equipment and would, therefore, not require any air quality permits.

4.3.3 IMPACT QUESTIONS

4.3.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Air Quality come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). Where available, the significance criteria by the applicable air quality management district or air pollution control district may be relied upon to the following determinations. According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality; or
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard; or
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.3.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Air Quality.

4.3.4 IMPACT ANALYSIS

4.3.4.1 Impact Analysis

Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. The SJVAPCD has developed an air quality plan consistent with California's SIP. As part of the plan, projects are required to show that project-related emissions would generate less-than-significant air quality emissions.

Potential air quality impacts related to the Proposed Project construction and operations were calculated using the latest California Emissions Estimator Model (CalEEMod) (Version 2016.3.2)

air quality model, which was developed by BREEZE Software for SCAQMD in 2017. The construction module in CalEEMod is used to calculate the emissions associated with the Proposed Project construction and uses methodologies presented in the U.S. EPA AP-42 document with emphasis on Chapter 11.9. The CalEEMod input/output model is included as Attachment 1 of the **Appendix 4.3-A, Air Quality Assessment**.

The Proposed Project's construction includes site preparation and grading, installation of drainage and retention basins, foundations/supports, setting of equipment, wiring and electrical system installation, and assembly of the accessory components. The Proposed Project site is approximately 20 acres and would require the grading of approximately 8.75 acres. The Proposed Project would require an import of roughly 17,000 cubic yards (CY) of suitable base material and export of roughly 2,000 CY. The Proposed Project plans to start grading and construction in March of 2022 and be completed in December of 2023. Construction is assumed to occur six days per week. CalEEMod does not directly incorporate Tiered equipment by default, but rather incorporates equipment fleet mixture based on the construction year. For the unmitigated emissions estimate, these defaults were used. Material hauling/truck details along with worker trips are provided within **Section 3.0, Project Description** (See **Table 3-6, Estimated Average Daily Construction Traffic**) and were manually updated within the CalEEMod software. **Table 4.3-5, Anticipated Construction Equipment and Durations** shows the expected equipment and durations as provided by the project engineer.

Table 4.3-5: Anticipated Construction Equipment and Durations				
Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Site Preparation/Road Work	March 2022	May 2022		
Graders			1	250
Off-Highway Trucks (Dump Truck)			4	415
Off-Highway Trucks (Water Truck)			4	300
Rollers			1	405
Rubber Tired Loaders (4-5 yard)			1	275
Below-Grade Construction	June 2022	August 2022		
Excavators			1	108
Off-Highway Trucks (Water Truck)			4	300
Forklifts			1	100
Tractors/Loaders/Backhoes			1	68
Excavators			1	70
Rubber Tired Loaders (4-5 yard)			1	275
Drill Rig			1	125
Off-Highway Trucks (Dump Truck)			1	415
Skid Steer Loaders			1	74
Trenchers			1	75
Above-Grade Construction and Equipment Installation	September 2022	August 2023		
Aerial Lifts			1	49
Aerial Lifts			1	74
Cranes (17 Ton)			1	250
Cranes (30 ton)			1	130

Table 4.3-5: Anticipated Construction Equipment and Durations

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Forklifts			2	130
Welding Truck			1	395
Commissioning and Testing¹	June 2023	December 2023		
Forklifts			2	130
Aerial Lifts			1	49
¹ Commissioning and Testing estimated between 6/15/23 – 12/15/23. For purposes of modeling and to avoid double counting, Forklifts and Aerial Lifts are the same units as Above Grade Construction. For this purpose, commissioning and testing was modeled with a start date of 8/16/23.				

Table 4.3-6, Expected Construction Emissions Summary – Tons per Year summarizes the construction emissions in tons per year based on the construction activities and equipment identified in **Table 4.3-5**. Based on the modeling for the unmitigated case, the Proposed Project would not exceed SJVAPCD thresholds of significance and would not require mitigation to comply. However, the Proposed Project would exceed the Rule 9510 threshold for NO_x, and, therefore, would require mitigation to comply with Rule 9510.

Table 4.3-6: Expected Construction Emissions Summary – Tons per Year

Year	ROG	NO _x	CO	SO ₂	PM ₁₀ (Dust)	PM ₁₀ (Exhaust)	PM ₁₀ (Total)	PM _{2.5} (Dust)	PM _{2.5} (Exhaust)	PM _{2.5} (Total)
2022 (Unmitigated)	0.41	3.69	2.96	0.01	0.10	0.13	0.23	0.02	0.12	0.15
2023 (Unmitigated)	0.13	1.17	1.02	0.00	0.08	0.04	0.12	0.02	0.04	0.06
SJVAPCD Significance Threshold (Tons/Year)	10	10	100	27	-	-	15	-	-	15
Significant?	No	No	No	No	-	-	No	-	-	No
Rule 9510 Significance Threshold (Tons/Year)		2					2			
Exceeds?	N/A	Yes	N/A	N/A	-	-	No	-	-	N/A

When the Rule 9510 threshold is exceeded, the emissions must be reduced by at least 20 percent for the Proposed Project to remain in compliance. In reference to the Proposed Project's NO_x emissions in 2022, the Proposed Project would be required to reduce NO_x emissions by 0.738 ton, for a 2022 annual total of below 2.952 tons. Reducing NO_x emissions within construction equipment can generally be achieved by providing a mixture of construction equipment that assumes a higher percentage of Tier 4 construction equipment. Tier 4 engines are the most efficient engines currently produced in reducing NO_x emissions, and all construction equipment produced in California since 2014 is required to be Tier 4. In order to determine the required level of mitigation (i.e., percentage of Tier 4 equipment within the overall Proposed Project construction fleet), a mitigated case was run using CalEEMod. All inputs were the same as the unmitigated case, except the percentage of Tier 4 equipment was manually entered into the model run. Specifically, the mitigation case was run assuming approximately 32 percent Tier 4 equipment, resulting in year 2022 NO_x emissions of 2.89 tons and a reduction of approximately 21.7 percent

compared to the unmitigated case. Applicant Proposed Measure (**APM AQ-1** (*Use of Tier 4 Equipment*)) would be implemented ensure the minimum amount of Tier 4 equipment is utilized during construction year 2022.

As shown in **Table 4.3-6**, *Estimated Average Daily Construction Traffic* the Proposed Project would result in less-than-significant emissions of criteria pollutants during the construction phase and, as discussed above, **APM AQ-1** would ensure compliance with Rule 9510. Therefore, the Proposed Project construction would not conflict with any air quality management plans, and construction-related impacts would be less than significant under this criterion. Emissions from the eventual decommissioning would be similar to those from the Proposed Project construction. To be conservative, the emissions from decommissioning were assumed to be the same as those from construction. This assumption is considered conservative because decommissioning would result in fewer emissions of criteria pollutants than construction. Therefore, impacts from decommissioning would be less than significant.

Proposed Project operations are expected to begin in 2023. Once operational, the Proposed Project would generate very low air quality emissions from daily operations. Anticipated operations emissions are limited to sources such as worker trips, area sources such as landscaping, and energy usage from on-site auxiliary equipment usage (e.g., control room heating, ventilation, and air conditioning [HVAC] units, communications equipment, and facility lighting). The total demand on-site would be approximately six kilowatts (kW) continuous per building or roughly 105,120 kilowatt hours (kWh) per year. Since the Proposed Project would use only electrical energy, the energy source emissions would be zero. Mobile vehicle visits to the Proposed Project site associated with periodic O&M would also generate air emissions. Monthly operations staff operations and maintenance visits, with crews of two to four persons are expected to generate two to four trips, twice per month. For purposes of preparing an overly conservative analysis, it was assumed that the Proposed Project would generate four trips per day using a rural setting. The expected daily pollutant generation from these sources is estimated in CalEEMod using the assumptions above (**Appendix 4.3-A**, *Air Quality Assessment*).

The total annual emission estimates are shown in **Table 4.3-7**, *Expected Annual Pollutant Generation (Tons/Year)*. Based upon these calculations, the Proposed Project operations would produce less-than-significant air quality impacts during operations.

Table 4.3-7: Expected Annual Pollutant Generation (Tons/Year)						
	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Area	0.04	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.01	0.01	0.00	0.00	0.00
Total (Unmitigated)	0.04	0.01	0.01	0.00	0.00	0.00
SJVAPCD Significance Threshold (Tons/Year)	10	10	100	27	15	15
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CalEEMod.						

As shown in **Table 4.3-7**, the Proposed Project would result in less-than-significant emissions of criteria pollutants during the operations phase. Therefore, the Proposed Project operations would not conflict with any air quality management plans, and operations related impacts would be less than significant under this criterion.

Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less-than-Significant Impact. The Proposed Project was analyzed for construction, decommissioning, and operational air quality emissions. Under this analysis, the Proposed Project would generate less-than-significant air quality direct impacts. With respect to an analysis of the Proposed Project's impacts under this criterion, it is important to note that air quality impacts relating to criteria pollutants are inherently cumulative. Emissions from desperate sources throughout the Air Basin are additive and cumulatively contribute to the basin's attainment status with respect to NAAQS and CAAQS.

Because of this, most significance thresholds are developed such that an individual project's significance determination can also be determinative of its cumulative impact. That is to say, if a project's individual emissions exceed applicable significance thresholds, such impact would be considered individually significant as well as resulting in a cumulatively considerable contribution to a significant cumulative impact. The SJVAPCD's thresholds of significance that are used as the basis for determining the Proposed Project's impacts relating to criteria pollutants were developed with respect to the fact that air quality impacts are inherently cumulative.

Therefore, while additional projects and other emissions sources would be active concurrently with the Proposed Project (see **Section 5.0, Cumulative and Other CEQA Considerations**), the severity of the Proposed Project's cumulative effect on air quality can be determined by its comparison to the SJVAPCD's significance thresholds. As described above and summarized in **Tables 4.3-6** and **4.3-7**, the Proposed Project would not exceed any of the SJVAPCD's thresholds of significance and **APM AQ-1** would ensure compliance with Rule 9510. It is also important to note that both construction and operational emissions would be well below the applicable CEQA thresholds. Therefore, the Proposed Project's contribution to potential significant cumulative criteria pollutant impacts is not considered to be significant. Impacts under this criterion are less than significant.

Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. The Proposed Project is located within a rural area in the SJVAPCD and the nearest sensitive receptors are 1.8 miles away from the Proposed Project site (refer to **Figure 4.3-1, Construction Site and Sensitive Receptor Locations**). The red point (#1) on **Figure 4.3-1** represents the closest sensitive residential receptor location and is the primary receiver where impacts were analyzed. Potential harmful airborne pollutants or hazards that could be caused by, or arise because of the Proposed Project, are diesel particulate matter (DPM), criteria pollutants, and Valley fever contaminated dust. Therefore, each of these is addressed under this criterion with respect to the Proposed Project.

To be conservative with respect to potential impacts associated with DPM, a construction phase health risk assessment was conducted as described below and in **Appendix 4.3-A**. DPM is a product of diesel exhaust and is the most common and potentially harmful emission related to construction activities and other actions that involve the utilization of diesel-powered equipment. Exposure to DPM is known to cause cancer and acute and chronic health effects. DPM emissions

can be estimated using the annual PM₁₀ exhaust emissions from on-site construction operations obtained from the annual CalEEMod model output by summing each on-site source for the construction duration. The Air Quality Dispersion Modeling (AERMOD) dispersion model is then used to model the dispersion of DPM at the nearest sensitive receptor. The AERMOD files for the Proposed Project are included in Attachment B of the *Air Quality Assessment (Appendix 4.3-A)* for the unmitigated scenario.

Once the dispersed concentrations of diesel particulates are estimated in the surrounding air, they are used to evaluate estimated exposure to people. Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/d). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose-air) is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30, and 16-70 years. The following algorithms calculate this dose for exposure through the inhalation pathways. The worst-case cancer risk dose calculation is defined in Equation 1 below (OEHHA, 2015):

Equation 1 $Dose_{air} = C_{air} * (BR/BW) * A * EF * (1 \times 10^{-6})$

Dose _{air}	=	Dose through inhalation (mg/kg/d)
C _{air}	=	Concentration in air (µg/m ³) Annual average DPM concentration in µg/m ³ - AERMOD predicts annual averages.
BR/BW	=	Daily breathing rate normalized to body weight (L/kg BW-day). See Table I.2 for the daily breathing rate for each age range.
A	=	Inhalation absorption factor (assumed to be 1)
EF	=	Exposure frequency (unitless, days/365 days)
1x10-6	=	Milligrams to micrograms conversion (10 ⁻³ mg/ µg), cubic meters to liters conversion (10 ⁻³ m ³ /l)

Cancer risk is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure duration divided by averaging time, to yield the excess cancer risk. As described below, the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. Specific factors as modeled are presented in **Appendix 4.3-A, Air Quality Assessment**). The worst-case cancer risk calculation is defined in Equation 2 below (OEHHA, February 2015):

Equation 2 $RISK_{inh-res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$

RISK _{inh-res}	=	Residential inhalation cancer risk
DOSE _{air}	=	Daily inhalation dose (mg/kg-day)
CPF	=	Inhalation cancer potency factor (mg/kg-day ⁻¹)
ASF	=	Age sensitivity factor for a specified age group (unitless)
ED	=	Exposure duration (in years) for a specified age group
AT	=	Averaging time for lifetime cancer risk (years)
FAH	=	Fraction of time spent at home (unitless)

The California Office of Environmental Health Hazard Assessment (OEHHA) recommends that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). OEHHA also recommends that the 30-year exposure duration be used as the basis for public notification and risk reduction audits and plans. Exposure durations of nine years and 70 years are also recommended to be evaluated for the MEIR to show the range of cancer risk based on residency periods. If a facility is notifying the public regarding cancer risk, the nine- and 70-year cancer risk estimates are useful for people who have resided in their current residence for periods shorter and longer than 30 years. Health risk calculations are shown in Attachment C of the *Air Quality Assessment* (**Appendix 4.3-A**)

Non-Cancer risks or risks defined as chronic or acute are also known with respect to DPM and are determined by the hazard index. To calculate hazard index, DPM concentration is divided by its chronic Reference Exposure Levels (REL). Where the total equals or exceeds one, a health hazard is presumed to exist. RELs are published by the Office of Environmental Health Hazard Assessment (OEHHA, 2015). Diesel Exhaust has a REL of 5 µg/m³ and targets the respiratory system.

The nearest sensitive receptors to the Proposed Project site are identified in **Figure 4.3-1, Construction Site and Sensitive Receptor Locations** above and are greater than one mile from the Proposed Project site. Based upon the annual air quality modeling results presented in **Appendix 4.3-A**, worst-case unmitigated PM₁₀ from exhaust emissions (i.e., DPM emissions) would cumulatively produce 0.143 ton (over the total construction duration of 640 days and a total of 547 work days) or an average of 0.00235 grams/second. The average emission rate over the grading area is 5.85x10⁻⁸ g/m²/s, which was calculated as follows:

$$\frac{0.00235 \frac{\text{grams}}{\text{second}}}{9.2 \text{ acres} * 4,046 \frac{\text{meters}^2}{\text{acre}}} = 6.32 * 10^{-8} \frac{\text{grams}}{\text{meters}^2 \text{ second}}$$

Utilizing the AERMOD dispersion model, the worst-case annual concentration of DPM from Proposed Project construction is estimated at 0.00006 µg/m³ at the identified sensitive receptor located 1.8 miles from the Proposed Project site. Utilizing the risk equation identified above, the inhalation cancer risk for the closest residential receptor was found to be less than one in one million exposed. This is well below the allowable 20 per one million exposed (SJVAPCD, 2015).

Finally, there are known acute and chronic health risks associated with diesel exhaust which are considered non-cancer risks. These risks are calculated based on the methods described above and in **Appendix 4.3-A**. From this we find that the annual concentration of 0.00006 µg/m³ divided by the REL of 5 µg/m³ yields a Health Hazard Index less than one. Therefore, no acute or chronic health risks are expected, and all health risks associated with DPM are considered less than significant.

Valley fever is a disease that typically affects the respiratory system and is communicated by fungal spores within soil and airborne dust. Therefore, at risk activities include those that either create high levels of dust, require workers to be in close contact with soils and dusts, or both. The Proposed Project is located within unincorporated Fresno County, which is located in the California Central Valley. The California Central Valley is the region of California considered to be

of highest risk for Valley fever (CDPH, 2020); therefore, Valley fever is a health risk of concern in relation to the Proposed Project. As discussed above, the nearest sensitive receptor to the Proposed Project site are residences located approximately 1.8 miles away. At this distance, dust created at the Proposed Project site would be of concern. While Valley fever is a risk for anyone living or working in the Proposed Project vicinity, the addition of the Proposed Project would not increase this risk for the existing residences. However, for the construction workers and other project personnel who would be on-site during times of dust transport, a risk to their health would occur.

The Proposed Project activities that would result in the greatest risk would be those involving the excavation and transport of soils, such as grading. These activities, along with localized wind conditions, create the work conditions with the highest risk. According to the CDPH and the CDC, avoiding working in soils and dusty conditions is the best preventative measure. For workers who cannot avoid soil disturbance (such as farmers and construction workers), avoiding or mitigating dust as well as other engineering controls become the primary preventative measures. The CDPH Occupational Health Branch (OHB) and the CDC make recommendations for the protection of workers. The primary protection measures relate to the following: worker training, dust suppression, and personal protective equipment (PPE). As of May 2020, employers are required to provide workers with Valley fever awareness and protection training for work that occurs in endemic areas. With respect to dust suppression, SJVAPCD Rule 8021 requires projects to reduce VDE to less than 20 percent opacity (SJVAPCD, 2020b). The Proposed Project's compliance with these regulatory requirements would reduce the potential impacts from Valley fever to a level that is less than significant. Therefore, **APMs AQ-2 (Dust Control Plan)** and **AQ-3 (Valley Fever Worker Awareness Training)** are included as part of the Proposed Project.

Finally, emissions of criteria pollutants also have the potential to effect human health. The primary pollutant of concern is ozone. However, ozone is not directly emitted by any of the elements of the Proposed Project. Rather, ozone is a byproduct of certain criteria pollutants that are emitted by the Proposed Project; namely NO_x, VOCs, and ROG. These pollutants are considered to be precursors for ozone. Ozone is detrimental to human health when it is inhaled as part of the air human beings breathe. Inhalation of ozone can lead to numerous respiratory effects, ranging from shortness of breath to chronic obstructive pulmonary disease (COPD). The adverse effects of ozone are intensified for those individuals who have pre-existing respiratory illness (such as asthma, emphysema, and bronchitis) or are otherwise more sensitive (such as children and the elderly). While ozone is tracked at a regional level through the NAAQS and CAAQS attainment classifications, accurate analysis of specific health impacts from ozone based on project-specific emissions of precursors have not been established. The SJVAPCD and nearby South Coast Air Quality Management District (SCAQMD), who created the CalEEMod program that calculates project-specific emissions of criteria pollutants, has asserted this conclusion in the past (SJVAPCD, 2015c) (SCAQMD, 2015). Therefore, the potential localized health impacts from the Proposed Project's emissions of criteria pollutants is addressed qualitatively through application of the Proposed Project's performance with respect to the SJVAPCD's regional significance thresholds. As discussed above, the Proposed Project's emissions of NO_x, ROG, and VOCs are well below the published thresholds. Therefore, impacts to human health are considered to be less than significant.

Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. The Proposed Project may create temporary construction odors from combustion engine equipment but would not be considered significant due to the highly dispersive nature of diesel exhaust. Also, it should be noted that the nearest residential receptor is approximately 1.8 miles away. Therefore, less-than-significant impacts are expected.

The Proposed Project is not anticipated to result in emissions that could cause odors or other adverse effect during operations. No impacts would occur.

4.3.5 CPUC DRAFT ENVIRONMENTAL MEASURES

While the CPUC includes a Draft Environmental Measure for dust control within the Proponent's Environmental Assessment Guidelines document (CPUC, 2019), it is not included within this document. The Proposed Project has included Applicant Proposed Measures (**APM AQ-2**, Dust Control Plan, instead. **APM AQ-2** was included in place of the CPUC's Draft Environmental Measure because the Dust Control Plan described in **APM AQ-2** is based on a requirement from the SJVAPCD (Rule 8021), which would supersede the measures prescribed in the CPUC measure.

4.3.6 APPLICANT PROPOSED MEASURES

The Proposed Project includes three APMs relating to Air Quality, as outlined below.

APM AQ-1

The Proposed Project would ensure that at least 32 percent of all diesel-powered equipment use (tracked as horse-power hours) during construction year 2022 is from equipment that meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards.

Prior to the commencement of construction, LSPGC shall develop a diesel-powered equipment use hours tracking tool and procedure. The tracking tool shall be utilized by the Project to keep track of the certified engine tier and daily equipment use hours of all off-road diesel-powered equipment. If all diesel-powered equipment is certified Tier 4, the tracking tool would not be required; however, the Project would be required to verify, record, and track the engine tier of all equipment. The tracking tool shall be maintained by the Project and tracking updates shall be submitted to the CPUC on a monthly basis to track the Project's compliance. Records of the engine tier of all equipment shall be kept onsite and made available to the CPUC upon request.

APM AQ-2

The Proposed Project would comply with SJVAPCD Rule 8021 and would prepare and implement a Dust Control Plan for approval by the SJVAPCD Air Pollution Control Officer (APCO). The Dust Control Plan would include specific dust control measures as prescribed within Rule 8021, or as otherwise requested by the APCO. This plan would be submitted and approved prior to construction.

APM AQ-3

The Proposed Project would comply with AB 203 and provide Valley fever awareness training to all construction workers, inspectors, monitors, and any other project personnel that are required

to perform work in or near disturbed soils or dust emissions at the Proposed Project site. The Valley fever awareness training materials would be prepared by a qualified professional, adapted from agency published trainings (CDPH, CDC, etc.), or otherwise produced by a qualified source. The Valley fever awareness training would be incorporated into the Proposed Project's overall Worker Environmental Awareness Program (WEAP) training.

4.4 BIOLOGICAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c.	Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

g.	Would the project create a substantial collision or electrocution risk for birds or bats?			X	
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This section describes the Biological Resources within the vicinity of the Proposed Project as well as potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.4.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

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. These hills separate the San Joaquin Valley to the east and Pleasant Valley and the Kettleman Plain to the west. The Gujarral 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 east of the Proposed Project. The Proposed Project region 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 Proposed Project site and immediately surrounding area are flat and range from 387 to 406 feet amsl (United State Geological Survey [USGS], 2020).

4.4.1.1 Biological Resources Technical Report

The analysis presented in this section is based in part on the Proposed Project-specific Biological Resources Technical Report (BRTR; **Appendix 4.4-A**), which documents existing conditions, the potential for occurrence of special-status species, and the findings of biological surveys. Most of the information on the regulatory setting, methods, environmental setting, and impact analysis has been summarized from the BRTR. Photographs of the Proposed Project are included in the BRTR.

4.4.1.2 Survey Area (Local Setting)

A 1,000-foot buffer was surveyed around the Proposed Project site as well as 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 to define the Biological Resources Survey Area (Survey Area). The Proposed Project and Survey Area (**Figure 4.4-1, Proposed Project**) includes all areas of permanent and temporary impacts associated with the construction of the Proposed Project and is the area for which the potential for occurrence of special-status species was analyzed. Consistent with the Swainson's Hawk (SWHA) Technical Advisory Committee's (2000) "Recommended Timing and Methodology for SWHA Nesting Surveys in California's

Central Valley,” and the California Department of Fish and Wildlife (CDFW)-approved survey plan, SWHA surveys were conducted in 2020 within a 0.5-mile buffer around the Proposed Project site.

4.4.1.3 Vegetation Communities and Land Cover

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 site, the Survey Area, and a majority of the Proposed Project region (5-mile buffer) 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 Project 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 was mapped within the Survey Area is summarized in **Table 4.4-1, Vegetation Communities and Land Cover Types**. Brief descriptions of each community or cover type are provided following the table. Vegetation community and land cover mapping is shown on **Figure 4.4-2, Vegetation Communities**. None of the vegetation communities or land cover types that were mapped in the Survey Area are considered sensitive.

Table 4.4-1: Vegetation Communities and Land Cover Types		
Vegetation Community of Land Cover Type Name	Approximate Acreage in Survey Area	Percent of Total Acreage
Disturbed	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 PG&E 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 PG&E 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 PG&E Gates Substation and the Proposed Project's access road along South Trinity Avenue.

Agriculture – Vineyard

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

Sensitive Natural Vegetation Communities

There are no sensitive natural vegetation communities that meet the definition of a biological resource under California Environmental Quality Act (CEQA) (i.e., rare, designated or otherwise protected) within the Survey Area.

4.4.1.4 Aquatic Features

There are no significant aquatic resources or potentially jurisdictional features within the Proposed Project site or Survey Area. There are two small water conveyance features (agricultural drainage ditches) adjacent to the southern and northern sides of West Jayne Avenue (**Figure 4.4-2, Vegetation Communities**). 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 U.S. Army Corps of Engineers (ACOE), the Regional Water Quality Control Board (RWQCB), or CDFW and would not be impacted by construction, operation, or decommissioning of the Proposed Project.

The only feature identified by the National Wetlands Inventory (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 4.4-3, NWI Wetlands**) (USFWS, 2020a). This potential feature was field verified 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 similar feature was observed in the vicinity of the NWI-mapped feature. The Proposed Project would not impact any potentially jurisdictional features or aquatic resources.

4.4.1.5 Habitat Assessment

Special-status species are plants and wildlife that require special consideration or protection and have been listed as rare, threatened, or endangered, by federal, state, or other agencies because of their rarity, vulnerability to habitat loss, population decline, or other factors. Species listed as threatened or endangered are protected under federal or state law. Other species have been designated as special status by state resource agencies or by policy of local agencies to meet conservation objectives.

Special-status plant and wildlife species identified during the literature and database search (five-mile buffer) were analyzed with the following definitions of their potential to occur within the Survey Area:

- **Not Expected:** The Survey Area does not support suitable habitat for a particular species and the known range for a particular species is outside of the Survey Area.
- **Low Potential:** The Survey Area provides limited suitable habitat for a particular species. The known range for a particular species may be outside of the Survey Area.
- **Moderate Potential:** The Survey Area provides suitable habitat for a particular species. The known range for a particular species may include the Survey Area.
- **High Potential:** The Survey Area provides ideal habitat conditions for a particular species or known populations occur in the immediate vicinity.
- **Present:** Species was observed within the Survey Area during biological surveys or other site visits.

Biological Surveys

A biological survey of the Survey Area was conducted to analyze the potential for occurrence of special-status species, plants, and animals, sensitive vegetation communities and habitats, and to document vegetation cover types and aquatic resources.

General Wildlife

Very few wildlife species were observed during field surveys, and all of the common species that were observed were typical of 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 (*Haemorrhous 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*).

Transmission structures in the vicinity of the Proposed Project provide suitable nesting habitat for some raptors, and the site and surrounding agricultural fields provide suitable foraging habitat. Two red-tailed hawk nests were observed on transmission structures during SWHA surveys.

No other wildlife species were observed during field surveys. The Proposed Project site is generally too disturbed to support burrowing mammals, but some small mammal burrows may be present between periods of heavy disturbance associated with agricultural activities.

Special-Status Plants

All special-status plant species found in Information for Planning and Consulting (IPaC) (USFWS, 2020b), California Native Plant Society (CNPS) (2020), and California Natural Diversity Database (CNDDDB) (CDFW, 2020a) occurrence records within the Proposed Project region were evaluated for their potential to occur in the Survey Area based on the presence of suitable habitat, elevation, and soils (**Table 4.4-2, Habitat Assessment**). The IPaC report is provided in the BRTR (**Appendix 4.4-A**); CNDDDB records are shown on **Figure 4.4-4, CNDDDB** and soils are shown on **Figure 4.4-5, Soil Types** (United States Department of Agriculture, Natural Resources Conservation Service [USDA NRCS], 2019). There is no United States Fish and Wildlife Service (USFWS) critical habitat for special-status species plants mapped within five miles of the Proposed Project (USFWS, 2020b). Based on the literature review, eight special-status plant species documented within the Proposed Project region were evaluated for their potential to occur within the Survey Area (**Table 4.4-2, Habitat Assessment**). No special-status plant species were identified as having the potential to occur within the Survey Area. No special-status plants were observed in 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.

Special-Status Wildlife

All special-status species wildlife found in the IPaC, (USFWS, 2020b), CNDDDB (CDFW, 2020b) occurrence records within the Proposed Project region and the Western Bat Working Group (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 4.4-2, Habitat Assessment**). The IPaC report is provided in the BRTR (**Appendix 4.4-A**); CNDDDB records are shown on **Figure 4.4-4, CNDDDB**. There is no USFWS critical habitat for special-status species wildlife mapped within five miles of the Proposed Project (USFWS, 2020b). Based on the literature review, 17 special-status mammals, six birds, two reptiles, two amphibians, one fish, and one crustacean documented within the Proposed Project region were evaluated for their potential to occur within the Survey Area (**Table 4.4-2, Habitat Assessment**). The only special-status wildlife species that was observed during biological surveys was the red-tailed hawk (raptors are protected by the Migratory Bird Treaty Act [MBTA] and the California Fish and Game Code). Two active red-tailed hawk nests were observed during SWHA (*Buteo swainsoni*, SWHA) surveys on transmission structures within 0.5 mile of the Proposed Project (one approximately 750 feet north, one approximately 0.5 mile northwest). Only one special-status bird (loggerhead shrike, *Lanius ludovicianus*, USFWS BCC, CDFW SSC) 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 identified as having a high potential to occur within the Survey Area. The remainder of the species that were evaluated are not expected to occur or have a low potential to occur. The

loggerhead shrike and raptor species that were or may be encountered within the Survey Area are described in more detail following **Table 4.4-2, Habitat Assessment**.

The SWHA is listed as a California state-threatened species under the California Endangered Species Act (CESA). The CDFW requested that SWHA surveys be conducted. They were conducted as recommended in the SWHA Technical Advisory Committee's (2000) "Recommended Timing and Methodology for SWHA Nesting Surveys in California's Central Valley," and in CDFW-approved survey plan, within a 0.5-mile buffer around the Proposed Project. No SWHA nesting habitat, individuals, or nests were observed within the 0.5-mile buffer (**Figure 4.4-6, Swainson's Hawk Survey with Raptor Nest Locations**). The BRTR details the results of the SWHA surveys (**Appendix 4.4-A**).

Special Status Species Descriptions

The following special status descriptions are used in **Table 4.4-2**.

- **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 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
Plants				
Crownscale	<i>Atriplex coronata</i> var. <i>coronata</i>	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	<i>Atriplex depressa</i>	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	<i>Caulanthus californicus</i>	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).
Lemmon's Jewelflower	<i>Caulanthus lemmonii</i>	1B.2	Occurs in grasslands, chaparral 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

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
				Proposed Project based on CNDDB records (CDFW, 2020b).
Recurved Larkspur	<i>Delphinium recurvatum</i>	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	<i>Eremalche parryi</i> ssp. <i>Kernensis</i>	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 Proposed 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).
Hoover's Eriastrum	<i>Eriastrum hooveri</i>	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 Woollythreads	<i>Monolopia congdonii</i>	FE, 1B.2	Occurs in non-native grassland, Valley saltbush scrub, and subshrub scrub. Typically occupies habitats with less than 10% shrub cover and	Not expected to occur within the Survey Area based on lack of suitable habitats and the

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
			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)	high level of disturbance at the site and in surrounding areas. The nearest CNDDDB 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	<i>Dipodomys ingens</i>	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 CNDDDB records (CDFW, 2020b).
San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	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 CNDDDB 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,

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
				southwest, and west (CDFW, 2020b).
Tipton Kangaroo Rat	<i>Dipodomys nitratoides nitratoides</i>	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 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 CNDDDB records (CDFW, 2020b).
Short-Nosed Kangaroo Rat	<i>Dipodomys nitratoides brevinasus</i>	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 CNDDDB occurrence was recorded approximately 5 miles west of the Proposed Project in the Gujarral Hills (CDFW, 2020b).
American Badger	<i>Taxidea taxus</i>	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 CNDDDB occurrences were recorded approximately 4.5 miles north and 5 miles south of the Proposed Project (CDFW, 2020b).
Nelson's Antelope Squirrel	<i>Ammospermophilus nelsoni</i>	ST	Inhabits the arid grassland, shrubland, and alkali sink habitats of the San Joaquin Valley and	Not expected to occur within the Survey Area based on absence of

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
			surrounding foothills. Uses burrows for cover and reproduction (ESRP, 2020).	suitable natural habitats and the high level of disturbance on the Proposed Project site and in surrounding areas. The nearest CNDDDB occurrence was recorded approximately 4.5 miles north of the Proposed Project (CDFW, 2020b).
Tulare Grasshopper Mouse	<i>Onychomys torridus tularensis</i>	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 lack of suitable natural habitats and the high level of disturbance on the Proposed Project site and in surrounding areas. The nearest CNDDDB occurrence was recorded approximately 5 miles south of the Proposed Project area (CDFW, 2020b).
Western Mastiff Bat	<i>Eumops perotis californicus</i>	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 CNDDDB occurrence was recorded approximately 4.5 miles north of the Proposed Project area (CDFW, 2020b).
Townsend's Big-Eared Bat	<i>Corynorhinus townsendii</i>	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	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

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
			habitats. Requires caves or mines for roosting habitat (WBWG, 2020b).	crops. No known occurrences within 5 miles of the Proposed Project based on CNDDDB records (CDFW, 2020b).
Pallid Bat	<i>Antrozous pallidus</i>	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 CNDDDB records (CDFW, 2020b).
Spotted Bat	<i>Euderma maculatum</i>	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 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 CNDDDB records (CDFW, 2020b).
Western Red Bat	<i>Lasiurus blossevillii</i>	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 CNDDDB records (CDFW, 2020b).

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
Hoary Bat	<i>Lasiurus cinereus</i>	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 absence of suitable forest habitats in the vicinity of the Survey Area.
Long-Eared Myotis	<i>Myotis evotis</i>	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 lack of suitable forest habitats in the vicinity of the Survey Area.
Little Brown Myotis	<i>Myotis lucifugus</i>	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 lack of suitable forest habitats in the vicinity of the Survey Area.
Fringed Myotis	<i>Myotis thysanodes</i>	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 lack of suitable forest habitats in the vicinity of the Survey Area.
Long-Legged Myotis	<i>Myotis volans</i>	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 lack of suitable forest habitats in the vicinity of the Survey Area.
Birds				
Swainson's Hawk	<i>Buteo swainsoni</i>	ST, BCC	Overwinters in South America. Habitat in the breeding range consists of open stands of grass	Low potential to occur within the Survey area during breeding season.

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
			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).	Some potential foraging habitat exists in the row crop fields to the east of the Proposed Project area and south of Gates Substation. No Swainson's Hawk nests or individuals were observed during field surveys within the 0.5-mile buffer in 2020. The nearest CNDDDB occurrence was recorded approximately 5 miles northeast of the Proposed Project area (CDFW, 2020b).
California Condor	<i>Gymnogyps californianus</i>	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 (<i>Sequoia sempervirens</i>) and giant sequoia (<i>Sequoiadendron giganteum</i>). 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 Proposed Project in the Kettleman Hills to the south. No known occurrences within 5 miles of the Proposed Project based on CNDDDB records (CDFW, 2020b).
Western Burrowing Owl	<i>Athene cunicularia</i>	BCC, CSSC	Open habitats with low or sparse vegetation such as prairie pastures, 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 Proposed 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

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
				Project if burrows are present. No suitable burrows or individuals have been observed during surveys. The nearest CNDDDB occurrences were recorded approximately 4.5 miles to the NNE and SE of the Proposed Project (CDFW, 2020b).
Loggerhead Shrike	<i>Lanius ludovicianus</i>	BCC, CSSC	Open country with short vegetation, such as pastures with fence rows, mowed roadsides, golf courses, agricultural fields, riparian areas, and open woodland (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 CNDDDB occurrence was recorded approximately 3.75 miles southeast of the Proposed Project (CDFW, 2020b).
Tricolored Blackbird	<i>Agelaius tricolor</i>	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 CNDDDB occurrence was recorded approximately 5 miles southeast of the Proposed Project (CDFW, 2020b).
White-Tailed Kite	<i>Elanus leucurus</i>	CFP	Generally occurs in low elevation grassland, agricultural, wetland,	Low potential for occurrence within the

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
			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).	Survey Area. White-tailed kites may use row crop fields for foraging purposes, 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.
Reptiles				
Blunt-Nosed Leopard Lizard	<i>Gambelia sila</i>	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 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 Proposed Project site, primarily near native communities within and north of the Kettleman Hills (CDFW, 2020b)
Giant Garter Snake	<i>Thamnophis gigas</i>	FT, ST	Inhabits agricultural wetlands and other waterways such as irrigation	Not expected to occur within the Survey Area

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
			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)	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				
California Red-Legged Frog	<i>Rana draytonii</i>	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 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, support no riparian vegetation, and only have 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	<i>Ambystoma californiense</i>	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 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).

Table 4.4-2: Habitat Assessment

Common Name	Scientific Name	Status*	Habitat	Potential for Occurrence
Fishes				
Delta Smelt	<i>Hypomesus transpacificus</i>	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 lack of suitable aquatic habitats at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDDB records (CDFW, 2020b).
Crustaceans				
Vernal Pool Fairy Shrimp	<i>Branchinecta lynchi</i>	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 lack of suitable ephemeral pools at the site and in surrounding areas. No known occurrences within 5 miles of the Proposed Project based on CNDDDB 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.

No loggerhead shrikes were observed during the biological survey or any of the SWHA protocol surveys. The nearest known CNDDDB 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 the PG&E 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 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 BCC, CDFW FP, or CDFW SSC raptor species have a low potential to occur within the Survey Area at different times throughout the year. Examples include: SWHA, 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 (*Bubo virginianus*), 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 areas. 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 opportunities. 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.

4.4.1.6 Critical Habitat

The USFWS designates critical habitat under the Endangered Species Act (ESA) for the survival and recovery of federally listed endangered and threatened species. Protected habitats include areas for foraging, breeding, roosting, shelter, and movement or migration. There are no designated or proposed critical habitats located within the Survey Area or the Proposed Project region (USFWS, 2020b).

4.4.1.7 Native Wildlife Corridors and Nursery Sites

Wildlife migration corridors are areas that connect suitable wildlife habitats in a region that would otherwise be fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population or high-density areas; and facilitate genetic diversity. 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.

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 Gujarral and Kettleman Hills exist approximately 4.3 miles west and five miles southwest 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.

4.4.1.8 Biological Resource Management Areas

The Proposed Project and Survey Area do not occur within any biological resource management areas, and there are no adopted plans applicable to the Proposed Project.

4.4.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.4.2.1 Regulatory Setting

Federal

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.”

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, the 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 to USDOI for further proceedings. USDOI has proposed, but not yet finalized, regulations that would codify M-37050. As discussed in further detail below, California’s Migratory Bird Protection Act was created in response to M-37050.

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 BGEPA 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:

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

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 ACOE is the federal agency authorized to issue Section 404 permits for certain activities conducted in wetlands or other waters of the US. 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 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.

State**California Endangered Species Act**

The CDFW administers the CESA of 1984, 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).

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 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.

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 would 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.

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 ten 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."

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.

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.

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.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (CPUC 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local related policies, plans or programs for informational purposes.

Fresno County General Plan

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

Goal OS-E	To help protect, restore, and enhance habitats in Fresno County that support fish and wildlife species so that populations are maintained at viable levels.
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- 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 USFWS 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 California Department of Fish and Game.
- 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 California Department of Fish and Game 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 using open space easements and appropriate zoning that restrict development in these sensitive areas.
- Goal OS-B** To maintain healthy, sustainable forests in Fresno County, conserve forest resources, enhance the quality and diversity of forest ecosystems, reduce conflicts between forestry and other uses, encourage a sustained yield of forest products, protect and conserve lands identified as suitable for commercial timber production within the county, and conserve forest lands that have other resource values including recreation, grazing, watershed, and wildlife habitats.
- 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.
- Goal OS-F** To preserve and protect the valuable vegetation resources of Fresno County.
- 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.

4.4.2.2 Habitat Conservation Plan

The Proposed Project is located approximately three miles east of the boundary for the Aera Energy Southwest San Joaquin Valley Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), which is currently in the planning stage. This HCP, if approved, would not be applicable to the Proposed Project. There are no adopted NCCPs in Fresno County or in the adjacent Kings County, and no local, regional, or state HCPs that would apply to the Proposed Project.

4.4.3 IMPACT QUESTIONS

4.4.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Biological Resources come from the CEQA, Appendix G (as amended in December 2019), Environmental Checklist. According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; or
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service; or
- Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), the following additional CEQA impact question is required for biological resources:

- Would the project create a substantial collision or electrocution risk for birds or bats.

4.4.4 IMPACT ANALYSIS

4.4.4.1 Impact Analysis

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less-than-Significant Impact. The Proposed Project would result in 9.8 acres of permanent impacts (8.46 acres of vineyard and 1.35 acres of disturbed) and 13.69 acres of temporary impacts (11.41 acres of vineyard and 2.28 acres of disturbed). The Applicant would restore all areas (including the borrow area) that are temporarily disturbed by the Proposed Project activities to approximate pre-construction conditions. All areas would be carefully assessed to be sure all residual construction debris and waste is removed and transported off-site to an approved disposal facility. The Applicant would conduct a final inspection to ensure that cleanup activities are successfully completed as required. Areas that are disturbed by grading, auguring, or equipment movement would be restored to their original contours and drainage patterns. Work areas would be recompact, and salvaged topsoil materials would be re-spread following recontouring to aid in restoration of temporary disturbed areas. Revegetation activities would be conducted in accordance with the Proposed Project SWPPP. Restoration could include recontouring, reseeding, and planting replacement vegetation, as appropriate. Erosion control measures may be required and would also be implemented in accordance with the Proposed Project SWPPP and Applicant Proposed Measures (APMs) recommended herein. After decommissioning and restoration, it is anticipated the Proposed Project site would be used for infrastructure purposes and not anticipated to return to agriculture.

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). No special-status plant species were determined to have the potential to occur within the area of the Proposed Project. Species with a low potential to occur within the Survey Area include San Joaquin kit fox (FE, ST), American badger (CSSC), western mastiff bat (CSSC, WBWG-H), Townsends big-eared bat (CSSC, WBWG-H), pallid bat (CSSC, WBWG-H), western red bat (CSSC, WBWG-H), SWHA (BCC, ST), California condor (FE, SE), western burrowing owl (BCC, CSSC), tricolored blackbird (BCC, ST), and white-tailed kite (CFP).

Due to the low quantity of observations of special-status animals at the Proposed Project during surveys conducted in 2019 and 2020 (only red-tailed hawks were observed), the limited number of special-status species that could occur, the small footprint of the Proposed Project in relation to local and global ranges and populations of these species, the highly disturbed agricultural and industrial landscape, and the high level of human activity and disturbance already occurring in the Survey Area and Proposed Project region, impacts to special-status animals would be less than significant. Implementation of the APMs described below would further reduce impacts.

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

Proposed Project structures, and permanent loss of approximately 9.8 acres 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 the loss of this habitat. The number of vehicles during construction would be greater 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, which would be minimized by 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 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 could disrupt breeding and foraging, prevent birds from attending to nests, or cause birds to flush from their nests, endangering eggs and chicks. Noise during construction is expected to be short-term in nature and minimal and would be even lower during operations. 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 may also temporarily affect avian and bat species' roosting and foraging behavior, especially for 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 PG&E Gates Substation and agriculture in the area is high. All foreseeable direct and indirect impacts to special-status species would not increase significantly during construction, operations, or decommissioning compared to background levels. The temporary construction period 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. Decommissioning impacts are conservatively estimated to be similar to construction impacts. The level of disturbance associated with long-term operation would be much less than that of the adjacent existing PG&E 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 of potentially suitable foraging habitat for loggerhead shrike, raptors, and other species would be less than significant. The recommended APMs would further reduce any risk of direct and indirect impacts to special-status wildlife species to a level that is less than significant.

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No Impact. No riparian habitats or other sensitive natural communities are located within the Survey Area for the Proposed Project; therefore, no impacts would occur under this criterion.

Would the project have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. No federal or state protected wetlands are located within the area of the Proposed Project; therefore, no impacts would occur under this criterion.

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-Than-Significant Impact. Significant impacts on wildlife movement could occur if a wildlife movement corridor were to be interrupted by a feature that physically blocks wildlife movement (e.g., a roadway) or if suitable habitat that supports wildlife in the movement corridor were to be directly removed during construction or indirectly affected by construction noise or dust. The small, 9.8 acres of permanent disturbance area at the Proposed Project site is located in a highly disturbed agricultural and industrial area that is generally lacking in sensitive natural communities that support wildlife species or provide wildlife nursery sites and would not interfere with local short-distance wildlife movement and is not located within resident or migratory corridors except the Pacific Flyway, which, as stated above, covers roughly one third of the North American continent.

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 PG&E 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 PG&E 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 the PG&E 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 footprint (~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.

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. 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 Proposed Project would 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) 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 BRTR was prepared by a qualified biologist for the Proposed 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 under this criterion.

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. There are no adopted plans applicable to the Proposed Project. The Proposed Project is located approximately three miles to the east of the boundary for the Aera Energy Southwest San Joaquin Valley HCP and 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 local, regional, or state HCPs that would apply to the Proposed Project. Therefore, no impacts would occur under this criterion.

Would the project create a substantial collision or electrocution risk for birds or bats?

Less-than-Significant Impact. Direct risks to bird and bat species could include collision and electrocution associated with the short distribution power line and STATCOM. Impacts would be less than significant because the distribution line is very short and dimensions of the equipment at the STATCOM are generally large enough that there is no risk of electrocution. Potential impacts during construction, operation, and decommissioning activities would be further reduced or avoided by implementation of **APMs BIO-2** (electrocutions would be minimized by implementation of APLIC measures on the distribution line) and **BIO-3** (collisions would be minimized by implementation of APLIC measures on the distribution line). The adjacent PG&E Gates Substation and associated transmission lines include many tall structures with transmission lines that already present a risk for collision and electrocution, but resident birds and bats have likely grown accustomed to these obstructions. The Proposed Project would not add a significant number of structures to the immediate area, and these would be designed to minimize the potential for collision and electrocution risk.

4.4.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Biological Resources.

4.4.6 APPLICANT PROPOSED MEASURES

The following Biological Resources specific APMs would be implemented on the Proposed Project.

APM BIO-1

Speed of vehicles driving along proposed access roads and on the Proposed Project site during construction and O&M would be limited to 15 mph. In addition, construction and maintenance employees would be advised that care should be exercised when commuting to and from the Proposed 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 (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 the Proposed Project's 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 or trenches that are not be filled at the end of a workday 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 WEAP would be implemented to educate all construction and O&M workers on site-specific biological and non-biological resources and proper work practices to avoid harming wildlife during construction or O&M activities.

4.5 CULTURAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a historical resources pursuant to §15064.5?				X
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			X	
c.	Disturb any human remains, including those interred outside of dedicated cemeteries?			X	

This section describes the Cultural Resources within the vicinity of the Proposed Project, as well as potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.5.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project site is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

Area of Potential Effects

Pursuant to 36 Code of Federal Regulations [CFR] 800.4(a) (1), an Area of Potential Effects (APE) is the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties eligible for listing on the National Register of Historic Places (NRHP).

Survey Area

The Survey Area consists of the APE as well as a buffer of approximately 15 meters. The buffer is included during the pedestrian survey to account for resources that are outside but adjacent to the APE that may be impacted by Proposed Project activities.

Record Search Area

The Record Search Area consists of the APE plus a buffer of one mile. The buffer is included during background research to identify any previous studies or previously recorded historic or archaeological resources in the wider project area.

4.5.1.1 Cultural Resource Reports

The Cultural Resources Technical Report (Mengers, 2020) is included in **Appendix 4.5-A**. The confidential version of this appendix was submitted separately to California Public Utilities Commission (CPUC) staff under Public Utilities Code Section 583.

4.5.1.2 Cultural Resources Summary

Background research included a record search review, historic map review, geoarchaeological assessment, Sacred Lands File (SLF) search, and Native American tribal outreach. The record search and SLF search were negative for resources within the Proposed Project APE. The geoarchaeological assessment indicates a moderate likelihood of prehistoric subsurface resources. Tribal outreach indicates a likelihood of ethnohistoric subsurface resources.

No archaeological resources were located during the surface survey, conducted on May 18, 2019. The entirety of the survey area is an old-vine vineyard and adjacent dirt roads. Ground visibility throughout the survey area was excellent. There are no known cultural resources in the APE.

Methods

Information on the character and location of cultural resources at the Proposed Project site and local vicinity was compiled from background and archival research at the California Historical Resources Information System (CHRIS) through the Southern San Joaquin Valley Information Center (SSJVIC). The Native American Heritage Commission (NAHC) and interested Native American individuals also were contacted. The research and Native American outreach were supplemented by an intensive survey of the Proposed Project site. The information was then used to evaluate the Proposed Project against the California Environmental Quality Act (CEQA), Appendix G Environmental Checklist (as amended in December 2019) significance criteria to determine potential impacts.

Records Search and Historical Research

A record search was conducted to determine if any historic properties or archaeological resources listed or potentially eligible for listing on the National Register of Historic Places (NRHP) or California Register of Historic Resources (CRHR) were present within or immediately adjacent to the APE. The record search request was submitted by Digtech to the SSJVIC. That request was fulfilled by the SSJVIC on May 13, 2019.

Materials consulted by the SSJVIC included prehistoric and historic archaeological resource and report databases, California Office of Historic Preservation (OHP) Historic Properties Directory, NRHP, CRHR, California Historical Landmark, California Historical Points of Interest, California Inventory of Historic Resources, and Archaeological Determinations of Eligibility. The record search area included a one-mile buffer of the APE.

Historical maps were consulted of the record search area, including the original survey plat map of 1855 (Bureau of Land Management, 2020), historical topographic maps (US Geological Survey [USGS] 1:125,000 Coalinga 1912; USGS 1:62,500 Gujarral Hills 1933, 1936, and 1937, Huron 1933 and 1937, and Polvadero Gap 1942; USGS 1:24,000 Gujarral Hills 1956 and 1971 and

Huron 1956 and 1971) (USGS, 2020), and historic aerial photographs (1963, 1969, 1994, 2005, 2009, 2010, and 2012) (NETROnline, 2020).

Buried Site Sensitivity

Geoarchaeological assessments for nearby projects were consulted (Kaijankoski, 2010). These included surface soil assessments and rated the *archaeological sensitivity*, or potential to support the presence of buried prehistoric archaeological deposits, of the area based on geologic unit and environmental parameters such as distance to water and landform slope.

Archaeological Survey

The survey area included of the Proposed Project site (20 acres), plus the remainder of the surrounding parcel (72 acres), plus a buffer for a total of approximately 98 acres. The survey plan entailed 5-10 meter transects depending on ground visibility and accessibility. Previously unrecorded resources encountered would be recorded on digital DPR 523 site forms, and their locations recorded using a handheld device running Environmental System Research Institute (ESRI) Arc Collector software. Wildnote software was used for recording field notes, and digital photographs were taken with an iPhone X 12-megapixel camera. No cultural materials were collected during the surface survey. Photographs and field notes are held by the cultural resource management firm that conducted the survey.

Native American Coordination

A SLF search request of the Proposed Project area was submitted to the NAHC on June 30, 2020. The SLF Search was returned by the NAHC with negative results on July 1, 2020 (**Appendix 4.18-A**). The NAHC provided a list of Native American contacts who may be able to supply information pertinent to the Proposed Project area (**Appendix 4.18-B**). Each of the 13 individuals listed were contacted by mail or email sent on July 2, 2020. A sample letter is attached (**Appendix 4.18-C**).

Cultural Setting

The Proposed Project is located at the western edge of the San Joaquin Valley at the base of the eastern foothills of the Diablo Range. It is located within the Tulare Lake Basin watershed, a component of the San Francisco Bay Delta watershed. Major rivers in the watershed, including the Kings, Tule, and Kern Rivers, come out of the Sierra Nevada Mountains. Drainages on the west side of the San Joaquin Valley are small and widely dispersed compared to those on the Sierra slopes. The Proposed Project site and surrounding parcel are currently in use for agricultural production, including mature vineyards and row crops surrounded by dirt roads.

Prehistory

Most Late Pleistocene landscapes in the San Joaquin Valley have been destroyed or buried by Holocene-era erosion and deposition, while most surface sites, including village mounds, have been obliterated by erosion and agricultural development. Thus, very few archaeological sites exist throughout the Central Valley prior to 2,500 Before the Common Era (BCE) and the cultural-

historical framework, especially in the southern San Joaquin Valley, is poorly defined (Rosenthal et al., 2010).

Paleo-Indian Period (11,550-8,550 BCE)

Investigation within remaining Pleistocene deposits in the southern San Joaquin Valley indicates occupation dates between 11,550 BCE-9,550 BCE, based on a large cache of Clovis-like concave base projectile points in the Tulare Lake basin (Rosenthal et al., 2010).

Lower Archaic Period (8,550-5,550 BCE)

Archaeological sites in the San Joaquin Valley are extremely limited in this period due to significant alluvial depositions circa 9050 BCE and 5550 BCE; however, stone tool assemblages from the Tulare Lake basin resemble those from the Great Basin area (Rosenthal et al., 2010).

Middle Archaic Period (5,550-550 BCE)

A warmer and drier climate during this period led to lake desiccation in the San Joaquin Valley while rising sea levels created the Sacramento-San Joaquin delta to the north. Distinct foothill and valley settlement-subsistence patterns are evidenced, as are stable, year-round residence along rivers and well-established trade networks. The Windmill Pattern of oriented and extended burials likely developed in this period, possibly in the San Joaquin Valley (Rosenthal et al., 2010). Intensification of subsistence practices is indicated by new fishing technologies, increased groundstone use, and expansion of manufacturing industries.

Upper Archaic Period (550 BCE-AD 1100)

A cooler, wetter, and more stable environment during this period led to the return of lakes in the San Joaquin Valley. Village mounds appear in the Delta region after 700 BCE, while Windmill descendants are evident in the San Joaquin Valley through the end of the period. A sharp population increase throughout the Central Valley after 500 BCE was accompanied by more reliance on fishing, acorn processing, and soft technology. Southern San Joaquin Valley sites are rare, although they indicate year-round villages and aquatic and terrestrial resource exploitation (Rosenthal et al., 2010).

Emergent Period (AD 1100-Historic)

Evidence exists for continued increase of population and social complexity across the Central Valley during this period, including a transition to cremation, decentralization of production, and development of a monetized system of exchange. Villages expanded along foothill streams, valleys, rivers, and sloughs. While there is little direct evidence of plant use in the San Joaquin Valley, mortars and pestles were common elsewhere in the Central Valley after 1000 AD, and fish- and plant-based subsistence strategies dominated. This period saw the introduction of bows and arrows and pottery to the region, especially in the eastern foothills. At the time of European contact, 15 tribal groups, collectively referred to as Yokuts, occupied the southern San Joaquin Valley (Wallace, 1978).

Ethnography

The southern San Joaquin Valley and lower foothills were inhabited by Yokuts tribes that were linguistically related to the California Penutian language family of central and coastal California (Silverstein, 1978). The Southern Valley Yokuts' homeland stretched from present-day Fresno to south of Bakersfield and encompassed Tulare, Buena Vista, and Kern Lakes and the surrounding sloughs and marshes. Southern Valley Yokuts' lifeways were closely linked to the lake/slough/marsh environmental setting.

Subsistence was centered on fish, primarily lake trout and anadromous fish. Nets strung between tule rafts and shore poles were employed, as well as hand nets, basket traps, and spears. Fish were generally broiled on hot coals or sun dried. Reliance on game was low, although roasted turtles were favored, and snares and nets were used to catch waterfowl. Plant foods included ground tule roots and seeds, as well as grassnut roots and clover. Acorns were acquired by trading fish with tribes farther east. Single-family huts, granaries, and sweatshouses were constructed of tule mats over wood frames. Tule was also used for baskets and other crafts, including watercraft (Silverstein, 1978).

Social organization was based on the biological family, patrilineal totemic lineages, and exogamous totemic lineage, and was divided into moieties for rituals and games. Significant life-cycle rituals included birth, puberty, marriage, and death; group rituals included an annual six-day festival honoring the dead, first-fruit rites, and a springtime Datura rite. No political unity existed between tribes; instead, they were organized into self-governing miniature tribes of about 350 people, each with a different dialect. Tribal land, covering on average about 250 square miles, was owned collectively; any member could use its resources. Population of the Southern Valley Yokuts at European contact is estimated at 15,000. Most tribes were spread across several settlements, with one dominant larger village (Wallace, 1978).

The plains and foothills of the west side of the San Joaquin Valley were occupied by several Southern Valley Yokuts tribes, the largest of which was the Tache. The Tache wintered at the village of Poza Chaná, five miles southwest of present-day Huron (3.5 miles northwest of the Proposed Project site). Poza Chaná functioned as a trading village, where tribes from the coast would come inland to trade shell beads and other ocean resources for obsidian, soapstone beads, and seeds (Breschini and Haversat 1987). According to confidential tribal knowledge provided by the Dumna Wo-Wah Tribal Government, the Proposed Project area was historically used for habitation, resource collection, and ceremonial purposes (Ledger, 2020).

History

Spanish Period (1772–1822)

The earliest recorded European entry into the southern San Joaquin Valley was the Pedro Fages expedition of 1772. The Francisco Garcés expedition of 1776 terminated approximately 20 miles north of present-day Bakersfield. The 1806 Gabriel Moraga-Fr. Pedro Muñoz expedition reached the Tule River and the Koyeti village of Chokowesho, near present-day Porterville. Records of contact with and impact on Native Americans are minimal from this period; no ranchos were established in the San Joaquin Valley. However, almost all the Yokuts along the plains and foothills of the west side of the San Joaquin Valley had been taken to the Spanish missions on

the Pacific coast (Breschini and Haversat, 1987). The region was used a rendezvous point for neophytes fleeing the Mission system, which resulted in the transmission of some foreign native and European culture and physiological threats to the area.

Mexican Period (1822–1848)

Most European activity in the region during the Mexican period consisted of punitive expeditions to recover or acquire livestock, thieves, or slaves. Expeditions by fur trappers, traders, and explorers during this period included those led by Jedidiah Smith (1827), Kit Carson (1830) and John Fremont (1844). European influence during this period increased, as evidenced by the 1833 malaria epidemic which exterminated most remaining Yokuts west of the San Joaquin River (Breschini and Haversat, 1987).

American Period (1848–Present)

The San Joaquin Valley was on the primary wagon route from the eastern United States to the California gold fields farther north in the Sierra Nevada foothills. Settlement in the region during the early American period primarily consisted of removal by force of Native Americans and the construction of trading posts and ferries at river crossings along the Los Angeles-Stockton road, most of which were established by 1850. Remaining Native Americans were removed to reservations, including the Sebastian (Tejon) Indian Reservation (1853-1864) and the Fresno River Farm (1854-1860).

Many towns through the San Joaquin Valley were established by the Southern Pacific Railroad (SPRR) in the 1870s and 1880s as the southern trans-continental railroad was constructed down the valley from San Francisco to Tehachapi Pass. For larger towns, such as Merced, Modesto, and Fresno, the SPRR constructed the rail infrastructure, and their holding company built civic improvements and sold lots. Small towns, including Coalinga and Huron closer to the Proposed Project site, began as coaling or watering stations along the SPRR line (Orsi, 2005). By the early 20th century, some of these towns developed economies distinct from the railroad, including oil extraction at Coalinga and wool production at Huron.

Agriculture in the San Joaquin Valley began early in the American period, encouraged by an 1857 drainage and reclamation law. By 1900, much of the surface-water flow in the Valley had been diverted for agricultural use. SPRR land grant and settlement policies favored the development of small family farms (Orsi, 2005). Large tracts of land were also used for cattle ranching, especially by the Miller and Lux Company, an early corporate farming entity. The Central Valley Project, beginning in the 1930s, constructed an immense system of dams, canals, and aqueducts throughout the San Joaquin Valley. It pushed out many small farmers, which were replaced by large-scale corporate farms employing massive numbers of agricultural laborers, including many immigrants and refugees from the Dust Bowl. Large-scale commercial agriculture remained the main industry in the San Joaquin Valley through the 20th century, producing most of the agricultural production in California.

Records Search and Historical Research

The SSJVIC record search indicated that no portion of the APE has been subjected to an intensive pedestrian survey within the past five years. Earlier surveys of the APE were conducted in 1977

(FR-00433, ~10% coverage) and 2001 (FR-02015, ~10% coverage). An additional nine reports were identified outside of the APE but within the one-mile search buffer (**Appendix 4.5-A**).

The record search identified one resource within the APE, a historic-era built environment resource detailed below (P-10-006610). One additional resource is located outside of the APE but within the one-mile search buffer. This resource (P-10-006640), a historic-era electrical transmission line, is approximately 200 meters southeast of the APE.

P-10-006610: Originally recorded in 2015 by Applied EarthWorks as part of the Central Valley Power Connect Project, this resource is the PG&E Gates-Panoche transmission line, constructed in the late 1940s (**Appendix 4.5-A, Confidential Version**). It consists of two sets of 230kV three-phase conductors (No. 1 & No. 2) supported by 100-foot-high double circuit steel lattice towers and runs from the PG&E Gates Substation 43.2 miles northwest to the Panoche Substation. The resource was evaluated in 2015 and was determined not eligible for listing on the NRHP or CRHR (Asselin et al., 2015).

The review of historic maps agrees with the development history of the west side of Fresno County. On the 1855 survey map, nothing is shown in the Proposed Project area. The nearest feature is a wagon road segment approximately 3.5 miles to the northeast. The 1912 map shows no roads or structures in the Proposed Project area. Maps from the 1930s show paved Jayne Avenue south of the APE, as well as dirt roads running diagonally across the parcel surrounding the APE, though no structures. The 1942 map shows four structures approximately 0.5 mile to the east of the Proposed Project area. The 1950s maps show these same structures, now labelled Sommerville Farms, with adjacent grain tanks and nearby wells and oil tanks; the PG&E Gates Substation to the south of the APE; and transmission lines crossing the Proposed Project APE, including the Gates-Panoche line and a line running north along Trinity Avenue. The 1970s maps show an expanded PG&E Gates Substation and additional transmission lines. At no point are any structures shown within the APE.

Buried Site Sensitivity

The *archaeological sensitivity* assessment was conducted in 2010 and found that the Proposed Project area lies on the middle part of the Coalinga fan, one of the largest alluvial fans emitting from the western foothills in this portion of the San Joaquin Valley (Kaijankoski, 2010). Los Gatos Creek, a seasonal creek, is the principal drainage for the fan and is located 3.2 miles northwest of the Proposed Project area. While surface soils in the Proposed Project area are young enough to overlie older prehistoric archaeological sites, the report concluded that without a nearby source of fresh water, it is unlikely the Proposed Project area attracted any prolonged human use or settlement, and that *archaeological sensitivity* is, therefore, rated Moderate.

Archaeological Survey

The surface survey was conducted on May 18, 2019 by Digtech Principal Investigator Chris Webster, M.S., RPA. No contact was made in the field with any landowners or other personnel, and there were no problems with access to the Proposed Project area. The entirety of the survey area is an old-vine vineyard. The northern, eastern, and southern boundaries of the survey area are wide dirt roads, while the western boundary runs through the vineyard following the rows of

vines. There is no portion of the APE that is not plowed and/or heavily disturbed. Ground visibility was excellent throughout the survey area.

No archaeological resources were located during the surface survey. One existing historical built-environment resource (P-10-006610) crosses the southwest portion of the parcel but is outside the Proposed Project footprint. This resource, the PG&E Gates-Panoche transmission line, was evaluated in 2015 and determined ineligible for listing on the NRHP and CRHR (Asselin, et al., 2015). The resource appeared as recorded. No cultural materials were collected during the surface survey. Survey notes and photographs are maintained by Digital Technologies in Archaeological Consulting, LLC, in their Reno, Nevada office.

Native American Coordination

To date, three contacts have responded to outreach efforts as described in **Section 4.18 Tribal Cultural Resources**. On July 2, 2020, Big Sandy Rancheria Tribal Chairperson Elizabeth D. Kipp wrote that they have no comment on the Proposed Project but would like to be notified of any cultural discoveries. On July 8, 2020, Dumna Wo-Wah Tribal Government Chairman Robert G. Ledger, Sr. replied by email and provided confidential tribal knowledge that indicates a high likelihood of buried artifacts in the Proposed Project area, that they would like a monitor on site during ground disturbing activities, and that they would like to participate in official consultation regarding the Proposed Project. The details of Chairman Ledger's confidential tribal information are on file. On July 29, 2020, Tribal Liaison Dirk Charley said that the Proposed Project is outside the area of interest of the Dunlap Band of Mono Indians, and they defer to a closer tribe.

4.5.1.3 Cultural Resource Survey Boundaries

The APE consists of the Proposed Project site of approximately 20 acres, as well as the remainder of the 72-acre parcel surrounding the Proposed Project site. The study area consists of the APE and a buffer around it which totals approximately 98 acres. See **Figure 4.5-1, Cultural Resources Survey Boundaries**.

4.5.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project. Section 106 of the National Historic Preservation Act (NHPA) does not apply to the Proposed Project because no federal agency discretionary action is required, and no federal lands or monies are involved.

4.5.2.1 Regulatory Setting

Federal

There are no applicable federal regulations for cultural resources that apply to the Proposed Project.

State***California Health and Safety Code and Public Resources Code***

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030).

Several provisions of the Public Resources Code (PRC) also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered. Furthermore, Section 7050.5 of the California Health and Safety Code states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in PRC Section 5097.99. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological, Paleontological, and Historical Sites, defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor. A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

Assembly Bill 52

Assembly Bill 52 (AB 52) established that Tribal Cultural Resources (TCR) must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. A TCR is a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe. A TCR is either:

- On the CRHR or a local historic register;
- Eligible for the CRHR or a local historic register; or
- The lead agency determines that the resource meets the register criteria.

A project that has potential to impact a TCR such that it would cause a substantial adverse change constitutes a significant effect on the environment unless mitigation reduces such effects to a less-than-significant level. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

AB 52 amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact or a tribal representative of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an Environmental Impact Report (EIR) or adopt a Mitigated Negative Declaration (MND) (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 land use plans and regulations for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County Code of Ordinances

Pursuant to Fresno County Code of Ordinances § 816.2-D.i, Public Utility Facilities are permitted uses within Exclusive Agriculture (AE) Districts, subject to approval of a conditional use permit by the Fresno County Director of Public Works and Planning. However, the CPUC has preemptive power under the California Constitution (Article XII, Section 8) over local jurisdictions with respect to regulation of investor-owned public utilities and electric utility siting. The CPUC, therefore has ultimate decision-making authority over land use decisions for the Proposed Project.

Fresno County General Plan

The following relevant Cultural Resources goals and policies from the Fresno County General Plan were reviewed, and the following summaries are provided for informational purposes.

- | | |
|----------------------|--|
| Goal OS-J | To identify, protect, and enhance Fresno County's important historical, archeological, paleontological, geological, and cultural sites and their contributing environment. |
| Policy OS-J.1 | The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable. |
| Policy OS-J.2 | The County shall, within the limits of its authority and responsibility, maintain confidentiality regarding the locations of archeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts. |

4.5.3 Impact Questions

4.5.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Cultural Resources come from the CEQA Appendix G, Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5; or

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or
- Disturb any human remains, including those interred outside of dedicated cemeteries.

4.5.3.2 Additional CEQA Impact Questions

Pursuant to CPUC's *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (2019), there are no additional CEQA Impact Questions required for Cultural Resources.

4.5.4 IMPACT ANALYSIS

4.5.4.1 Impact Analysis

Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. As there are no known historical resources, as defined in Section 15064.5, within the APE. Therefore, no impacts would occur under this criterion.

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less-Than-Significant Impact. There are no known archaeological resources within the APE, so there would be no impact to known archeological resources. However, there may be unrecorded subsurface prehistoric remains, as indicated by the "moderate" result of the archaeological sensitivity study (Kaijankoski, 2010). There may also be previously recorded ethnohistoric era remains within the Proposed Project APE based on tribal knowledge provided (Ledger, 2020). The Proposed Project would entail excavation that may encounter archaeological remains. Applicant Proposed Measure (**APM**) **CUL-1** (Development and Implementation of a Worker Environmental Awareness Program), **APM CUL-3** (Archaeological and Native American Monitoring), and **APM CUL-4** (Unanticipated Discovery of Potentially Significant Prehistoric and Historic Resources) would reduce impacts to less than significant if previously unidentified cultural resources are encountered during construction. **APM CUL-2** (Cultural Resources Inventory) would reduce impacts to less than significant if the Proposed Project APE is expanded or adjusted.

4.5.4.2 Human Remains

Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less-Than-Significant Impact. There are no known graves in the Proposed Project area. The likelihood of encountering unanticipated subsurface human remains during the Proposed Project construction is low based on the survey that was conducted. However, based on confidential tribal knowledge provided during background research, unrecorded human remains may be present within the APE (Ledger, 2020). If encountered, **APM CUL-3** (Archaeological and Native American

Monitoring) and **APM CUL-5** (Unanticipated Discovery of Human Remains) would ensure that impacts to human remains are reduced to less than significant.

4.5.5 CPUC DRAFT ENVIRONMENTAL MEASURES

The CPUC recommends a Draft Environmental Measure for Cultural Resources associated with the discovery of human remains. The recommended APM has been included in **Section 4.5.6, Applicant Proposed Measures** as **APM CUL-5** (Unanticipated Discovery of Human Remains).

4.5.6 APPLICANT PROPOSED MEASURES

The following cultural resource specific APMs would be implemented on the Proposed Project.

APM CUL-1

LSPGC would design and implement a Worker Environmental Awareness Program (WEAP) that would be provided to all Proposed Project personnel who may encounter and/or alter historical resources or unique archaeological properties, including construction supervisors and field personnel. The WEAP would be submitted and approved by the CPUC prior to construction. No construction worker would be involved in ground disturbing activities without having participated in the WEAP. The WEAP would include, at a minimum:

- Training on how to identify potential cultural resources and human remains during the construction process;
- A review of applicable local, state and federal ordinances, laws and regulations pertaining to historic preservation;
- A discussion of procedures to be followed in the event that unanticipated cultural resources are discovered during implementation of the Proposed Project;
- A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and LSPGC policies; and
- A statement by the construction company or applicable employer agreeing to abide by the WEAP, LSPGC policies and other applicable laws and regulations.

The WEAP may be conducted in concert with other environmental or safety awareness and education programs for the Proposed Project, provided that the program elements pertaining to cultural resources are provided by a qualified archaeologist.

APM CUL-2

If proposed facilities and ground-disturbing activities move outside the previously surveyed footprint, those areas would be subjected to a cultural resources inventory to ensure that any newly identified cultural resources are avoided by ground disturbing activities.

APM CUL-3

If subsurface prehistoric or ethnohistoric resources are encountered during construction, archaeological and Native American monitoring is recommended during all excavation associated with the Proposed Project. A qualified archaeologist and a member of the Dumna Wo-Wah Tribal Government shall be retained by LSPGC to monitor excavation associated with the Proposed Project to ensure that there is no impact to any significant unanticipated cultural resource. Prior to construction, LSPGC would consult with a designated representative of the Dumna Wo-Wah Tribal Government on the appropriate course of action to be taken should unanticipated cultural materials, and specifically human remains, be discovered during construction.

APM CUL-4

In the event that previously unidentified cultural resources are uncovered during implementation of the Proposed Project, all work within 100 feet (30 meters) of the discovery would be halted and redirected to another location. LSPGC's qualified archaeologist would inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts would occur, the resource would be documented on State of California Department of Parks and Recreation cultural resource records and no further effort would be required. If the resource cannot be avoided and may be subject to further impact, LSPGC would evaluate the significance and CRHR eligibility of the resources and, in consultation with the CPUC, determine appropriate treatment measures. Preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Section 15126.4(b)(3), if it is demonstrated that resources cannot feasibly be avoided, LSPGC's qualified archaeologist, in consultation with the CPUC and, if the unearthed resource is prehistoric or Native American in nature, the Native American monitor, shall develop additional treatment measures, such as data recovery consistent with CEQA Guidelines 15126.4(b)(3)(C)-(D). Archaeological materials recovered during any investigation shall be curated at an accredited curation facility.

APM CUL-5

Avoidance and protection of inadvertent discoveries that contain human remains shall be the preferred protection strategy where feasible and otherwise managed pursuant to the standards of CEQA Guidelines 15064.5(d) and (e). If human remains are discovered during construction or O&M activities, all work shall be diverted from the area of the discovery, and the CPUC shall be informed immediately. The Applicant shall contact the County Coroner to determine whether or not the remains are Native American. If the remains are determined to be Native American, the Coroner would contact the NAHC. The NAHC would then identify the person or persons it believes to be the most likely descendant of the deceased Native American, who in turn would make recommendations for the appropriate means of treating the human remains and any associated funerary objects. No part of the Proposed Project is located on federal land.

4.6 ENERGY

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X
c.	Add capacity for the purpose of serving a non-renewable energy source?				X

This section describes the Energy resources within the vicinity of the Proposed Project, as well as the potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.6.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The lands to the north, east, and west of the Proposed Project site are primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

The PG&E Gates Substation is an integral part of the Central Valley 500 kilovolt (kV) transmission system importing and exporting hydro- and natural gas-generated electricity to other substations in the region (California Independent Service Operator [CAISO], 2019). The Proposed Project facility would support the regional transmission system by providing voltage support and grid stability. The Proposed Project would provide reliable operation of the extra high voltage transmission system buses in the electrical proximity of the PG&E Gates 500 kV Substation after the retirement of the Diablo Canyon nuclear generating units.

O&M of the existing PG&E Gates Substation requires little or no use of energy and instead serves as a means to deliver energy. The existing PG&E Gates Substation is unmanned and remotely controlled with workers being on-site for required inspections or as needed in emergency situations. Similarly, the Proposed Project facilities would also be unmanned and remotely controlled and would require little use of energy.

4.6.1.1 Existing Energy Use

The Proposed Project site has limited existing energy use. It is currently an active agricultural site and the only energy usage is associated with agricultural equipment, farm worker vehicles, and irrigation of the existing vineyards.

4.6.1.2 Local and Regional Energy Use

Diesel and regular unleaded gasoline are utilized within Fresno County and across all parts of the PG&E service territory. Regular unleaded gasoline is typically used to fuel passenger cars and small trucks whereas diesel fuel is used in large trucks and construction equipment. Estimated Fresno County gasoline sales in 2019 totaled 376 million gallons and estimated diesel fuel sales totaled 49 million gallons (CEC, 2020).

Based on the requirements of Senate Bill (SB) 100 (State of California, 2018) utility providers are required to have 60 percent of their energy portfolio supplied by renewable energy sources by 2030. As of 2018, PG&E had achieved an approximately 39 percent renewable portfolio. Given this, PG&E's renewable portfolio for 2023 (the Proposed Project in-service year) is estimated to be 47.8 percent. The ratio of renewable energy would be expected to increase each year until reaching 60 percent by 2030 as required by California's Renewable Portfolio Standard (RPS).

4.6.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.6.2.1 Regulatory Setting

Federal

Energy Policy and Conservation Act and Energy Independence and Security Act

The Energy Policy and Conservation Act (EPCA) was enacted in 1975 in response to an oil shortage crisis that occurred in 1973. The intent of the EPCA was to stabilize the national energy supply by increasing domestic production and storage and reducing demand through energy conservation. One of the key components of the EPCA was the establishment of Corporate Average Fuel Economy Standards, which are further discussed below. The EPCA was amended in 2007 by the Energy Independence and Security Act (EISA). The function of the EISA is to bolster energy security in US by implementing energy efficiency standards for federal agencies and facilities, improving vehicle fuel economy, implementing sustainable building practices for federal facilities and renovations, and requiring increase use of renewable energy.

Corporate Average Fuel Economy Standards

As part of the EPCA, the Corporate Average Fuel Economy Standards, or CAFE, were required to reduce the demand for gasoline by increasing the fuel efficiency (i.e., miles per gallon) of passenger cars and light trucks sold in the United States. Specifically, these standards require automakers to achieve fleet-wide average fuel efficiencies, starting the year 1978. The US Department of Transportation, National Highway Traffic and Safety Administration regulate the CAFE standards, including setting the standards and enforcing compliance. The US

Environmental Protection Agency (EPA) assists by providing technical support for the CAFE, including calculating the average fuel economy levels.

Energy Policy Act of 2005

The Energy Policy Act of 2005 addresses energy production in the nation and covers such topics as energy efficiency, renewable energy, oil and gas, coal, Tribal energy, nuclear matters and security, vehicles and motor fuels (including ethanol), hydrogen, electricity, energy tax incentives, hydropower and geothermal energy, and climate change technology. The Energy Policy Act of 2005 provides incentives to reduce demand on non-renewable energy sources, such as tax credits for fuel efficient vehicles or appliances.

State

California Integrated Energy Policy

SB 1389 was passed in 2002, requiring the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The report provides an assessment of the status of the major energy sectors and provides policy recommendations to conserve resources, protect the environment, ensure reliability, enhance the state's economy, and protect public health. The CEC has adopted the 2018 Integrated Energy Policy Report Update, which focuses on a variety of issues facing California including climate adaptation and California's clean energy economy.

California Renewables Portfolio Standard

The RPS requires all load-serving entities in California to procure a portion of their electricity sales from eligible renewable resources. SB 350 requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable resources by 2030. In 2018, SB 100 was signed into law which increased the RPS to 60% by 2030 and requires all of the state's electricity to come from carbon-free resources by 2045. The CEC certifies facilities that generate renewable energy as eligible for the RPS. To be eligible to take part in the RPS program, facilities must meet specific criteria for the renewable energy resource type, location, and metering techniques, as well as many other factors related to renewable energy generation.

Energy Action Plan and Loading Order

California has mandated and implemented aggressive energy use reduction programs for electricity and other resources. In 2003, California's first Energy Action Plan (EAP) established a high-level, coherent approach to meeting California's electricity and natural gas needs and set forth the "loading order" to address California's future energy needs. The "loading order" established that the state, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply (California Public Utilities Commission [CPUC], 2008). Since that time, the CPUC and CEC have overseen the plans, policies, and programs for prioritizing the preferred resources, including energy efficiency and renewable energy.

California Advanced Clean Cars Program/ Zero Emission Vehicle Program

The California Advanced Clean Cars Program (ACC I) was adopted by the California Air Resources Board (CARB) in 2012 with the goal of reducing emissions of criteria pollutants and Green House Gases (GHGs) and packaging criteria pollutant (i.e., smog) and GHG reduction regulations into a single program. The Low-Emission Vehicle (LEV) regulations and Zero Emission Vehicle (ZEV) regulations were both rolled into the ACC I in 2012. The LEV regulations include emission standards that are anticipated to reduce vehicle emissions of criteria pollutants by 75 percent in 2025 when compared to 2012 average vehicles. The ZEV regulations require vehicle manufacturers to steadily increase the production of ZEVs, such as fuel cell cars, battery powered cars, and plug-in hybrid electric cars. In November of 2020, Executive Order N-79-20 was published which expressly adopted the goal of 100 percent ZEVs sold in California by 2035.

CARB Heavy-Duty Engine and Vehicle Omnibus Regulation

The Truck and Bus Regulation was enacted to reduce mobile source emission of toxic air contaminants, which represent a large risk to human health within the state. Nearly all trucks and buses will be required to have 2010 or newer engines by the year 2023. Key reductions within the post-2010 engines are emissions of particulate matter and oxides of nitrogen (NO_x). After the year 2020, only vehicles that are compliant with the Truck and Bus Regulation will be registered by the California Department of Motor Vehicles.

Off-road vehicles, such as construction equipment, are regulated by the In-Use Off-Road Diesel-Fueled Regulations. These regulations apply to all self-propelled off-road diesel vehicles with a horsepower rating of 25 or higher. As with the Truck and Bus Regulations, the purpose of the Off-Road Regulations is to reduce the emissions of particulate matter and NO_x. Applicable equipment must be registered with the CARB and the information is stored and tracked through the Diesel Off-Road Online Reporting System (DOORS).

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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 policies and regulations pertaining to energy resources for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County General Plan

The Fresno County General Plan 2020 does not include any goals, policies, mandates or programs that apply to the Proposed Project. The General Plan does include multiple policies and goals relating to participation and support of state and federal energy conservation programs, including PG&E's Energy Partnership Program. The county's focus with respect to energy use and conservation is the incorporation of energy efficient design and construction for housing.

4.6.3 IMPACT QUESTIONS

4.6.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Energy come from the CEQA, Appendix G, Environmental Checklist (as amended in December 2019). According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation: or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.6.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), the following additional CEQA Impact Questions are required for Energy:

- Would the project add capacity for the purpose of serving a non-renewable energy resource?

4.6.4 IMPACT ANALYSIS

4.6.4.1 Impact Analysis

Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-Than-Significant Impact. Construction activity associated with the Proposed Project would require the consumption of fossil fuel resources, such as diesel fuel and gasoline, to power the construction equipment, construction vehicles, and work crew vehicles. Proposed Project construction activities are not anticipated to involve the consumption of natural gas. Additionally, construction would utilize electrical energy from the existing distribution system to power construction trailers, lighting, and other equipment.

The short-term use of fuels by equipment and motor vehicle trips during construction and decommissioning would be necessary to install the facilities. Using the estimated GHG emissions (refer to **Section 4.8, Greenhouse Gas Emissions** and **Appendix 4.8-A**) the volume of diesel and

gasoline fuels during construction were calculated. These calculations are shown in **Appendix 4.6-A, Fuels Use Calculations**. Construction of the Proposed Project is estimated to consume a total of approximately 10,899 gallons of gasoline and 104,853 gallons of diesel fuel. Because the Proposed Project is not anticipated to utilize helicopters, no jet fuel or aviation gas would be consumed. To put these estimates in context, estimated Fresno County gasoline sales in 2019 totaled 376 million gallons, and estimated diesel fuel sales totaled 49 million gallons (CEC, 2020). Therefore, the Proposed Project's use of diesel and gasoline fuels is de minimis compared to the volumes consumed within the county per year.

Construction activities would utilize existing energy from the distribution system at the existing PG&E Gates Substation. A temporary distribution line (i.e., 12 kV) would be established to provide power as needed to the construction site. This temporary power, provided by PG&E, would be representative of PG&E's current energy supply portfolio. Based on the requirements of SB 100 (State of California, 2018) utility providers are required to have 60 percent of their energy portfolio supplied by renewable energy sources by 2030. As of 2018, PG&E had achieved an approximately 39 percent renewable portfolio. Given this, PG&E's renewable portfolio for 2023 (the Proposed Project in-service year) is estimated to be 47.8 percent. The ratio of renewable energy would be expected to increase each year until reaching 60 percent by 2030 as required by California's RPS.

Maintenance and normal operations, including inspections of the Proposed Project components, would require use of fossil fuels (e.g., diesel, gasoline) for motor vehicle trips and occasional use of off-road equipment. Use of these fuels would be necessary for normal O&M activities including periodic inspections, equipment testing, and repairs. However, no new full-time staffing or induced population growth would occur because no new crews would be added by the Proposed Project, and maintenance would be incorporated within existing maintenance programs. Using the GHG emissions estimates (refer to **Section 4.8, Greenhouse Gas Emissions** and **Appendix 4.8-A**), O&M of the Proposed Project is anticipated to utilize approximately 477 gallons of gasoline per year (refer to **Appendix 4.6-A, Fuels Use Calculations**). As with construction fuel usage, the Proposed Project's O&M usage is minimal compared with the total volumes consumed in Fresno County on a yearly basis.

Operation of Proposed Project equipment, such as lighting and heating, ventilation, and air conditioning (HVAC), would also consume energy. It is assumed that the total demand on-site would be six kilowatts (kW) continuous per building or roughly 105,120 kilowatt hours (kWh) per year. Since the Proposed Project would use only electrical energy, the energy usage is assumed to be representative of PG&E's current energy supply portfolio. As of 2018, PG&E had achieved an approximately 39 percent renewable portfolio. Given this, PG&E's renewable portfolio for 2023 (first operational year of the Proposed Project) is estimated to be 47.8 percent. The ratio of renewable energy would be expected to increase each year until reaching 60 percent by 2030 as required by California's RPS.

The Proposed Project would not increase the nominal voltage of any existing transmission line but would allow for more efficient transmission and use of energy already being generated within the PG&E system, including increasing renewable sources in the Central Valley. By upgrading the existing system to be more reliable, the Proposed Project would improve the efficiency of the system's ability to transfer and deliver electricity to California's end users and result in a net benefit in relation to the efficient use of energy within the PG&E Gates Substation service area.

The Proposed Project has been designed to comply with all applicable federal, state, and local energy use conservation requirements and would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be less than significant under this criterion.

Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Proposed Project would comply with the state RPS program. The CPUC implements and administers RPS compliance rules for California's retail sellers of electricity which include large and small investor-owned utilities (IOUs), electric service providers (ESPs) and community choice aggregators (CCAs). The CEC is responsible for the certification of electrical generation facilities as eligible renewable energy resources and adopting regulations for the enforcement of RPS procurement requirements for public owned utilities (POUs) (CPUC, 2020).

California's three large IOUs collectively served 36% of their 2017 retail electricity sales with renewable power. The Small and Multi-Jurisdictional Utilities (SMJUs) and ESPs served roughly 27% of retail sales with renewables and CCAs collectively served 50% of retail sales with renewable power. All retail sellers utilize a mix of RPS resources such as wind, solar PV, solar thermal, hydroelectricity, geothermal, and bioenergy to meet their renewable procurement targets (CPUC, 2020).

During construction of the Proposed Project, there would be a temporary increase in demand for electricity resources and fuel resources for vehicles and construction equipment; however, this temporary increase would be very minor and would not conflict with the long-term goals of the RPS Plan. Operation of the Proposed Project would also require minor amounts of electricity and fuel resources. However, the Proposed Project would increase the efficiency of the existing transmission network and would not introduce new energy demands or increase capacity. As previously described, the Proposed Project would allow for more efficient transmission and use of energy already being generated within the PG&E system, including increasing renewable sources. The Proposed Project that would improve California's ability to supply renewable energy to end-use customers and to achieve statewide renewable energy goals. Specifically, increased production of the renewable energy within the greater PG&E service territory. Additionally, the Proposed Project would not prevent renewable energy sources from being used as a source of electricity in the future. Therefore, the Proposed Project would not conflict with the implementation of the state RPS program.

Would the project add capacity for the purpose of serving a non-renewable energy source?

No Impact. The Proposed Project would be consistent with the guidelines of the RPS Plan to reach RPS targets for renewable resources. The Proposed Project would provide reliable operation of the extra high voltage transmission system buses in the electrical proximity of the PG&E Gates 500 kV Substation after the retirement of the Diablo Canyon nuclear generating units (CAISO, 2019). The Proposed Project would be implemented to meet existing and future system reliability and voltage support demands; and as such, it would not increase capacity of the transmission or distribution system nor increase the demand for electricity. Therefore, the Proposed Project would not add capacity that would result in an increase in energy from non-renewable sources, such as coal and natural gas.

The Proposed Project, including the direct and indirect use of energy during construction and operation, would upgrade facilities that would improve California's ability to supply renewable energy to end-use customers and to achieve statewide renewable energy goals. Specifically, increased production of the renewable energy within the greater PG&E service territory and within the load area of the PG&E Gates Substation would be affected by the stabilization effect the Proposed Project would have on the transmission system. Two solar energy generation facilities (Gates Solar Facility and West Gates Solar Facility) are located within 2.3 miles of the PG&E Gates Substation and provide renewable energy through the PG&E Gates Substation. In addition, within the next five years, multiple utility scale solar energy generation facilities and a battery energy storage facility are projected to be constructed and directly connected to the PG&E Gates Substation. Additional information on these projects is provided in **Section 5.0, Cumulative and Other CEQA Considerations**.

4.6.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Energy.

4.6.6 APPLICANT PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Energy because no significant impact would occur.

4.7 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
	ii) Strong seismic ground shaking?			X	
	iii) Seismic-related ground failure, including liquefaction?				X
	iv) Landslides?				X
b.	Result in substantial soil erosion or the loss of topsoil?			X	
c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

This section describes the Geology, Soils, and Paleontological Resources within the vicinity of the Proposed Project as well as potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.7.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

4.7.1.1 Regional and Local Geologic Setting

The Proposed Project area is located within the San Joaquin Valley which is in the southern portion of California's Central Valley. The San Joaquin Valley is characterized by hot, dry summers and cool rainy winters. The Central Valley is also referred to as the Great Valley Geomorphic Province. California's Central Valley extends for approximately 450 miles from low-lying hills near Red Bluff on the north to the San Emigdio and Tehachapi Mountains near Bakersfield on the south. The Central Valley is bounded on the northeast by a volcanic plateau of the Cascade Range; on the east by the Sierra Nevada, which rise to a maximum height of over 14,000 feet above mean sea level; and on the west by the Coast Ranges, including the Diablo Range. Elevations in the Central Valley range from slightly below mean sea level to 400 feet above mean sea level at its northern and southern ends. The northern one-third of the valley is known as the Sacramento Valley and the southern two-thirds as the San Joaquin Valley (Norris and Webb, 1990; Williamson et al., 1989).

The Central Valley is directly underlain by unconsolidated sedimentary deposits that are in turn underlain by a sequence of marine and continental sedimentary rocks consisting of shale, siltstone, and sandstone. Beneath these rocks lies an impermeable basement complex of igneous and metamorphic rocks that are up to 13,000 feet below ground surface (bgs). These basement rocks are a subsurface extension of the same rocks that occur in the Sierra Nevada (Williamson et al., 1989).

The Central Valley is often regarded as one continuous but heterogeneous aquifer system. The chief source of groundwater in the Central Valley is located within the upper 1,000 feet of deposits. These deposits include intercalated lenses of clay, silt, silty and sandy clay, clayey and silty sand, sand, gravel, cobbles, and boulders. The eastern portion of the San Joaquin Valley contains aquifer material characterized as coarse-grained, well-sorted, medium-to-coarse grained, fluvial sediments, ranging from 400 and 500 feet thick in the valley center and thinner toward the east and west (Williamson et al., 1989).

The elevation at the Proposed Project site ranges from 404 feet above mean sea level near the southeastern portion of the site to 410 feet above mean sea level near the northwestern portion of the site. The existing PG&E Gates Substation property, which is located adjacent to and south of the Proposed Project, is mostly developed and graded. The adjacent area to north, east, and west of the Proposed Project site is also characterized by relatively flat land with active agriculture (vineyard), with a gradual slope to the southeast. Agriculture is the dominant land use in the area surrounding the Proposed Project site.

4.7.1.2 Seismic Hazards

Figure 4.7-1, Known Active Faults Within the Proposed Project Area/Regional Area, identifies the known active faults within ten miles of the Proposed Project. Within the ten-mile buffer, there are two known faults, which are considered Pre-Quaternary faults (older than 1.6 million years and without recognized Quaternary displacement). One of the faults is near Avenal, about seven miles away from the Proposed Project site. The other is about ten miles southeast of the Proposed Project site. The two closest fault zones are Nunez Fault Zone, about 18 miles northwest from the Proposed Project site, and San Andres Fault Zone, about 24 miles southwest from the Proposed Project site. These Fault Zones are further described below.

Fault Zones

Nunez Fault

The Nunez Fault is considered a Quaternary fault and is located approximately 18 miles northwest of the Proposed Project site. The Nunez Fault experienced surface rupture during the 1983 Coalinga earthquake and is designated as an Earthquake Hazard Zone under the Alquist-Priolo Earthquake Fault Zoning Act of 1994 (Fresno County, 2000a).

San Andreas Fault

This is the nearest fault of major historical significance located to the west of the Proposed Project site. The San Andreas Fault is about 31 miles southwest of the Proposed Project site. These active right-lateral, strike-slip faults extend in a northwest-southeast direction to the northwest and west Fresno County. The San Andreas Fault also extends to the southwest of Fresno County as it traverses from the Gulf of California in Mexico to the Mendocino coast in northern California. This fault accommodates the majority of movement between the Pacific and North American plates (Fresno County, 2000a).

Landslides

Given that the Proposed Project site is located on the valley floor away from any slopes, no previous landslides in the immediate area have occurred. Certain areas in Fresno County are more prone to landslides than others. Such areas can be found in the foothill and mountain areas located east of the Proposed Project area where fractured and steep slopes are present in the Sierra Nevada, where less consolidated or weathered soils overlie bedrock in the Coast Range, or where inadequate ground cover accelerates erosion. There is no risk of large landslides where the Proposed Project is located, due to its relatively flat topography (0-2 percent slope) and distance from hills, mountains, or slopes. The Proposed Project site is not located within a landslide hazard area, as indicated by the Fresno County General Plan (Fresno County, 2000b).

Liquefaction

Liquefaction is a seismic phenomenon in which loose, saturated, fine-grained granular soils behave similar to a fluid when subjected to high-intensity ground shaking. An increase in pore water pressure occurs as the soil attempts to compact in response to the shaking, resulting in

less grain-to-grain soil contact and, therefore, loss of strength. Liquefaction occurs when three general conditions exist: shallow groundwater (40 feet bgs or less); low density, fine-grained sandy soils; and high-intensity ground motion. Effects of liquefaction on level ground can include sand boils, settlement, and bearing capacity failures below structural foundations. California Geological Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas that are considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. The Proposed Project site is not located within a liquefaction hazard zone mapped by the CGS (Terracon, 2019 [included in **Appendix 4.7-A**]).

4.7.1.3 Geologic Units

The San Joaquin Valley is underlain by thousands of feet of sediments derived from the adjacent uplands and deposited in a variety of marine and nonmarine environments. The valley began to separate from the open ocean approximately 150 million years ago when subduction of Franciscan marine sediments and volcanics beneath the edge of the old ocean shifted it vertically and created a barrier for the movement of sediments. The Proposed Project site is underlain by Pleistocene-Holocene aged unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (Matthews and Burnett, 1965).

Geologic units that occur within the Proposed Project area are shown in **Figure 4.7-2, *Geologic Units at Proposed Project Area***. The geological unit at the Proposed Project site is Quaternary alluvial material. The site has been classified as Seismic Site Classification D, and no unstable geologic units were identified in the Proposed Project area (Terracon, 2019). Seismic Site Classification D corresponds to buildings and structures in areas expected to experience severe and destructive ground shaking, but not located close to a major fault (International Seismic Application Technologies, 2020).

Given that the Proposed Project is located on the valley floor away from any slopes, no previous landslides in the immediate area have occurred. Areas more prone to landslides can be found in the foothill and mountain areas located east of the Proposed Project area where fractured and steep slopes are present in the Sierra Nevada, where less consolidated or weathered soils overlie bedrock in the Coast Range, or where inadequate ground cover accelerates erosion. Other areas where steep slopes are present, however, are not heavily populated and most are located in federal or state lands, although roadways such as State Route (SR) 168 in eastern Fresno County and SR 198 in western Fresno County could be affected by landslides in the event of an earthquake or heavy rain. There is no risk of large landslides in the Proposed Project area due to its relatively flat topography (Terracon, 2019).

4.7.1.4 Soils

Soil types as discussed in this section are based on review of the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey. As depicted on **Figure 4.7-3, *Soil Types in the Proposed Project Area***, the Proposed Project site is completely underlain by the Westhaven loam (0-2 percent slopes). Within a mile radius of the Proposed Project site, the soil is made up of minor components of Wasco sandy loam (0-2 percent slopes), Kimberlina sandy loam (0-2 percent slopes) and Excelsior sandy loam (0-2 percent

slopes) (USDA NRCS, 2019). Surface runoff is low, and permeability is moderately slow. Sandy loams are not expansive (have low linear extensibility) and compact well for construction. The county of Fresno also determined that the Proposed Project area does not contain expansive soils (Fresno County, 2000b). Soils at the Proposed Project area have a low risk of corrosion of concrete and a moderate risk of corrosion of uncoated steel, and they are moderately susceptible to erosion from wind and water.

The Westhaven series is formed in alluvium derived predominantly from calcareous sedimentary rock and consists of loams, silty clay loam, and loamy sand to silty clay loam. The soil between depths of four and 12 inches is dry in all parts from April through December and is not moist in some or all parts for as long as 90 consecutive days. The particle-size control section averages 18 to 35 percent clay. Less than 15 percent of the particles are fine sand or coarser, by weighted average, between depths of ten to 40 inches. Calcium carbonate equivalent is zero to five percent. The Westhaven series consists of very deep, well drained soils with low runoff and moderately slow permeability. These soils are subject to very rare to occasional flooding in some places, in others they are protected by dams and levees.

Natural forces, both chemical and physical, are continually at work breaking down soils. Erosion poses two hazards: it removes soils, thereby undermining roads and buildings and producing unstable slopes; and it deposits eroded soil in reservoirs, lakes, drainage structures, and on roads as mudslides. In the eastern Fresno County area, soils exhibiting moderately high to high erosion potential are located within the Sierra Nevada and the foothills and generally coincide with land slope areas that exceed 30 percent. However, within the valley, erosion is generally not problematic (Fresno County, 2000b).

Subsurface materials encountered within the vicinity of the Proposed Project generally consisted of interbedded sandy silt, poorly graded gravel with silt, silty sand, and silt with sand at depths from zero to 27 feet. Lean and silty clay, along with silty sand and sand silt were found at depths between 27 to 45 feet. These were underlain by medium dense to poorly graded sand with silt clay and gravel to the maximum depth explored of 51½ feet (Terracon 2019).

According the Preliminary Geotechnical Engineering Report, included in **Appendix 4.7-A**, groundwater was not encountered in any of the test pits or in any previous explorations and is anticipated to be below the proposed grading elevations (Terracon 2019). However, groundwater level fluctuations can occur due to seasonal variations in the amount of rainfall, runoff, and other factors. Therefore, groundwater levels during construction may be higher or lower than anticipated (Terracon, 2019).

4.7.1.5 Paleontological Report

In August 2020, the Department of PaleoServices of the San Diego Natural History Museum (SDNHM) prepared the Paleontological Resources Technical Report (PaleoServices, 2020), included in **Appendix 4.7-B**. The report summarizes the results of a paleontological records search of the paleontological collections at the SDNHM, a search of the online paleontological collections database at the University of California Museum of Paleontology (UCMP), and a review of relevant paleontological and geologic literature. These tasks were undertaken to determine whether any documented fossil collection localities are located within the Proposed

Project area or within a 500-foot buffer of the site. The report assigns a paleontological resource sensitivity rating to the geologic units underlying the Proposed Project site. The rating is based on the published geologic mapping, the results of the paleontological records searches, literature review, and assessment of potential Proposed Project-related impacts to paleontological resources.

The Proposed Project site lies on the nearly level valley floor in the heavily agricultural western portion of the central San Joaquin Valley, just east of the Guajarral Hills and Anticline Ridge, and north of the Kettleman Hills. The site is underlain at the surface by primarily Holocene-age surficial sediments consisting of alluvial gravel, sand, and clay derived and transported downstream from the older geologic units exposed within the nearby breached anticlines of the Kettleman Hills and Anticline Ridge. The precise thickness of these Holocene sediments is unknown in the vicinity of the Proposed Project site. Presumably, the Holocene-age deposits transition down section (i.e., at depth) into older, Pleistocene-age deposits. The depth of this temporal transition is conservatively estimated to occur at 15 feet or more bgs.

The results of the paleontological records searches and literature review indicate that fossils have not been documented from Holocene-age or Pleistocene-age sedimentary deposits or within a 500-foot buffer of the Proposed Project site, nor within an expanded five mile radius of the Proposed Project site. However, fossils are known from late Pleistocene-age sedimentary deposits at several locations elsewhere in the west-central San Joaquin Valley (located between 20 and 35 miles from the Proposed Project site). These deposits have yielded fossil remains of large-bodied mammals (e.g., mammoth, ground sloth, horse, mule deer, elk, camel, pronghorn, ox, bison, American lion, fox, coyote, dire wolf, badger), as well as small mammals (e.g., rabbit, beaver, pocket gopher, vole, wood rat, heteromyid rodent, mole) and other terrestrial or freshwater vertebrates (e.g., bony fish, pond turtle, rattlesnake, loon).

Following the paleontological potential criteria developed by the Society of Vertebrate Paleontology (SVP) (2010), the sedimentary deposits that occur within the Proposed Project site are assigned a low paleontological potential at depths of less than 15 feet bgs (where they are assumed to be Holocene in age) and an undetermined paleontological potential at depths greater than 15 feet bgs (where the sediments may have been deposited during the Pleistocene).

4.7.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.7.2.1 Regulatory Setting

Federal

There are no regulations for Geology, Soils, and Paleontological Resources applicable to the Proposed Project.

State

Alquist-Priolo Earthquake Fault Zoning Act

California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972 (Public Resource Code [PRC] Sections 2621 et seq.), which requires the establishment of “Earthquake Fault Zones” (EFZ) (formerly known as “Special Studies Zones”) along known active faults in California. Under the Alquist-Priolo Earthquake Fault Zoning Act, construction along or across faults is strictly regulated if they are “sufficiently active” and “well defined.” A fault is considered sufficiently active if one or more of its segments shows evidence of displacement during Holocene time (defined for purposes of the Act as referring to approximately the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment. The Act also provides criteria for designating known fault rupture zones, which are used in planning and engineering design of facilities such as the Proposed Project.

Seismic Hazards Mapping Act

Like the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690-2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Earthquake Fault Zoning Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to the Alquist-Priolo Earthquake Fault Zoning Act in that the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site specific geologic and/or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans.

California Building Standards Code

The California Building Standards Commission provides a minimum standard for building design with the California Building Code (CBC), which is based on the International Code Council but has been modified for California conditions. Chapter 23 of the CBC contains specific requirements for seismic safety. Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. Chapter 33 of the CBC contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 of the CBC regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in California Occupational Health and Safety Administration (California Code of Regulations [CCR] Title 8) and in Section A33 of the CBC.

Local

The California Public Utility Commission (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” (CPUC, 1995). 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 related portions of local land use plans and regulations for informational purposes, and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County General Plan

The following relevant Geology, Soils, and Paleontological Resources goals and policies from the Fresno County General Plan were reviewed, and the following summaries are provided for informational purposes.

- | | |
|----------------------|---|
| Goal HS-D | To minimize the loss of life, injury, and property damage due to seismic and geologic hazards. |
| Policy HS-D.3 | The County shall require that a soils engineering and geologic-seismic analysis be prepared by a California-registered engineer or engineering geologist prior to permitting development, including public infrastructure projects, in areas prone to geologic or seismic hazards (i.e., fault rupture, ground shaking, lateral spreading, lurch cracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche). |
| Policy HS-D.4 | The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the CCR) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety. |
| Policy HS-D.8 | The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high “expansive” or “shrink-swell” properties. Development in such areas shall be prohibited unless suitable design and |

construction measures are incorporated to reduce the potential risks associated with these conditions.

Goal OS-J To identify, protect, and enhance Fresno County's important historical, archaeological, paleontological, geological, and cultural sites and their contributing environment.

Policy OS-J.1 The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources and provision for resource recovery and preservation when displacement is unavoidable.

4.7.3 IMPACT QUESTIONS

4.7.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Hydrology and Water Quality come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42; or
 - Strong seismic ground shaking; or
 - Seismic-related ground failure, including liquefaction; or
 - Landslides; or
- Result in substantial soil erosion or the loss of topsoil; or
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; or

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.7.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC 2019), there are no additional CEQA Impact Questions required for Geology, Soils and Paleontological Resources.

4.7.4 IMPACT ANALYSIS

4.7.4.1 Impact Analysis

Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

No Impact. No known active faults are located on or near the Proposed Project site, nor is the Proposed Project site within an Alquist-Priolo EFZ. Therefore, no impacts would occur under this criterion.

Strong seismic ground shaking?

Less-Than-Significant Impact. Faults in surrounding areas could result in ground shaking within the Proposed Project area. The area has a moderate risk of an earthquake, but the proposed Static Synchronous Compensator (STATCOM) Substation facility would be unmanned; therefore, impacts to human life are not expected unless workers were present for maintenance during seismic activity. The Proposed Project facilities would be engineered to withstand predicted ground shaking and would meet or exceed the relevant seismic requirements. Therefore, the impacts would be less than significant under this criterion.

Seismic-related ground failure, including liquefaction?

No Impact. The Proposed Project site is not located within a liquefaction hazard zone mapped by the CGS. Therefore, no impacts would occur under this criterion.

Landslides?

No Impact. The Proposed Project site's surrounding area consists of gently sloping (zero to two percent) topography, and the site is not located near any hills, mountains, or slopes. No landslides

are anticipated to occur in or near the Proposed Project. Therefore, no impacts would occur under this criterion.

Result in substantial soil erosion or the loss of topsoil?

Less-Than-Significant Impact. The Proposed Project would result in more than one acre of soil disturbance. As a result, the Proposed Project would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the State's General Permit for Stormwater Discharges Associated with Construction Activities (Construction General Permit [CGP]) (2009-009-DWQ, as amended). The SWPPP would include measures to limit erosion and off-site transport of pollutants from construction activities. The plan would designate best management practices (BMPs) that would be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport. Preparation of a SWPPP is included as **APM WQ-1**, described in **Section 4.10, Hydrology and Water Quality**.

The Proposed Project site has a flat topography distant from any slopes, and site soil consists of predominantly well-drained sandy loams, typically consisting of less than or equal to 15 percent clays (USDA NRCS, 2019). The Project's Preliminary Geotechnical Engineering Report, included in **Appendix 4.7-A**, identified soil characteristics and made recommendations for the design of the Proposed Project to reduce impacts to soil erosion. The report found that the near surface, medium stiff silt soils on the Proposed Project site could become unstable with typical earthwork and construction traffic, especially after precipitation events. To mitigate this, effective site drainage and erosion and sediment controls per the SWPPP would be completed early in the construction sequence and maintained after construction to avoid potential issues. Furthermore, implementation of **APM GEO-1** detailed below, would minimize impacts of the Proposed Project on erosion and loss of topsoil.

While soil erosion or loss of topsoil could result from excavation or grading activities during construction, the implementation of **APMs GEO-1** would ensure that soil erosion and loss of topsoil would remain less than significant.

Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less-Than-Significant Impact. The county of Fresno has determined that the Proposed Project area does not contain expansive soils (Fresno County, 2000b). The Project's Preliminary Geotechnical Engineering Report, included in **Appendix 4.7-A**, did not identify the Proposed Project site as being located on unstable geologic units or predominantly unstable soils. However, the near surface, medium stiff silt soils on the Proposed Project site could become unstable with typical earthwork and construction traffic, especially after precipitation events (Terracon, 2019). As such, the report made recommendations regarding geotechnical requirements on the Proposed Project site. **APM GEO-1 and GEO-2** are proposed measures to reduce any impacts from unstable soils on the Proposed Project Site.

Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively workable. However, the

workability of the subgrade may be affected by precipitation, repetitive construction traffic, or other factors. If unworkable conditions develop, workability may be improved by scarifying and drying the exposed subgrade soils (Terracon, 2019).

The report identified that near surface soils on the Proposed Project site would have low bearing capacity. As such, engineered fill would be required. Engineered fill would extend to a minimum depth of 12 inches below the bottom of foundations or two feet below existing grades, whichever is greater. Grading for the Proposed Project improvements would incorporate the limits of the improvement footprints plus a lateral distance of five feet beyond the outside edge of perimeter footings. Subgrade soils beneath exterior slabs would be scarified, moisture conditioned, and compacted to a minimum depth of ten inches. The moisture content and compaction of subgrade soils would be maintained until slab construction. Exposed areas, which would receive fill once properly cleared and benched where necessary, would be scarified to a minimum depth of ten inches, moisture conditioned, and compacted per the compaction requirements identified in the Proposed Project's Preliminary Geotechnical Engineering Report (Terracon, 2019). All fill materials used would be inorganic soils free of vegetation, debris, and fragments larger than three inches in size. Pea gravel or other similar non-cementitious, poorly graded materials would not be used as fill or backfill without the prior approval of the geotechnical engineer (Terracon, 2019).

The proposed mechanical and electrical equipment for the Proposed Project may be supported on either a reinforced concrete mat slab foundation or shallow spread footing foundation. The control building and lightly loaded ancillary structures may be supported on shallow spread footing foundations. Earthwork for the Proposed Project would be observed and evaluated by a geotechnical engineer. The evaluation of earthwork would include observation and testing of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the Proposed Project (Terracon, 2019).

The base of all foundation excavations would be free of water and loose soil prior to placing concrete. Concrete would be placed after excavating to reduce bearing soil disturbance. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations would be removed or reconditioned before foundation concrete is placed. The bottom of foundation footings would be at least one foot below an imaginary plane with an inclination of 1.5 horizontal to one vertical extending upward from the nearest edge of the adjacent trench (Terracon, 2019).

Drilled shafts would have a minimum (center-to-center) spacing of three diameters. Closer spacing may require a reduction in axial load capacity. Axial capacity reduction would be determined by comparing the allowable axial capacity determined from the sum of individual piles in a group versus the capacity calculated using the perimeter and base of the pile group acting as a unit. The lesser of the two capacities would be used in design.

Sandy and gravelly subgrade materials were encountered within the area of the Proposed Project. To prevent collapse of the sidewalls, the use of temporary steel casing and/or slurry drilling procedures may be required for construction of the drilled shaft foundations (Terracon, 2019).

These proposed geotechnical requirements would, along with **APM GEO-2**, reduce the effect from unstable geologic units or soils on the Proposed Project to a less-than-significant level.

Landslides

The Proposed Project site is located on the valley floor away from any slopes, and no previous landslides in the immediate area have occurred. There is no risk of large landslides where the Proposed Project site is located, due to its relatively flat topography (zero to two percent slope) and distance from hills, mountains, or slopes. The Proposed Project area is not located within a landslide hazard area, as indicated by the Fresno County General Plan (Fresno County, 2000b). As such, there would be no impact.

Subsidence

The Proposed Project does not involve the withdrawal of fluid, such as groundwater, although the Proposed Project is located within an alluvial basin. As such, there would be no impact.

Lateral Spreading

The potential for lateral spreading at the Proposed Project site is low due to the absence of topographic features susceptible to lateral spreading. The Proposed Project does not involve the withdrawal of fluid, such as groundwater, although the Proposed Project is located within an alluvial basin. As such, there would be no impact.

Liquefaction

The Proposed Project site is not located within a liquefaction hazard zone mapped by the CGS (Terracon, 2019). As such, there would be no impact.

Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact. The Proposed Project site is not located in an area with expansive surficial soil. (Fresno County, 2000a; Fresno County, 2000b; USDS NRCS, 2020) Therefore, no impacts would occur under this criterion.

Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Proposed Project does not include a wastewater disposal system. Therefore, no impacts would occur under this criterion.

Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-Than-Significant Impact. The Holocene-age sedimentary deposits present at the surface of the Proposed Project site are assigned a low paleontological potential and grade downward into older Pleistocene-age sedimentary deposits. This transition is estimated to occur at approximately 15 feet bgs. Accordingly, construction of the Proposed Project is not anticipated to

result in impacts to paleontological resources due to the relatively shallow nature of planned earthwork, which is limited to approximately ten feet or less below ground surface, where sedimentary deposits are likely Holocene in age. Therefore, implementation of a paleontological mitigation program is not recommended. In the unlikely event that fossils are unearthed during construction (i.e., an inadvertent discovery), **APMs PALEO-1** and **PALEO-2** would be implemented to reduce impacts to less-than-significant levels.

4.7.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Geology, Soils, and Paleontological Resources.

4.7.6 APPLICANT PROPOSED MEASURES

APM GEO-1

The following measures would be implemented during construction to minimize impacts from geological hazards and disturbance to soils:

- Keep vehicle and construction equipment within the limits of the Proposed Project and in approved construction work areas to reduce disturbance to topsoil;
- Prior to grading, salvage topsoil to a depth of six inches or to actual depth if shallower (as identified in site-specific geotechnical investigation report) to avoid mixing of soil horizons;
- Avoid construction in areas with saturated soils, whenever practical, to reduce impacts to soil structure and allow safe access. Similarly, avoid topsoil salvage in saturated soils to maintain soil structure;
- Keep topsoil material on-site in the immediate vicinity of the temporary disturbance or at a nearby approved work area to be used in restoration of temporary disturbed areas. Temporary disturbance areas would be re-contoured following construction to match pre-construction grades. Areas would be allowed to re-vegetate naturally or would be reseeded with a native seed mix from a local source if necessary. On-site material storage would be sited and managed in accordance with all required permits and approvals; and
- Keep vegetation removal and soil disturbance to a minimum and limited to only the areas needed for construction. Removed vegetation would be disposed of off-site to an appropriate licensed facility or can be chipped on-site to be used as mulch during restoration.

APM GEO-2

The structural requirements of the CBC are applicable to certain structural components of the Proposed Project, including the control enclosures. LSPGC and/or its contractors would design such structures to comply with such CBC standards and shall adhere to and implement all design

recommendations and parameters established in the Proposed Project's Supplemental Geotechnical Engineering Report to be prepared and submitted to the CPUC upon completion.

APM PALEO-1

In the unlikely event that fossils are unearthed during earthwork activities (i.e., an inadvertent discovery), earthwork within the vicinity of the discovery shall immediately halt, and a qualified paleontologist should evaluate the discovery. Earthwork shall be diverted until the significance of the fossil discovery can be assessed by the qualified paleontologist. If the fossil discovery is deemed significant, the fossil shall be recovered using appropriate recovery techniques based on the type, size, and mode of preservation of the unearthed fossil. Earthwork may resume in the area of the fossil discovery once the fossil has been recovered and the qualified paleontologist deems the site has been mitigated to the extent necessary. Additional earthwork following the fossil discovery may be monitored for paleontological resources on an as-needed basis, at the discretion of the qualified paleontologist.

APM PALEO-2

Recovered fossils shall be prepared, identified, catalogued, and stored in a recognized professional repository (e.g., the SDNHM, the University of California Museum of Paleontology) along with associated field notes, photographs, and compiled fossil locality data. Donation of the fossils should be accompanied by financial support for initial specimen curation and storage. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils. This report shall be submitted to appropriate agencies, as well as to the designated repository.

4.8 GREENHOUSE GAS EMISSIONS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b.	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

This section describes the Greenhouse Gas (GHG) Emissions within the vicinity of the Proposed Project as well as potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.8.1 ENVIRONMENTAL SETTING

The Proposed Project is located in an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

4.8.1.1 GHG Setting

GHGs, such as water vapor and carbon dioxide, are abundant in the earth's atmosphere. These gases are called "Greenhouse Gases" because they absorb and emit thermal infrared radiation, which acts like an insulator to the planet. Without these gases, the earth's ambient temperature would either be extremely hot during the day or blistering cold at night. However, because these gases can both absorb and emit heat, the earth's temperature does not sway too far in either direction.

Over the years, scientists have measured a rise in carbon dioxide, and the general consensus is that human activities contribute to the heating of the planet. Other GHGs, such as methane and nitrous oxide, also contribute to global warming.

GHGs of concern, as analyzed in this study, are Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O) and Sulfur Hexafluoride (SF₆). To simplify GHG calculations CH₄, N₂O and SF₆ are converted to equivalent amounts of CO₂ and are identified as carbon dioxide equivalent (MTCO₂e). CO₂e is calculated by multiplying the calculated levels of CH₄, N₂O and SF₆ by a Global Warming Potential (GWP). The latest California Emissions Estimator Model (CalEEMod 2016.3.2) developed by Breeze Software uses the Intergovernmental Panel on Climate Change (IPCC) 2007 report as source data for GWP factors for both CH₄ and N₂O (CAPCOA, September 2016), using the 100 year periods of 25, 298, 22,800 respectively (IPCC, 2007).

The existing Proposed Project site is generally level and has been previously disturbed for mostly agricultural purposes. The site is generally flat, and on-site elevations are at or around 400 feet above mean sea level. The Proposed Project is located within an area utilized for agricultural and utility infrastructure uses with industrial uses nearby. GHG production on-site is generally low with all emissions generated from agricultural uses.

The Proposed Project seeks to construct two, new STATCOM facilities and two, new single circuit 500 kilovolt (kV) transmission lines that would connect to the existing PG&E Gates Substation. The STATCOM facility would also include three 550kV gas-insulated circuit breakers that utilize SF₆ which is a very strong GHG. The STATCOM facility would support the regional transmission system by providing voltage support and grid stability at the Gates 500 kV bus. This would facilitate the reliable operation of the extra high voltage transmission system buses in the electrical proximity of the PG&E Gates Substation after the retirement of the Diablo Canyon nuclear generating units. GHGs generated from the Proposed Project would be from construction on-site as well as electrical usage, SF₆ leakage, and vehicular trips from O&M activities.

4.8.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.8.2.1 Regulatory Setting

Federal

Clean Air Act

On April 2, 2007, in *Massachusetts v. Environmental Protection Agency (EPA)*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act. On December 7, 2009, the EPA Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO₂, CH₄, N₂O, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

State

Executive Order S-3-05

Executive Order (EO) S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050.

Assembly Bill (AB) 32 and CARB's Climate Change Scoping Plan

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, the California Air Resource Board (CARB) is responsible for and is recognized as having the expertise to carry out and develop the programs and regulations necessary to achieve the GHG emissions reduction mandate of AB 32. Therefore, in furtherance of AB 32, CARB adopted regulations requiring the reporting and verification of GHG emissions from specified sources, such as industrial facilities, fuel suppliers and electricity importers (see Health & Safety Code Section 35830; Cal. Code Regs., tit. 17, §§95100 et seq.). CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons [MMT] CO₂e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)* in accordance with Health and Safety Code Section 38561. The *Scoping Plan* established an overall framework for the measures that would be implemented to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The 2008 *Scoping Plan* evaluated opportunities for sector-specific reductions, integrated all CARB and Climate Action Team¹ early actions and additional GHG reduction features by both entities, identified additional measures to be pursued as regulations, and outlined the role of a cap-and-trade program. The key elements of the 2008 *Scoping Plan* include the following (CARB, 2008):

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;

¹ The Climate Action Team is comprised of state agency secretaries and heads of state agencies, boards and departments; these members work to coordinate statewide efforts to implement GHG emissions reduction programs and adaptation programs.

- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state of California's long-term commitment to AB 32 implementation.

In the 2008 *Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations (CARB, 2011). Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (12 percent to 20 percent), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)*. The stated purpose of the *First Update* was to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050." The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that would be needed to meet the state's more expansive emission reduction needs by 2050." Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6)

natural and working lands. The *First Update* identified key recommended actions for each sector that would facilitate achievement of EO S-3-05's 2050 reduction goal.

Based on CARB's research efforts presented in the *First Update*, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050." Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state's 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO₂e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

In November 2017, CARB released *California's 2017 Climate Change Scoping Plan (Second Update)* for public review and comment (CARB, 2017a). This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below). The strategy includes continuing the Cap-and-Trade Program through 2030², inclusive policies and broad support for clean technologies, enhanced industrial efficiency and competitiveness, prioritization of transportation sustainability, continued leadership on clean energy, putting waste resources to beneficial use, supporting resilient agricultural and rural economics and natural and working lands, securing California's water supplies, and cleaning the air and public health.

When discussing project-level GHG emissions reduction actions and thresholds, the *Second Update* states "[a]chieving no additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." However, the *Second Update* also recognizes that such an achievement "may not be feasible or appropriate for every project ... and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA." CARB's Governing Board adopted the *Second Update* in December 2017.

SB 32 and AB 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction target; make changes to CARB's membership and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies.

² In July 2017, AB 398 was enacted into law, thereby extending the legislatively-authorized lifetime of the Cap-and-Trade Program to December 31, 2030.

AB 197 also added two members of the Legislature to CARB as nonvoting members. The legislation further requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and Toxic Air Contaminants (TACs) from reporting facilities; and identify specific information for GHG emissions reduction measures when updating the scoping plan, including information regarding the range of projected GHG emissions and air pollution reductions that result from each measure and the cost-effectiveness (including avoided social costs) of each measure (see Health & Safety Code Section 38562.7).

EO B-55-18

In 2018, the Governor expanded upon EO S-3-05 by issuing Executive Order B-55-18 and creating a statewide goal of carbon neutrality by 2045. EO B-55-18 identifies CARB as the lead agency to develop a framework for implementation and progress tracking toward this goal. It should be noted that consistency with a statewide carbon neutrality target by 2045 represents the Governor's policy goal but is not required to make a significance determination. The state has already determined that 80 percent below 1990 levels by 2050 is a long-term target that represents California's share of emissions reductions to stabilize and limit global warming and "avoid dangerous climate change". EO B-30-15 sets forth the 2050 target endorsed by the IPCC's findings and notes that the state's 2050 target would "attain a level of emissions necessary to avoid dangerous climate change" because it may limit global warming to two degrees Celsius by 2050.

AB 1493

In response to the transportation sector accounting for more than half of California's CO₂ emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards would result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards would result in a reduction of about 30 percent (CARB, 2017b).

SB 375

SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan. The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, would achieve, if feasible and if implemented, the GHG reduction targets. If a SCS is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB, 2017b). To improve air quality, CARB also has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that, in 2025, cars would emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, also has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34 percent in 2025 (CARB, 2012).

EO B-16-12

EO B-16-12 (March 2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution of ZEVs. This EO also sets a long-term target of reaching 1.5 million zero-emission vehicles on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80 percent less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on Zero-Emission Vehicles that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet. As of January 2018, the Governor has called for as many as 1.5 million EV by 2025 and up to five million EV by 2030 (Office of Governor Edmund G. Brown Jr., 2018).

AB 1236

AB 1236 (2015), as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations, as specified.

SB 350

In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see Public Utilities Code Section 740.12).

SF₆ Leakage Requirements

In 2010, the CARB published final regulations for SF₆ and outlined requirements for equipment operational from 2011 to beyond 2020. The purpose of this regulation is to achieve greenhouse gas emission reductions by reducing SF₆ emissions from gas insulated switchgear. Based on the requirements, the allowable leakage rate in 2011 was 10 percent. The allowable leakage rate in 2020

and each calendar year thereafter is 1 percent or a 90 percent reduction (CARB, 2010) from 2011 allowable rate.

SB 1078

SB 1078 (2002) established the Renewables Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least one percent of sales, with an aggregate goal of 20 percent by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20 percent of their power from renewable sources by 2010.

SB X1 2

SB X1 2 (2011) expanded the RPS by establishing that 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350

SB 350 (2015) further expanded the RPS by establishing that 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030 be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency.

SB 100

SB 100 (2018) has further accelerated and expanded the RPS, requiring achievement of a 50 percent RPS by December 31, 2026 and a 60 percent RPS by December 31, 2030. SB 100 also established a new statewide policy goal that calls for eligible renewable energy resources and zero-carbon resources to supply 100 percent of electricity retail sales and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 GHG plans and regulations for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Climate Change Action Plan

The Proposed Project is located within the jurisdiction managed by San Joaquin Valley Air Pollution Control District (SJVAPCD).

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental documents. In response to this, in August 2008, SJVAPCDs Governing Board adopted the Climate Change Action Plan (CCAP). Based on that plan, the district created processes to evaluate GHG significance. The plan covers projects that include Best Performance Standards (BPS), which are more typical of residential or commercial type projects, and projects that do not implement BPS (SJVAPCD, 2009).

Projects implementing BPS would not require quantification of project specific GHG emissions. Consistent with California Environmental Quality Act (CEQA), Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions.

Projects not implementing BPS would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to BAU, including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG.

Since the Proposed Project is not a typical residential or commercial development project, including standard BPS is not applicable, so using a comparison between a BAU scenario in 2004 and an operational scenario estimated at 2023 would be appropriate. The comparison analysis would be required to show a 29 percent reduction over BAU.

4.8.3 IMPACT QUESTIONS

4.8.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Greenhouse Gases come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.8.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019a), there are no additional CEQA Impact Questions required for Greenhouse Gas Emissions.

4.8.4 IMPACT ANALYSIS

4.8.4.1 Impact Analysis

Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact. The Proposed Project was analyzed using SJVAPCDs Business-as-Usual (BAU) approach which requires projects to have a reduction of GHG emissions of at least 29 percent from BAU, which is set at the year 2004. Projects that achieve this threshold are considered to have less-than-significant impacts. The Proposed Project would result in direct or indirect GHG emissions from project construction, project operations and maintenance activities, project operations energy consumption, and SF₆ leakage from project circuit breakers. To determine the significance of the Proposed Project's GHG impacts, these sources of GHG emissions were evaluated for the Proposed Project and the BAU scenario. For construction emissions, operation and maintenance activities, and operations energy usage, CalEEMod (version 2016.3.2)³ was used to model emissions for both the BAU (2004) and the Proposed Project (2022 – 2023). CalEEMod GHG models for both BAU and the Proposed Project operational year (2023) are provided as Attachment A in **Appendix 4.8-A, Greenhouse Gases Screening Letter**. Construction emissions were amortized over 30 years based on the projected operational life of the Proposed Project. Emissions from the eventual decommissioning would be similar to those from Proposed Project construction. To be conservative, the emissions from decommissioning were assumed to be the same as those from construction. This assumption is considered conservative because decommissioning would result in fewer emissions of GHGs than construction. At the current level of Proposed Project design, the final SF₆ volume within the circuit breakers is not yet known. However, the manufacturer was able to provide typical values, and these were used in this analysis. In addition, the Proposed Project would comply with CARB regulations regarding SF₆ leak rates. The typical volume of SF₆ gas was used in conjunction with regulatory limits for leak rate to compare project emissions to BAU.

The Proposed Project construction includes site preparation and grading, installation of drainage and retention basins, installation of foundations/supports, setting of equipment, wiring and electrical system installation, and assembly of the accessory components. The Proposed Project would require site grading as well as import of roughly 17,000 cubic yards (CY) of suitable base material and export of roughly 2,000 CY. The Proposed Project plans to start grading and construction in March of 2022 and be completed in the December of 2023 and was assumed to have a 6-day work week (Monday through Saturday). The estimated equipment list and construction task durations are shown in **Table 4.8-1, Anticipated Construction Equipment and Durations**. Material hauling/truck details along with worker trips were provided within **Section 3.0, Project Description** (See **Table 3-6**) and was manually updated within the CalEEMod software.

³ CalEEMod 2016.3.2 air quality and GHG model, which was developed by BREEZE Software for South Coast Air Quality Management District (SCAQMD) in 2017. CalEEMod utilizes EMFAC 2014 for vehicular emission rates for each operational year. SJVAPCD recognizes the CalEEMod Version 2016.3.2 as an acceptable model for projects of this nature.

Table 4.8-1: Anticipated Construction Equipment and Durations

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Site Preparation/Road Work	03/15/2022	5/28/2022		
Graders			1	250
Off-Highway Trucks (Dump Truck)			4	415
Off-Highway Trucks (Water Truck)			4	300
Rollers			1	405
Rubber Tired Loaders (4-5 yard)			1	275
Below-Grade Construction	06/1/2022	8/30/2022		
Excavators			1	108
Off-Highway Trucks (Water Truck)			4	300
Forklifts			1	100
Tractors/Loaders/Backhoes			1	68
Excavators			1	70
Rubber Tired Loaders (4-5 yard)			1	275
Drill Rig			1	125
Off-Highway Trucks (Dump Truck)			1	415
Skid Steer Loaders			1	74
Trenchers			1	75
Above Grade Construction and Equipment Installation	09/1/2022	8/15/2023		
Aerial Lifts			1	49
Aerial Lifts			1	74
Cranes (17 Ton)			1	250
Cranes (30 ton)			1	130
Forklifts			2	130
Welders			1	395
Commissioning and Testing ¹	8/16/23	12/15/23		
Forklifts			2	130
Aerial Lifts			1	49
¹ Commissioning and Testing estimated between 6/15/2023 and 12/15/2023. For the purposes of modeling and to avoid double-counting, forklifts and aerial lifts are the same units as within Above Grade Construction. For this purpose, commissioning and testing was modeled with a start date of 8/16/2023.				

Based on modeling conducted (refer to **Appendix 4.8-A**), BAU construction (between 2003 and 2004) for the Proposed Project would generate 1,395 Metric Tons (MT) CO₂e over the estimated construction period. Given the fact that the total emissions would ultimately contribute to cumulative levels, it is acceptable to average the total construction emission over the life of the Proposed Project (i.e., amortize), which is assumed to be 30 years (SCAQMD, 2008). Given this, as shown in **Table 4.8-2, Expected Annual Construction CO₂e Emissions (BAU)**, the Proposed Project would add approximately 46.51 MT CO₂e per year from construction.

Table 4.8-2: Expected Annual Construction CO₂e Emissions (BAU)

Year	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e (MT/Yr)
2003	0.00	1,057.16	1,057.16	0.17	0.00	1,061.47

2004	0.00	332.39	332.29	0.06	0.00	332.97
Total						1,395.39
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						46.51
Expected Construction emissions are based upon CalEEMod modeling assumptions (Table 4.8-1 above though years modified to 2003 and 2004)						

Similarly, as shown in **Table 4.8-3, Expected Annual Construction CO₂e Emissions (Project)**, Proposed Project construction (between 2022 and 2023) would generate 1,173.66 MT CO₂e over the estimated construction period. This equates to an annual average of 39.12 MT CO₂e per year from construction. The reductions achieved are primarily due to the fact that both construction equipment and worker vehicles used are more efficient in 2023. GHG emissions from the eventual decommissioning of the Proposed Project would be expected to result in similar reduction when compared to BAU. While GHG impacts from construction are anticipated to be less than significant, **Applicant Proposed Measure (APM) GHG-1** is being proposed to minimize GHG emissions through low-cost emission reduction measures that are common for construction projects in California.

Table 4.8-3: Expected Annual Construction CO₂e Emissions (Project)						
Year	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e (MT/Yr)
2022	0.00	886.72	886.72	0.25	0.00	892.87
2023	0.00	279.53	279.53	0.05	0.00	280.78
Total						1,173.66
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						39.12
Expected Construction emissions are based upon CalEEMod modeling assumptions (Table 4.8-1 above)						

Operations of the Proposed Project would begin once construction is completed. Operational emissions sources would include the consumption of energy on-site from project auxiliary equipment, such as control room HVAC units, communications equipment, and lighting. It is assumed that the total demand on-site would be six kilowatts (kW) continuous per building or roughly 105,120 kWh per year and was modeled as such within CalEEMod. CalEEMod was used to estimate annual operational-related emissions for both the 2004 BAU scenario and the Proposed Project scenario which would be operational in 2023.

Regarding the Proposed Project's energy intensity factors, CalEEMod's default rates do not include state regulated renewable energy mandates for energy providers such as PG&E⁴. Given this, PG&E energy-intensity factors for 2023 were calculated and were modeled as such within CalEEMod (CPUC, 2019b). Under the BAU approach, energy consumption at BAU would not include RPS under SB 100. In 2023, the Proposed Project would utilize energy with RPS expected to be near 47.8 percent.

Additional emissions during Proposed Project operations would occur from mobile vehicle visits to the Proposed Project site associated with periodic O&M activities. Typical operations would include monthly staff operations and maintenance visits, with crews of two to four persons generating two to four trips twice per month. For purposes of preparing an overly conservative analysis, it was assumed that the Proposed Project would generate four trips per day using a rural setting. These parameters

⁴ Based on the requirements of SB 100 (State of California, 2018) utility providers are required to have 60 percent of their portfolio supplied by renewable energy sources. To date, PG&E has achieved 39 percent and in 2023, PG&E should have 47.8 percent in place to meet requirements of SB 100 in 2030.

were utilized for the GHG emission modeling (refer to Attachment A of **Appendix 4.8-A, Greenhouse Gas Screening Letter**).

Finally, the Proposed Project would install and operate three 550kV gas insulated circuit breakers, which would contain SF₆ used for insulation. Based on CARBs 2010 regulations, the allowable SF₆ leak rate for circuit breakers was 10 percent in the year 2011. To be conservative, BAU (defined as year 2004) was assumed to have the same leakage rate allowed in 2011 under CARBs regulations. CARB's regulations also dictate that the maximum allowable SF₆ leak rate for year 2020 and beyond is one percent. Therefore, Proposed Project operations are assumed to achieve the currently required maximum leak rate of one percent. This comparison is considered to be conservative because the SF₆ leak rate in 2004 likely could have been greater than 10 percent and the actual Proposed Project SF₆ leak rates may be less than the required one percent. When the Proposed Project is compared to BAU, a 90 percent per year leak reduction is realized. While the final amount of SF₆ that will be used in the circuit breakers is not yet known, the manufacturer lists a typical storage of 595 pounds per circuit breaker, or 1,785 pounds total. In 2023, the circuit breakers can emit up to a maximum of 17.85 pounds of SF₆ by law. Under the baseline scenario in 2004, SF₆ regulations are not readily available. Therefore, 2011 SF₆ regulations were used as a conservative BAU baseline. Under these baseline conditions, Proposed Project's circuit breakers could emit up to 178.5 pounds of SF₆.

Under the BAU scenario, the expected operational emissions including amortized construction emissions would be expected to generate 2,017.11 MTCO₂e per year (See **Table 4.8-4, Operational Emissions Summary MT/Year [BAU]**). It should be noted that the Proposed Project scenario analyzed herein includes both annualized construction and operational emissions combined to reflect the total annual GHG emission produced by the Proposed Project.

Table 4.8-4: Operational Emissions Summary MT/Year (BAU)						
Year	Bio-CO₂	NBio-CO₂	Total CO₂	CH₄	N₂O	CO₂e (MT/Yr)
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	30.58	30.58	0.00	0.00	30.70
Mobile	0.00	4.87	4.87	0.00	0.00	4.90
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (MT/Year)						35.60
SF ₆ emissions (Allowed 10 percent or 178.5 pounds)						1,935
Amortized Construction Emissions (Table 4.8-2 above)						46.51
Total Construction and Operations (MT/Year)						2,017.11
Data is in Metric Tons (MT). Conversion rate is 1 pound = 0.000453592 MT. Data is presented in decimal format and may have rounding errors. Pounds of SF ₆ is converted to CO ₂ e using the global warming potential of 23,900.						

Under the 2023 Proposed Project scenario, the expected operational emissions including amortized construction would generate emissions of 65.98 MTCO₂e per year (See **Table 4.8-5, Operational Emissions Summary MT/Year [Project]**).

Table 4.8-5: Operational Emissions Summary MT/Year (Project)

Year	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e (MT/Yr)
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	15.98	15.98	0.00	0.00	16.04
Mobile	0.00	4.19	4.19	0.00	0.00	4.20
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (MT/Year)						20.23
SF ₆ Emissions (Allowed 1 percent or 17.85 pounds)						19.35
Amortized Construction Emissions (Table 4.8-3 above)						39.12
Total Construction and Operations (MT/Year)						78.70
Combined BAU Scenario						2,017.11
Reduction over BAU						1,938.41
Percentage Reduction over BAU						96.1 %
Data is in Metric Tons (MT). Conversion rate is 1 pound = 0.000453592 MT. Data is presented in decimal format and may have rounding errors. Pounds of SF ₆ is converted to CO ₂ e using the global warming potential of 23,900.						

As shown in **Table 4.8-5, Operational Emissions Summary MT/Year (Project)** the Proposed Project's GHG emissions reduction of 96.1 percent is above the SJCAPCD's minimum of 29 percent. Therefore, impacts would be less than significant under this criterion. **APM GHG-1** would also be implemented to minimize the emissions of GHGs during construction of the Proposed Project.

Aside from the physical emissions of GHGs from construction and operation of the Proposed Project, implementation of the Proposed Project would serve to help integrate existing and future renewable energy projects. By making the transmission system more compatible with renewable energy generation, emissions of GHGs would be indirectly reduced. This affect would increase over time as the PG&E renewable portfolio continues to increase towards reaching the requirement of 60 percent by 2030.

Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact. In August 2008, SJVAPCDs Governing Board adopted the CCAP. Based on that plan, the district came up with processes to evaluate GHG significance. The plan covers projects that include BPS, which are more typical of residential or commercial type projects, as well as projects that do not implement BPS.

Projects not implementing BPS, such as the Proposed Project, would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to BAU, including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG.

Based on findings shown in **Table 4.8-5, Operational Emissions Summary MT/Year (Project)**, the Proposed Project would generate a 96.1 percent reduction in GHG emissions over BAU, which is above the SJCAPCD's threshold of 29 percent. Therefore, GHG impacts would be considered less than significant under this criterion.

4.8.4.2 Natural Gas Storage Accident Conditions

The Proposed Project does not involve the storage or transmission of natural gas.

4.8.4.3 Monitoring and Contingency Plan

The Proposed Project does not involve the storage or transmission of natural gas.

4.8.5 CPUC DRAFT ENVIRONMENTAL MEASURES

The Proposed Project does not include any CPUC Draft Environmental Measures. However, **APM GHG-1** has been included to reduce emissions of GHGs.

4.8.6 APPLICANT PROPOSED MEASURES

While impacts are anticipated to be less than significant based solely on the Proposed Project as described in **Section 3.0, Project Description**, the applicant has included the following APM to reduce emissions of GHGs during construction activities.

APM GHG-1

The following measures shall be implemented to minimize greenhouse gas emissions from all construction sites:

- If suitable park-and-ride facilities are available in the Proposed Project vicinity, construction workers shall be encouraged to carpool to the job site.
- Demolition debris shall be recycled for reuse to the extent feasible.
- The contractor shall use line power instead of diesel generators at all construction sites where line power is available.
- The contractor shall maintain construction equipment per manufacturing specifications.

4.9 HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC SAFETY

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	
h.	Create a significant hazard to air traffic from the installation of new power lines and structures?				X
i.	Create a significant hazard to the public or environment through the transport of heavy materials using helicopters?				X

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
j.	Expose people to a significant risk of injury or death involving unexploded ordnance?				X
k.	Expose workers or the public to excessive shock hazards?			X	

This section describes the Hazards, Hazardous Materials, and Public Safety within the vicinity of the Proposed Project as well as potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.9.1 ENVIRONMENTAL SETTING

The Proposed Project site is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project site are used exclusively for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

Topography in the vicinity of the Proposed Project site is flat with active agriculture. Geologic and hydrologic conditions in the Proposed Project are described in **Sections 4.7 and 4.10, *Geology, Soils, and Paleontological Resources* and *Hydrology and Water Quality***, respectively.

Based on a review of topographic maps and aerial photographs dating as early as 1912, the Proposed Project and surrounding property consisted of native land. A small 2-track road appears to cross through the central and southeastern portions of the Proposed Project in the late 1930s and early 1940s. Agricultural activities had begun on the Proposed Project and surrounding land by the mid-1950s. Around this same time, a portion of the existing adjacent PG&E Gates Substation had been developed with transmission lines entering the substation. By the early 1970s, the PG&E Gates Substation had developed further to the southwest of the Proposed Project site. Besides the PG&E Gates Substation, the Proposed Project site and surrounding area continued to consist of agricultural activities. Little change was observed on the Proposed Project site or surrounding properties from the mid-1970s to the present time, with agricultural activities continuing on the Proposed Project site.

Currently, the PG&E Gates Substation houses mineral oil-filled electrical equipment (e.g., transformers, regulators, oil circuit breakers) and associated equipment, material, and controls. The PG&E Gates Substation is listed as a hazardous waste generator, Auto Repair/Maintenance Model Plan, containing Emergency Planning Community Right-to-Know Act (EPCRA) Batteries and as having above-ground storage tank (AST) capacity of 10,000 to 99,999 gallons. Larger ASTs, located near the PG&E Gates Substation, do not appear to be immediately adjacent to the Proposed Project.

4.9.1.1 Hazardous Materials Report

In March 2020, Mathis and Associates, Inc. prepared the Phase I Environmental Site Assessment (ESA) (Mathis and Associates, 2020) for the Proposed Project site. The Phase I ESA was prepared under the guidance of Standard Practice E 1527-13 of American Society for Testing Materials International (ASTM). Practice E 1527-13 defines the extent and limit of “appropriate inquiry” as defined in 42 U.S.C. §9601(35) (B) for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability and defense provisions. The objective of the Phase I ESA was to determine the presence or absence of recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs) and historical recognized environmental conditions (HRECs), as defined in the ASTM standard as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.” The assessment included review of historical property uses of the Proposed Project area, review of historical topographic maps and aerial photographs, review of previous environmental reports or assessments conducted in the vicinity, review of federal and state environmental records databases including an environmental database report generated by GeoSearch and reconnaissance survey of the Proposed Project area. The databases search by GeoSearch was conducted in accordance with ASTM Standard E 1527-13 and included the required databases as well as several additional federal and state databases and databases proprietary to GeoSearch. The Phase I ESA and GeoSearch report are provided in **Appendix 4.9-A**.

In addition to the Phase I ESA and database resources reviewed therein, other potential site hazards and hazardous materials in the vicinity of the Proposed Project site were evaluated through review of the following available resources:

- State Water Resources Control Board (SWRCB) GeoTracker database;
- Department of Toxic Substances Control (DTSC) EnvironStor database;
- California Department of Conservation (CDC), Wellfinder;
- California Department of Water Resources (DWR); and
- Fresno County Tax Assessor.

The Phase I ESA included an environmental regulatory review to establish the environmental history of the Proposed Project site and surrounding area to ascertain whether hazardous waste or hazardous material management, handling, treatment, or disposal activities have occurred on or near the Proposed Project. An environmental database report generated by GeoSearch on March 23, 2020, did not identify any relevant nearby hazardous waste sites or facilities. The PG&E Gates Substation is listed as a hazardous waste generator, Auto Repair/Maintenance Model Plan, containing EPCRA Batteries and as having AST capacity of 10,000 to 99,999 gallons.

The Phase I ESA also included a reconnaissance survey of the Proposed Project area and review of supplemental records from the SWRCB GeoTracker website, which contains environmental data for regulated facilities in California including cleanup sites and hazardous waste facilities, and the DTSC EnviroStor website (2020), which includes data for leaking underground storage tanks and other cleanup sites, disposal sites, and hazardous waste permitted facilities. No sites were identified within a two-mile radius of the Proposed Project site.

The Phase I ESA had the following relevant findings and conclusions with regard to the Proposed Project:

- No relevant nearby hazardous wastes or materials sites or facilities were listed in the supplemental databases search. The adjacent PG&E Gates Substation is listed as a hazardous waste generator. However, no relevant releases of hazardous waste have been reported in association with this facility.
- No wells, evidence of underground storage tanks, or evidence of spills, staining, or leaking of hazardous materials or petroleum products were found within the Proposed Project area.
- Review of historical aerial photographs and topographic maps did not identify any past uses of the Proposed Project area considered to be RECs.
- No potential sources of vapor intrusion or vapor encroachment were identified that would be considered to be RECs for the Proposed Project.
- No evidence of RECs was identified in connection with the Proposed Project.

4.9.1.2 Airport Land Use Plan

No portion of the Proposed Project comes within one mile of a public, private, or military airport runway or associated airport land use plan. The closest public airports are the New Coalinga Municipal Airport, which is approximately 10 miles west of the Proposed Project site, and the Harris Ranch Airport, which is approximately 9.1 miles northwest of the Proposed Project site. In addition, the Lemoore Naval Air Station is located approximately 15 miles northeast of the Proposed Project site (California Public Records, 2020).

4.9.1.3 Fire Hazard

As defined by CAL FIRE, the Proposed Project site is located within an a “unzoned” Local Responsibility Area (LRA) (CAL FIRE, 2018a) and is not located within a State Responsibility Area (SRA) (CAL FIRE, 2018b). The closest SRA is approximately eight miles from the Proposed Project site.

CAL FIRE adopted Fire Hazard Severity Zone (FHSZ) mapping for SRAs throughout the state. These maps rate wildfire hazards as “moderate,” “high,” or “very high” based on fuel loading, slope, fire weather, and other relevant factors. In the vicinity of the Proposed Project, the closest SRA area (moderate) is located approximately eight miles to the southwest, near the city of Coalinga (CAL FIRE, 2018a). CAL FIRE has mapped the Proposed Project site as being in an “unzoned” fire hazard severity zone (CAL FIRE, 2020).

The California Public Utilities Commission (CPUC) mapped high fire threat areas where more stringent requirements would be implemented due to the elevated risk for power line fires. The CPUC High Fire Threat District Map identifies three tiers of elevated risk for fires associated with utilities. The Proposed Project site is not located within a CPUC designated Fire Threat District (CPUC, 2020a).

Additionally, irrigated and cultivated agricultural fields and road corridors reduce potential fire hazards in the Proposed Project vicinity. Furthermore, the adjacent PG&E Gates Substation has an active vegetation management program that removes vegetation from the undeveloped portions of their property to further reduce the area's fire hazard risks.

4.9.1.4 Metallic Objects

There are no known existing metallic pipelines or cables located within 25 feet of the Proposed Project site.

4.9.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.9.2.1 Regulatory Setting

Federal

Resource Conservation and Recovery Act

Under the Resource Conservation and Recovery Act (RCRA) of 1976 (RCRA; 42 USC section 6901 et seq.), individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as the federal RCRA requirements (USEPA, 2020). RCRA (42 USC section 6901 et seq.) regulates hazardous waste from the time that waste is generated until its final disposal through management, storage, transport, and treatment. The federal government approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. In California, the RCRA program is administered by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC), per direction of the U.S. Environmental Protection Agency (USEPA).

Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA (CERCLA; 42 USC Chapter 103) and associated Superfund Amendments provide the USEPA with the authority to identify hazardous sites, to require site remediation, and to recover the costs of site remediation from polluters (USEPA, 2020). CERCLA also enabled the revision of the National Oil and Hazardous Substances Pollution Contingency Plan, also known as the National Contingency Plan (NCP). The NCP provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

U.S. Department of Transportation Hazardous Materials Regulations

The U.S. Department of Transportation (DOT) Hazardous Materials Regulations (Title 49 CFR Parts 100–172) cover all aspects of hazardous materials packaging, handling, and transportation (US DOT, 2015).

State

Hazardous Waste Control Law

The HWCL (California Health and Safety Code [HSC], Chapter 6.5 section 25100 et seq.) authorizes Cal/EPA's DTSC to regulate the generation, transportation, treatment, storage, and disposal of hazardous wastes (State of California, 2014). DTSC can also delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of HWCL.

Hazardous Substance Account Act

The Hazardous Substance Account Act (HSAA) (California HSC Chapter 6.8 section 25300 et seq.) is California's equivalent to CERCLA (State of California, 2015). It addresses hazardous waste sites and apportions liability for them. The HSAA also provides that owners are responsible for the cleanup of such sites and the removal of toxic substances, where possible.

The two state agencies with primary responsibility for enforcing federal and state regulations related to hazardous material transport, and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and California Department of Transportation (Caltrans), respectively.

Occupational Health and Safety

The California Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within the state (California Code of Regulations [CCR] Title 8). Cal/OSHA standards are more stringent than federal OSHA regulations and take precedence (California Department of Industrial Relations, Division of OSHA, 2020).

Hazardous Materials Management

The California Office of Emergency Services is the state office responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. CCR Title 26 is a compilation of the chapters or titles of the CCR that are applicable to hazardous materials management.

Porter-Cologne Water Quality Control Act

As discussed in more detail in **Section 4.10, *Hydrology and Water Quality***, the Porter-Cologne Water Quality Control Act (California Water Code, Division 7) is the provision of the California Water Code that regulates water quality in California and authorizes the SWRCB and nine Regional Water Quality Control Boards (RWQCBs) to implement and enforce the regulations. The RWQCBs regulate discharges under Porter-Cologne primarily through the issuance of waste discharge requirements. Anyone discharging or proposing to discharge materials that could affect water quality must file a report of waste discharge. The SWRCB and the RWQCBs can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. Porter-Cologne provides several means of enforcement, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court

actions, and criminal prosecution. The Proposed Project area is under the jurisdiction of the Central Valley RWQCB – Fresno Office (California Department of Water Resources, 2020).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (CCR Title 27) was mandated by the state of California in 1993. The Unified Program was created to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for six hazardous materials programs. The program has six elements:

- Hazardous Waste Generators and Hazardous Waste On-site Treatment;
- Underground Storage Tanks;
- Aboveground Petroleum Storage Act;
- Hazardous Materials Release Response Plans and Inventories;
- California Accidental Release Prevention; and
- Uniform Fire Code Hazardous Materials Management Plans and Hazardous Materials.

Inventory Statements

At the local level, this is accomplished by identifying a Certified Unified Program Agency (CUPA) that coordinates all of these activities to streamline the process for local businesses. The Fresno County Department of Public Health is approved by Cal/EPA as the CUPA for Fresno County (CalEPA, 2020).

Rules for Overhead Electric Line Construction

Under Section 35 of General Order 95, the CPUC regulates all aspects of design, construction, and O&M of electrical power lines and fire safety hazards for utilities subject to their jurisdiction (CPUC, 2020b).

Fire Prevention Standards for Electric Utilities

The Fire Prevention Standards for Electric Utilities (CCR Title 14, sections 1250-1258) provide definitions, maps, specifications, and clearance standards for projects under the jurisdiction of California Public Resources Code (PRC) sections 4292 and 4293 in SRAs.

California Fire Code

The California Fire Code 2010 (CCR Title 24, Part 9) is based on the International Fire Code from the International Code Council and contains consensus standards related to establishing good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new or existing buildings, structures, and premises.

California Public Utilities Commission

The CPUC's Utilities Safety and Reliability Branch of the Consumer Protection and Safety Division was established, in part, to oversee the safety of privately owned electric, communications, natural gas, and propane gas systems. It enforces CPUC rules and regulations, investigates and

recommends ways to reduce utility related accidents, and advises the CPUC on related matters. The CPUC has created a list of safety-related General Orders to govern the construction and operation of power and communication lines subject to its jurisdiction.

California Department of Toxic Substances Control

The California Hazardous Waste Control Act governs hazardous waste management and cleanup in the state (HSC Chapter 6.5-6.98). The act mirrors RCRA and imposes a cradle-to-grave regulatory system for handling hazardous waste in a manner that protects human health and the environment. It requires all businesses to report the quantity and locations of hazardous materials on an annual basis if the business stores (1) more than 55 gallons of a liquid or 500 pounds of a solid hazardous material, (2) more than 200 cubic feet of a compressed gas, or (3) a radioactive material that is handled in quantities for which an emergency plan is required. Businesses falling within these limits must prepare a Hazardous Material Business Plan (HMBP), which includes spill prevention, containment, emergency response measures, and a contingency plan. Implementation of the Hazardous Waste Control Act is the responsibility of the DTSC.

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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 hazardous materials and public safety plans and regulations for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County Operational Area Master Emergency Services Plan

Fresno County Office of Emergency Services (OES) coordinates the development and maintenance of the Fresno County Operational Area Master Emergency Services Plan. This plan serves as a guide for the county's response to emergencies/disasters in the unincorporated areas of the county. The purpose of this plan is to ensure the most effective and economical use of all resources, material and manpower, for the maximum benefit and protection of effected populations in an emergency/disaster. In the county's role as the Operational Area lead agency, County OES maintains ongoing communication with local government agencies (County Departments, Incorporated Cities, Special Districts, and Public School Districts) as well as many state and federal agencies and nonprofit organizations to maintain and enhance the communities capability to respond to and recover from disasters. During disasters, these communications concern situation reports, damage assessments, declarations of emergency for local, state and federal agencies, mutual aid requests, and disaster cost reimbursement application procedures and coordination.

Fresno County Multi-Hazard Mitigation Plan

The Fresno County Multi-Hazard Mitigation Plan was developed in 2009 through cooperation between Fresno County and 12 other jurisdictions (incorporated and unincorporated communities, flood control districts, fire safe council) allowing for the geographical coverage of everything within Fresno County's jurisdictional boundaries. The plan identifies and analyzes existing hazards (such as earthquakes, fire, drought, and severe weather), assesses community vulnerability and mitigation capabilities, and provides mitigation strategies, a mitigation action plan, and an implementation program (Fresno County, 2018).

4.9.2.2 Touch Thresholds

OSHA standards cover many electrical hazards. OSHA's general industry electrical safety standards are published in Title 29 Code of Federal Regulations (CFR), Part 1910.302 through 1910.308 -- Design Safety Standards for Electrical Systems, and 1910.331 through 1910.335 -- Electrical Safety-Related Work Practices Standards (Electronic CFR, 2020). OSHA's electrical standards are based on the National Fire Protection Association (NFPA) Standards NFPA 70, National Electric Code, and NFPA 70E, Electrical Safety Requirements for Employee Workplaces (NFPA, 2020).

The Proposed Project would be designed to all applicable standards and regulations that would provide for adequate horizontal and vertical clearances from electrical equipment. All authorized personnel working on-site, during either construction or O&M, would be trained according to OSHA, NFPA and LSPGC standards. To minimize potential exposure of the public to electric shock hazards, an 8-foot-tall chain link fence topped with one foot of barbed wire would extend around the perimeter of the Proposed Project site, thus restricting site access. Warning signs would be posted to alert persons of potential electrical hazards. All electric power lines would be designed in accordance with CPUC General Order 95 Guidelines for safe ground clearances established to protect the public from electric shock.

4.9.3 IMPACT QUESTIONS

4.9.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Hazards, Hazardous Materials and Public Safety come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; or

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment; or
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area; or
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.9.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), the following additional CEQA Impact Questions are required for Hazards, Hazardous Materials and Public Safety:

- Would the project create a significant hazard to air traffic from the installation of new power lines and structures?
- Would the project create a significant hazard to the public or environment through the transport of heavy materials using helicopters?
- Would the project expose people to a significant risk of injury or death involving unexploded ordnance?
- Would the project expose workers or the public to excessive shock hazards?

4.9.4 IMPACT ANALYSIS

4.9.4.1 Impact Analysis

Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-Than-Significant Impact. Construction of the Proposed Project would require the routine use of construction equipment that would use or contains hazardous materials including, but not limited to, diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and cement slurry. Equipment containing or transporting these materials would regularly travel throughout the Proposed Project area and region during construction periods. Additionally, the Proposed Project would include 500 kilovolt (kV) transformers containing mineral oil, which is considered a hazardous material in the state of California. The three 500 kV transformers would each contain approximately 20,000 gallons of mineral oil. Such materials have the potential to result in accidental releases that may affect the public or environment (e.g., contamination of soils, surface water and/or groundwater quality impairment, and floral/faunal toxicity effects). The Proposed Project site is located within an isolated area where on-site spills

or releases have limited potential for direct contact and impact to the general public. However, off-site transport of released materials in contaminated soils, surface waters, and/or groundwater has the potential to result in impacts. On-site releases also have the potential to impact workers and the environment through direct contact. Additionally, the improper disposal of hazardous wastes on- or off-site may impact the public, workers, and/or the environment. The potential for off-site material transport in surface and groundwater resources is discussed in **Section 4.10, Hydrology and Water Quality**.

All hazardous materials would be stored, handled, and used in accordance with applicable regulations. Based on the anticipated volume of hazardous liquid materials, such as fuel, that would be stored and dispensed at staging areas, a Spill Prevention, Control, and Countermeasure Plan (SPCCP) would be prepared (in accordance with 40 C.F.R. Parts 112.1-112.7) in accordance with **Applicant Proposed Measure (APM) HAZ-1**. Prior to construction, a Hazardous Materials Management Plan (HMMP) would also be prepared describing hazardous materials use, transport, storage, management, and disposal protocols (**APM HAZ-2**).

The potential for the Proposed Project to result in a significant hazard to the public or environment through the transport, use, or disposal of hazardous materials would be less than significant with the implementation of the SPCCP and HMMP (**APMs HAZ-1 and HAZ-2**), and **APMs WQ-1** (Limited On-site Vehicle and Equipment Fueling) and **APM CUL-1** (Worker Environmental Awareness Program). These measures would minimize the risk of a release of hazardous substances and would help ensure that in the event of such a release, a significant hazard to the public or the environment would not result.

The Proposed Project would include design specifications and O&M procedures in order to minimize the potential for the release or improper disposal of hazardous materials during Proposed Project operation. Each 500 kV transformer would be designed to include secondary containment that would capture the accidental release of hazardous materials. Maintenance activities would occur regularly at the Proposed Project facilities. These activities may include use of new pollutant sources including, but not limited to, oils, paints, and solvents used for routine maintenance. All materials used during O&M would be applied, stored, and disposed of consistent with manufacturer recommendations by licensed professionals and in accordance with applicable regulations. Operation of the Proposed Project would implement standard operational Best Management Practices (BMPs) consistent with **APMs HAZ-1, HAZ-2 and WQ-1**; as such, operational impacts would remain less than significant.

Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-Than-Significant Impact. According to the Phase I ESA, the Proposed Project site is not located within a known hazardous material site. If pre-existing hazardous waste is encountered on the Proposed Project site, it would be removed of and disposed in a manner consistent with all state and federal regulations. Grading and excavation are not expected to expose historic or undocumented contamination; however, the possibility cannot be completely discounted. Exposure of existing hazardous materials during construction has the potential to impact on-site workers, the public, or the environment through direct contact, off-site transport, or improper disposal. However, the potential is considered low with the implementation of the SPCCP and HMMP (**APMs HAZ-1 and HAZ-2**) which would include protocols for the handling of discovered

hazardous waste materials and worker training in the identification of potentially hazardous wastes (**APM CUL-1**). In addition, implementation of **APM HAZ-3** would require testing and disposal of soils suspected of contamination in the event they are found during construction. Implementation of these APMs would ensure that impacts from pre-existing hazardous waste would remain less than significant.

The Proposed Project's design specifications (e.g., secondary containment for 500 kV transformers) and O&M procedures would minimize the potential for the release of hazardous materials, specifically from the mineral oil contained in the 500 kV transformers. Furthermore, implementation of the SPCCP and HMWMP (**APMs HAZ-1 and HAZ-2**), **APM WQ-1**, and **APM CUL-1**, would ensure that impacts from the accidental release of hazardous materials during O&M would remain less than significant.

Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The nearest school to the Proposed Project site is the Huron Middle School, located approximately 3.7 miles to the northeast. Therefore, no impacts would occur under this criterion.

Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. According to the Phase I ESA, the Proposed Project site is not located on a hazardous material site. Therefore, no impacts would occur under this criterion.

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Proposed Project site is not located within two miles of a public or private airport or associated airport land use plan. The nearest public airports are the New Coalinga Municipal Airport, which is located approximately 10 miles west of the Proposed Project site, and the Harris Ranch Airport, which is located approximately 9.1 miles northwest of the Proposed Project site. Therefore, no impacts would occur under this criterion.

Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-Than-Significant Impact. Construction or O&M of the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. All construction would occur on private lands, although some activities, such as equipment delivery, could temporarily affect public roadways, specifically on West Jayne Avenue. This effect would be temporary and localized; however, any impacts would be less than significant because the equipment could be readily moved aside in the event of an emergency. Moreover, in accordance with **APM TRA-1 (Preparation of a Traffic Control Plan)**, potential lane closures or traffic lane modification plans would be reviewed and approved by the county of Fresno, and all construction activities would be coordinated with local law enforcement and fire protection

agencies, and emergency service providers would be notified of the timing, location, and duration of construction activities.

The Proposed Project site is not located within any emergency evacuation route. Access to the Proposed Project site would be along a private road that would intersect with West Jayne Avenue. Emergency vehicles can utilize the private road in the event of emergency response activities in the area (e.g., wildfire suppression). The presence of large construction vehicles and equipment on area roadways could impede emergency access such that emergency response times may be temporarily affected. For a discussion of traffic impacts, refer to **Section 4.17, Transportation**.

As described in **Section 4.15, Public Services**, the Proposed Project would not affect service ratios, response times, or other objectives for public services in the area. Fire, emergency and police services currently serve, and would continue to serve, the areas in which the existing PG&E Gates Substation and new Proposed Project facilities and interconnection transmission lines are located. Implementation of the above-referenced APM would reduce impacts to less than significant.

Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less-Than-Significant Impact. The Proposed Project site is located within an area of irrigated and cultivated agricultural fields and along existing road corridors. In addition, the adjacent PG&E Gates Substation has an active vegetation management program (e.g., vegetation removal) for all undeveloped portions of their property, further reducing fire hazard risks. In addition, the Proposed Project is not located within a high fire threat area, as identified by CAL FIRE or the CPUC. However, heat or sparks from vehicles or equipment have the potential to ignite dry vegetation or construction materials and cause a fire. Other potential fire hazards include worker behavior such as smoking and disposing of cigarettes or parking vehicles on dry vegetation. Incorporation of **APM HAZ-4 (Fire Prevention)** would further minimize potential wildfire fire impacts associated with Proposed Project construction resulting in a less-than-significant impact.

The Proposed Project would be unmanned and would only require monthly O&M inspections. These activities would not involve any high fire risk activities and LSPGC O&M personnel would follow all applicable state and federal regulations and would implement **APM HAZ-4** that would ensure wildfire risks would be less than significant.

Would the project create a significant hazard to air traffic from the installation of new power lines and structures?

No Impact. As discussed earlier, the nearest public and private use airports to the Proposed Project site are the New Coalinga Municipal Airport, which is located approximately 10 miles west of the Proposed Project site, and the Harris Ranch Airport, which is located approximately 9.1 miles northwest. Therefore, no impacts would occur under this criterion.

Would the project create a significant hazard to the public or environment through the transport of heavy materials using helicopters?

No Impact. Helicopters are not anticipated to be for construction or O&M for the Proposed Project. Therefore, no impacts would occur under this criterion.

Would the project expose people to a significant risk of injury or death involving unexploded ordnance?

No Impact. The Phase I Site Assessment did not identify any historical land uses that would have led to unexploded ordinances being on the Proposed Project site or in the vicinity. As such, the Proposed Project would not expose people to a significant risk of injury or death due to an unexploded ordnance. Therefore, no impacts would occur under this criterion.

Would the project expose workers or the public to excessive shock hazards?

Less-Than-Significant Impact. All authorized personnel working on-site, during either construction or O&M, would be trained according to OSHA safety standards (U.S. Department of Labor, 2019), which are based on applicable federal, state and local safety regulations. To minimize potential exposure of the public to electric shock hazards, an 8-foot-tall chain link fence topped with one foot of barbed wire would extend around the perimeter of the Proposed Project site, thus, restricting site access. There would be only one vehicle entrance into the yard, and this entrance would be gated and monitored remotely; thus, access would be restricted to only authorized personnel. Warning signs would be posted around the perimeter of the Proposed Project's fence and gate to alert persons of potential electrical hazards. In addition, the Proposed Project would be designed in accordance with CPUC General Order 95 Guidelines for safe ground clearances established to protect the public from electric shock.

During O&M facilities inspections, the perimeter fencing would be examined and repairs would be made as necessary. Because the facility is unstaffed, the Proposed Project would be remotely monitored by LSPGC 24 hours a day, 7 days a week. If equipment malfunctions, O&M personnel would be available to be dispatched to the site to investigate the problem and take appropriate corrective action. LSPGC has qualified operations personnel that are trained to avoid and minimize arc flash situations and are provided the appropriate arc flash personal protective equipment (e.g., fire resistant clothing, gloves and insulate tools). Proper Personal Protective Equipment (PPE) would be required when anyone is in the facility. LSPGC uses high-speed relay equipment that senses a broken-line condition and actuates circuit breakers to de-energize the line in milliseconds.

As such, impacts associated with exposure to workers and the public to excessive shock hazards would be less than significant.

4.9.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Hazards, Hazardous Materials, and Public Safety.

4.9.6 APPLICANT PROPOSED MEASURES

The following for Hazards, Hazardous Materials, and Public Safety specific APMs would be implemented by the Proposed Project.

APM HAZ-1

A site-specific SPCCP would be prepared prior to the initiation of construction. In the event of an accidental spill, the Proposed Project would be equipped with secondary containment that meets SPCCP Guidelines. The secondary containment would be sufficiently sized to accommodate accidental spills.

APM HAZ-2

A HMMP would be prepared and implemented for the Proposed Project. The plan would be prepared in accordance with relevant state and federal guidelines and regulations (e.g., Cal/OSHA). The plan would include the following information related to hazardous materials and waste, as applicable:

- A list of hazardous materials present on-site during construction and O&M to be updated as needed along with product Safety Data Sheets and other information regarding storage, application, transportation, and disposal requirements;
- A Hazardous Materials Communication (i.e., HAZCOM) Plan;
- Assignments and responsibilities of Proposed Project health and safety roles;
- Standards for any secondary containment and countermeasures required for hazardous materials;
- Spill response procedures based on product and quantity. The procedures would include materials to be used, location of such materials within the Proposed Project area, and disposal protocols; and
- Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction. This would include termination of work within the area of suspected contamination sampling by an OSHA trained individual and testing at a certified laboratory.

The Proposed Project would also be equipped with lead-acid batteries to provide backup power for monitoring, alarm, protective relaying, instrumentation and control, and emergency lighting during power outages. Secondary containment would be constructed around and under the battery racks, and the HMMP would address containment from a battery leak.

The plan would be provided to the CPUC prior to construction for recordkeeping. Plan updates would be made and submitted as needed if construction activities change whereas the existing plan does not adequately address the Proposed Project.

APM HAZ-3

In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil shall be tested, and if contaminated above hazardous waste levels, shall be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil

shall require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.

APM HAZ-4

LSPGC shall implement ongoing fire patrols during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods. During Red Flag Warning events, as issued daily by the National Weather Service, all construction/maintenance activities shall cease, with an exception for transmission line testing, repairs, unfinished work, or other specific activities which may be allowed if the facility/equipment poses a greater fire risk if left in its current state. Although the Proposed Project area is not located within an area designated as a Very High or High Fire Severity Zone, LSPGC will prepare a Construction Fire Prevention Plan prior to construction.

All construction/maintenance crews and inspectors shall be provided with radio and cellular telephone access that is operational in all work areas and access routes to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction/maintenance activities at each work site. All fires shall be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition. All construction/maintenance personnel shall be trained in fire-safe actions, initial attack firefighting, and fire reporting. All construction/maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. All construction/maintenance personnel shall carry at all times a laminated card and be provided a hard hat sticker that list pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on laminated contact cards and hard hat stickers shall be updated and redistributed to all construction/maintenance personnel and outdated cards and hard hat stickers shall be destroyed prior to the initiation of construction/maintenance activities on the day the information change goes into effect.

Construction/maintenance personnel shall have fire suppression equipment on all construction vehicles. Construction/maintenance personnel shall be required to park vehicles away from dry vegetation. Water tanks, fire extinguishers, and/or water trucks shall be sited or available at active project sites for fire protection during construction. The Applicant shall coordinate with applicable local fire departments prior to construction/maintenance activities to determine the appropriate amounts of fire equipment to be carried on vehicles and, should a fire occur, to coordinate fire suppression activities.

4.10 HYDROLOGY AND WATER QUALITY

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Violate any water quality standards or water discharge requirements or otherwise substantially degrade surface or groundwater quality?			X	
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	i) Result in substantial erosion or siltation on- or off-site?			X	
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
	iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
	iv) Impede or redirect flood flows?			X	
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

This section describes Hydrology and Water Quality within the vicinity of the Proposed Project, as well as potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.10.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

The Central Valley Hydrologic Region is divided into three basins: the Sacramento River Basin, the San Joaquin River Basin, and the Tulare Lake Basin. The Proposed Project is located within the Tulare Lake Basin. This basin is in the southern portion of the Central Valley Region on the west side of the Sierra Nevada Mountains. The Sierra Nevada Mountain range is the most prominent feature in the region. The Kings, Kaweah, Tule, and Kern Rivers drain down the west face of the Sierra Nevada Mountains, which provide surface water supply to the Tulare Lake Basin (CVRWQCB, 2018).

The Tulare Lake Basin has a Mediterranean-type climate with warm to hot, dry summers and a pronounced cool, moist season in the late fall and winter (United State Geological Survey [USGS], 2020a). Mean monthly temperatures near the Proposed Project area range from a low of 43.6°F in December to a high of 99.5°F in August. Average annual rainfall near the Proposed Project area is 11.50 inches occurring between November and March. Average monthly rainfall drops during summer months, with less than 0.63 inches per month between May and October. (National Ocean and Atmospheric Administration, 2020).

Topography near the Proposed Project is relatively flat and contains no steep slope lands. Elevation near the Proposed Project is approximately 397 feet above sea level.

4.10.1.1 Waterbodies

The Proposed Project is not crossed by any ephemeral, intermittent, or perennial surface waterbodies. No surface water bodies are in proximity to the Proposed Project site. Two small ephemeral agricultural ditches occur immediately north and south of West Jayne Avenue, approximately 0.5 mile south of the Proposed Project site. The northern agricultural ditch flows into an existing culvert under the proposed access road.

4.10.1.2 Water Quality

No surface waters near the Proposed Project are listed as impaired by the Central Valley Regional Water Quality Control Board (CVRWQCB) on the most recently approved Section 303(d) listing (CVRWQCB, 2019).

4.10.1.3 Groundwater Basin

The Proposed Project is within the Tulare Lake Hydrologic Region – Westside Subbasin. The Westside Subbasin comprises an area of approximately 640,000 acres in the western portion of Fresno County (California Department of Water Resources [DWR], 2015). Depth to groundwater has not been observed at the Proposed Project site. No groundwater was encountered during soil borings conducted as part of the Proposed Project's Geotechnical Engineering Report; these borings were terminated at 51.5 feet below ground surface (Terracon, 2019). The nearest

groundwater well is located over a half mile west of the Proposed Project and indicated the depth to groundwater of approximately 92 feet (Mathis and Associates, 2020).

4.10.1.4 Groundwater Wells and Springs

No springs or groundwater wells are mapped within 150 feet of the Proposed Project area (Mathis and Associates, 2020; DOC, 2020; USGS, 2020b).

4.10.1.5 Groundwater Management

The water-bearing units comprising the Westside Subbasin consist of unconsolidated continental deposits of Tertiary and Quaternary age. These deposits form an unconfined to semiconfined upper aquifer and a confined lower aquifer. These aquifers are separated by the Corcoran Clay (E-Clay) member of the Tulare Formation (California DWR, 2006). The depth to the top of the E-Clay varies from approximately 500 feet to 850 feet (California DWR, 1981).

The unconfined to semiconfined aquifer (upper zone) above the E-Clay includes younger alluvium, older alluvium, and the upper part of the Tulare Formation. These deposits consist of lenticular, poorly sorted clay, silt, and sand intercalated with occasional beds of well-sorted fine to medium grained sand (CVRWQCB, 2006).

The confined aquifer (lower zone) consists of the lower part of the Tulare Formation and possibly the uppermost part of the San Joaquin Formation. This unit is composed of lenticular beds of silty clay, clay, silt, and sand interbedded with occasional strata of well-sorted sand. Brackish or saline water underlies the usable groundwater in the lower zone (CVRWQCB, 2006).

Groundwater is not expected to be encountered during any subsurface excavation, and it is unlikely that the Proposed Project would require any dewatering operations.

The Westlands Water District Groundwater Sustainability Agency (GSA) and Fresno County prepared a groundwater sustainability plan for the Westside Subbasin. The GSA adopted the plan on January 8, 2020; Fresno County adopted it on January 7, 2020. According to the plan, there are no known adjudicated areas within or surrounding the Westside Subbasin.

4.10.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.10.2.1 Regulatory Setting

Federal

Clean Water Act

The Proposed Project would not result in impacts to “waters of the United States” and, therefore, reference to the Clean Water Act (CWA) is provided here for informational purposes only. The CWA (33 U.S.C. Section 1251 et seq.) is the primary federal legislation that addresses water quality, pollution, and protection of the chemical, physical, and biological integrity of most waters in the United States. The CWA chiefly addresses the quality of surface waters, while groundwater

contamination is addressed by other legislation, including the Resource Conservation and Recovery Act. Section 402 of the CWA established a permit system, the National Pollutant Discharge Elimination System (NPDES), to regulate point sources of discharge into navigable waters of the United States. Under Section 404, the CWA regulates the placement of dredged or fill material into “waters of the U.S.,” and, under Section 401, the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws.

Clean Water Act Sections 303 and 304

Pursuant to Section 303 of the CWA, states are required to adopt water quality standards applicable to all “waters of the United States” (33 U.S.C. Section 1313). When adopting water quality standards, the states are required to consider the designated uses of the waters involved and the associated water quality criteria based upon those uses. Such standards are established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and their use and value for navigation. Standards are also required to protect the public health or welfare and enhance the quality of water. Preferably, adopted water quality standards consist of specific numerical criteria; however, non-numeric criteria (e.g., narrative criteria, species dependent criteria, ecological criteria) based on bioassessment or monitoring may be utilized where numeric criteria are not available.

Under Section 303(d), states, territories, and authorized tribes are required to develop lists of “impaired waters,” identifying those waters where pollution controls are not sufficient to meet designated water quality standards resulting in the impairment of beneficial uses. In making designations, it is required that the jurisdiction establish a priority ranking system accounting for the severity of the pollution. This prioritization system is used in the development of Total Maximum Daily Loads (TMDL) for these waters to address water quality issues and the restoration of beneficial uses.

Section 304(a) requires that the Environmental Protection Agency (EPA) develop criteria for water quality that reflect the latest scientific knowledge based on data and scientific judgments on pollutant concentrations and environmental or human health effects. Criteria are grouped into six categories: aquatic life, biological, nutrients, human health, microbial (pathogen), and recreational.

Implementation of Section 303 of the CWA (i.e., adoption of water quality standards, identification of beneficial uses, and identification of impaired waters) in California is performed by the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB). The Proposed Project is within the jurisdiction of the Central Valley RWQCB (Region 5).

Clean Water Act Section 401

Section 401 of the CWA provides states and authorized tribes the opportunity to protect water quality by requiring that any applicant for a federal license or permit, conducting an activity that may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the state in which the discharge originates (33 U.S.C Section 1341). This authority ensures that federally permitted activities comply with the CWA and state water quality laws. Section 401 is implemented through a review process conducted by the RWQCB,

or, in the case of multiple RWQCB jurisdictions having authority, by the California SWRCB. The Proposed Project is within the jurisdiction of the CVRWQCB.

Clean Water Act Section 402

The NPDES program, established in 1972 as part of the CWA, controls water pollution through regulation of point source pollutants discharging to waters of the United States (33 U.S.C. Section 1342). Under the NPDES program, all facilities discharging pollutants from any point source into waters of the United States are required to obtain a NPDES permit. Though broadly defined, pollutants typically include any type of industrial, municipal, and agricultural waste and, for regulatory purposes, have been grouped into three categories: conventional (Section 304(a)(4) of the CWA), toxic (Section 307(a)(1) of the CWA), and non-conventional (pollutants not otherwise defined including many nutrient or water quality parameters). The primary focus of the federal NPDES permitting program has historically been municipal and non-municipal (industrial) discharges.

In 1987, with the issuance of the 1987 Water Quality Act, Section 402 of the CWA was amended, requiring regulation of additional storm water dischargers (NPDES Storm Water Program). Phase I of the NPDES Storm Water Program addresses five categories of dischargers (Phase I Facilities) including certain industrial activities, municipal separate storm sewer systems (MS4s), and facilities considered to be significant contributors of pollutants. The Phase I industrial storm water program regulations include provisions requiring construction sites disturbing greater than five acres to obtain NPDES permits. Phase II regulations of the NPDES Storm Water Program, issued in 1999, address additional dischargers not covered by Phase I regulations. The Phase II regulations expand permitting requirements to small MS4s, construction sites of one to five acres, and certain previously exempt industrial facilities.

The EPA is the primary authority to implement NPDES, although the CWA allows the EPA to delegate NPDES authority to the states. The CWA is implemented on a state and local level in California primarily by the SWRCB and nine RWQCBs, collectively. Whereas the federal NPDES program mostly deals with point source control, current focus and regulation is shifting to nonpoint source pollution control under the authority of the RWQCBs.

Clean Water Act Section 404

Section 404 of the CWA prohibits the discharge of dredged or fill material into “waters of the United States” without a permit from the U.S. Army Corps of Engineers (USACE). The Code of Federal Regulations (33 CFR 328.3[a]) establishes the specific definition of the term “waters of the United States”:

(a) Jurisdictional waters. For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term “waters of the United States” means:

- (1) The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- (2) Tributaries;
- (3) Lakes and ponds, and impoundments of jurisdictional waters; and

- (4) Adjacent wetlands.
- (b) Non-jurisdictional waters. The following are not “waters of the United States”:
 - (1) Waters or water features that are not identified in paragraph (a)(1), (2), (3), or (4) of this section;
 - (2) Groundwater, including groundwater drained through subsurface drainage systems;
 - (3) Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools;
 - (4) Diffuse stormwater run-off and directional sheet flow over upland;
 - (5) Ditches that are not waters identified in paragraph (a)(1) or (2) of this section, and those portions of ditches constructed in waters identified in paragraph (a)(4) of this section that do not satisfy the conditions of paragraph (c)(1) of this section;
 - (6) Prior converted cropland;
 - (7) Artificially irrigated areas, including fields flooded for agricultural production, that would revert to upland should application of irrigation water to that area cease;
 - (8) Artificial lakes and ponds, including water storage reservoirs and farm, irrigation, stock watering, and log cleaning ponds, constructed or excavated in upland or in non-jurisdictional waters, so long as those artificial lakes and ponds are not impoundments of jurisdictional waters that meet the conditions of paragraph (c)(6) of this section;
 - (9) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
 - (10) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater run-off;
 - (11) Groundwater recharge, water reuse, and wastewater recycling structures, including detention, retention, and infiltration basins and ponds, constructed or excavated in upland or in non-jurisdictional waters; and
 - (12) Waste treatment systems.

The EPA also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions.

National Flood Insurance Program

The National Flood Insurance Act of 1968 establishes the National Flood Insurance Program (NFIP), which provides private company flood insurance by the federal government. The NFIP relies on the national mapping system known as the Flood Insurance Rate Map (FIRM), which denotes special hazard areas associated with 100- and 500-year flood events. (FEMA, 2020a) Lower rates are provided through the program for communities that encourage mitigation of flood hazards.

The Federal Emergency Management Agency (FEMA) has primary authority for preparation, response, and mitigation of natural hazards, including coastal and inland floods. FEMA provides financial and technical support to local agencies in the drafting and implementation of hazard mitigation plans. CFR Title 44, Part 60 provides criteria for communities participating in the NFIP to adopt flood plain management regulations consistent with federal criteria for lands within flood-prone, mudslide- (i.e., mudflow) prone, or flood-related erosion-prone areas.

State

Porter-Cologne Water Quality Control Act

The Proposed Project would not result in impacts to “waters of State” and, therefore, reference to the Porter-Cologne Water Quality Control Act is provided here for informational purposes only. The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides guidance for the protection of water quality and beneficial uses of water throughout the state and, along with the CWA, provides the overarching legislation governing the SWRCB and RWQCBs. “Waters of the State” are defined as any surface water or groundwater, including saline waters, which are within the boundaries of the state (California Codes: PRC Section 71200). This differs from the CWA definition of “waters of the United States” by its inclusion of groundwater and waters outside the Ordinary High Water Mark (OHWM) in its jurisdiction.

The Porter-Cologne Act requires that each regional board adopt a water quality control plan (Basin Plan) for their region. Pursuant to Porter-Cologne, these Basin Plans become part of the California Water Plan, when such plans have been reported to the legislature (Section 13141, California Water Code). The Proposed Project is located within the jurisdiction of the CWRWQCB (Region 5) and subject to the criteria within the Basin Plan for the Tulare Lake Basin (CVRWQCB, 2018).

In 1972, amendments to the Porter-Cologne Act gave California the authority and ability to operate the federal NPDES permits program. Before a permit may be issued, Section 401 of the CWA requires that the local RWQCB or, in the case of multiple RWQCB jurisdictions having authority, the SWRCB certify that the discharge would comply with applicable water quality standards. In addition, under Porter-Cologne, the RWQCB or SWRCB may also issue waste discharge requirements that set conditions on the discharge of a waste. These requirements must be consistent with the Basin Plan for the body of water that receives the waste discharge, as well as protect the beneficial uses of those receiving waters. On August 19, 1999, the SWRCB reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), later amending it to apply to sites as small as one acre. On September 2, 2009, the SWRCB adopted Order No. 2009-0009-DWQ, which reissued Water Quality Order 99-08- DWQ. Order No. 2009-0009-DWQ has subsequently been amended by Order No. 2010-0014- DWQ and most recently by Order No. 2012-0006-DWQ on July 17, 2012.

The Construction General Permit (CGP) authorizes discharges of storm water and regulates discharges of pollutants in storm water associated with construction activities from construction sites that disturb one or more acres of land surface or are part of a common plan of development or sale that disturbs more than one acre of land surface where the rainfall erosivity waiver does not apply. The CGP requires proposed dischargers to file a public Notice of Intent (NOI), submit Permit Registration Documents to the SWRCB’s Stormwater Multiple Application and Report Tracking System (SMARTS) website, and obtain a Waste Discharger Identification Number prior

to beginning regulated activities. Applicability of the CGP is contingent on meeting all order conditions and requirements including the implementation of a Stormwater Pollution Prevention Plan (SWPPP). In accordance with Order No. 2010-0014-DWQ, the SWPPP must be prepared and certified by a Qualified SWPPP Developer and include information to conclude:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity, are controlled;
- Where not otherwise required to be under a RWQCB permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;
- Site best management practices (BMPs) are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the best available technology (BAT)/best control technology (BCT) standard;
- Calculations and design details as well as BMP controls for site run-on are complete and correct; and
- Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

The SWRCB and RWQCBs also implement Section 402 of the CWA, which allows the state to issue a single discharge permit for storm water runoff for the purposes of both federal and state law, as well as Section 303(d) of the CWA pursuant to the authority of the Porter-Cologne Act.

Water Quality Control Plan for the Tulare Lake Basin

The Basin Plan encompasses approximately 10.5 million acres that cover the southern portion of the Central Valley Region. In an effort to preserve and enhance the region's waters, the Basin Plan establishes beneficial uses for surface and ground waters, sets narrative and numerical objectives, describes implementation programs to protect the beneficial uses of all waters in the region, and describes surveillance and monitoring activities to evaluate the effectiveness of the plan. To minimize and control adverse effects on the quality and beneficial uses of the region's ground and surface waters, the Basin Plan for the Tulare Lake Basin regulates waste discharge and reclaimed water use (CVRWQCB, 2018).

Beneficial use designations in the plan include: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Hydropower Generation (POW), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Warm Fresh Water Habitat (WARM), Cold Fresh Water Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Spawning Reproduction and/or Early Development (SPWN), Migration of Aquatic Organisms (MIGR), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Aquaculture (AQUA), Preservation of Biological Habitats (BIOL), and Navigation (NAV).

In order to attain specified designated uses, the CVRWQCB is required to identify water quality objectives for all surface and ground waters in the region. These objectives must be consistent

with federal and state anti-degradation polices (40 CFR section 131.12) and State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California.

California Fish and Game Code Section 1602 – Lake and Streambed Alteration Notification/Agreement

The Proposed Project would not result in alteration or substantial disturbance of any lake or streambed; therefore, reference to the California Fish and Game Code, Sections 1601-1607, is provided here for informational purposes only. Section 1602 of the California Fish and Game Code requires that a Lake and Streambed Alteration Application be submitted to the California Department of Fish and Wildlife (CDFW) for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.” CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Local

Because the California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project, the Proposed Project is not subject to local discretionary regulations. 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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local related policies, plans, or programs for informational purposes.

The Fresno County Public Works and Planning Department requires and enforces standards contained in the California Building Code related to grading and construction, including those that may directly or indirectly affect surface water quality by contributing to erosion or siltation or altering existing drainage patterns.

Fresno County General Plan

The following relevant Hydrology and Water Quality goals and policies from the Fresno County General Plan (Fresno County, 2000) were reviewed, and the following summaries are provided for informational purposes only.

Goal OS-A To protect and enhance the water quality and quantity in Fresno County’s streams, creeks, and groundwater basins.

Policy OS-A.23 The County shall protect groundwater resources from contamination and overdraft by pursuing the following efforts:

- a. Identifying and controlling sources of potential contamination;
- b. Protecting important groundwater recharge areas;
- c. Encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible;
- d. Encouraging the use of treated wastewater for groundwater recharge and other purposes (e.g., irrigation, landscaping, commercial, and nondomestic uses);
- e. Supporting consumptive use where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area;
- f. Considering areas where recharge potential is determined to be high for designation as open space; and
- g. Developing conjunctive use of surface and groundwater.

Policy OS-A.25 The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season unless adequately mitigated to avoid sedimentation of creeks and damage to riparian habitat.

Policy OS-A.26 The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff.

Policy OS-A.29 In areas with increased potential for groundwater degradation (e.g., **areas** with prime percolation capabilities, coarse soils, and/or shallow groundwater), the County shall only approve land uses with low risk of degrading groundwater.

Goal PF-C To ensure the availability of an adequate and safe water supply for domestic and agricultural consumption.

Policy PF-C.3 To reduce demand on the County's groundwater resources, the County shall encourage the use of surface water to the maximum extent feasible.

Goal PF-E To provide efficient, cost-effective, and environmentally-sound storm drainage and flood control facilities that protect both life and property and to divert and retain stormwater runoff for groundwater replenishment.

Policy PF-E.5 The County shall only approve land use-related projects that will not render inoperative any existing canal, encroach upon natural channels, and/or restrict natural channels in such a way as to increase potential flooding damage.

Policy PF-E.6 The County shall require that drainage facilities be installed concurrently with and as a condition of development activity to ensure the protection of the new improvements as well as existing development that might exist within the watershed.

- Policy PF-E.7** The County shall require new development to pay its fair share of the costs of Fresno County storm drainage and flood control improvements within unincorporated areas.
- Policy PF-E.9** The County shall require new development to provide protection from the 100-year flood as a minimum.
- Policy PF-E.11** The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.
- Policy PF-E.13** The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.
- Policy PF-E.14** The County shall encourage the use of retention-recharge basins for the conservation of water and the recharging of the groundwater supply.
- Policy PF-E.21** The County shall require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.

4.10.3 IMPACT QUESTIONS

4.10.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Hydrology and Water Quality come from the California Environmental Quality Act (CEQA), Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality; or
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - Result in substantial erosion or siltation on- or off-site; or
 - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or
 - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

- Impede or redirect flood flows; or
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.10.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Hydrology and Water Quality.

4.10.4 IMPACT ANALYSIS

4.10.4.1 Impact Analysis

The Proposed Project would not require hydrostatic testing, would not use water, and would not generate waste products related to hydrostatic testing.

Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less-Than-Significant Impact. The Proposed Project would not violate any water quality standards or waste discharge requirements. No surface water bodies are in proximity to the Proposed Project site, with the exception of two small agricultural ditches along West Jayne Avenue located approximately 0.5 mile south of the Proposed Project site, which is separated by an agricultural road and earthen berm. All runoff from the STATCOM Substation facility would be directed to the on-site detention basin to prevent any potential polluted runoff from entering the ditches.

LS Power Grid California, LLC (LSPGC) would assess the risk to water quality—based on site-specific soil characteristics, slope, and the construction schedule—and would develop a SWPPP that addresses potential water quality concerns. The SWPPP would specify measures for each activity that has the potential to degrade surrounding water quality through erosion, sediment runoff, and the presence of other pollutants. These measures would be implemented and monitored throughout the Proposed Project by a qualified stormwater pollution prevention plan practitioner (QSP). Impacts would be less than significant. Implementation of **Applicant Proposed Measure (APM) WQ-1** and **APM WQ-2** would further minimize the temporary and short-term construction-related impacts on water quality.

O&M activities may include use of new pollutant sources including, but not limited to, oils, paints, and solvents used for routine maintenance. All materials would be applied, stored, and disposed of with appropriate containment in a manner consistent with manufacturer recommendations by licensed professionals, if necessary, and in accordance with applicable regulations. Therefore, impacts under this criterion would be less than significant and would be further reduced under the implementation of **APM WQ-1** and **APM WQ-2**.

Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-Than-Significant Impact. Water supply for construction requirements is expected to be trucked in from an off-site location in the city of Huron or the city of Coalinga, which are provided water from the Westlands Water District. It is not anticipated that recycled or reclaimed water or groundwater would be used by the Proposed Project. The estimated total water needs of the Proposed Project are 740,000 gallons of water to be used for dust control, compaction, and concrete work over a period of 22 months.

The proposed Static Synchronous Compensator (STATCOM) Substation facility is currently a vineyard, which requires irrigation derived from a combination of groundwater and/or surface water sources. This water demand would cease prior to the onset of construction. Thus, overall, the Proposed Project would result in a reduction in the use of groundwater and/or surface water at the site. The Proposed Project would not require water sources for O&M activities as the STATCOM Substation facility would be unmanned.

Furthermore, a detention basin would be constructed on-site that would capture runoff from the STATCOM Substation and allow the water to percolate into the ground; thus, groundwater recharge would not be affected by the construction of impervious surfaces, such as the control enclosure and equipment foundations. Moreover, the amount of impervious surface that would be constructed is only about 17 percent of the overall Proposed Project footprint (about 1.7 acres), which is minor in relation to the surrounding area that is primarily in agricultural use. Therefore, impacts would be less than significant on groundwater supplies and recharge and would be further reduced with implementation of **APM WQ-2**.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

Result in substantial erosion or siltation on- or off-site?

Less-Than-Significant Impact. The Proposed Project would be constructed on flat land. It would require minimal grading, and the drainage pattern of the site would not be substantially altered. The Proposed Project would require clearing of vegetation and grading for construction. Construction would involve activities that expose ground surfaces to erosion. While erosion is a natural and important process essential to maintaining the geomorphology of receiving waters, excess erosion and sedimentation can impair habitat functions and transport pollutants. All areas of exposed ground have the potential to result in increased erosion during rain events and the transport of soil particles and other materials into nearby receiving water. The Proposed Project is located on a very flat agricultural field, and minimal grading would be required for the development of the Proposed Project. It is not expected that it would contribute to sedimentation to any downstream receiving waters.

Construction of the Proposed Project would result in approximately 10.25 acres of permanent disturbance and approximately 13.6 acres of temporary disturbance on primarily disturbed and agricultural land. The site would be graded such that storm water runoff would be directed to the on-site stormwater detention pond or into existing drainage ditches along roads, eliminating the

potential for on-site erosion. Stormwater would not be allowed to leave the site, eliminating the potential for erosion to occur off site.

Construction and O&M of the Proposed Project would not result in substantial erosion or sedimentation on- or off-site. Therefore, impacts under would be less than significant and would be further reduced with implementation of **APM WQ-1** (the SWPPP).

Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less-Than-Significant Impact. The Proposed Project would be constructed on flat land and would require minimal grading, and the drainage pattern of the site would not be substantially altered. Additionally, the Proposed Project includes a stormwater retention basin that would provide approximately 1,250 cubic yards of stormwater storage for the STATCOM Substation facility. The site drainage system and stormwater detention basin would be designed to collect and allow infiltration of the volume of runoff generated by impervious (17 percent) and pervious (83 percent) surfaces of the facility during a 100-year storm event. Thus, the Proposed Project would not result in flooding either on-site or off-site, and impacts would be less than significant.

Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less-Than-Significant Impact. The Proposed Project would be constructed on flat land. It would require minimal grading and the drainage pattern of the site would not be substantially altered. In addition, the Proposed Project site is not served by any existing or planned public or private stormwater drainage systems, and construction would not result in activities that generate stormwater runoff. Construction and decommissioning would require the limited use of hazardous materials such as fuel, lubricants, cleaning solvents, and chemicals. They would all be stored, handled, and used in accordance with applicable regulations. A Spill Prevention, Control, and Countermeasure Plan (SPCCP) (**APM HAZ-1**) and Hazardous Materials Management Plan (HMMP) (**APM HAZ-2**) describing hazardous materials use, transport, storage, management, and disposal protocols would be prepared prior to the start of construction (refer to **Section 3.5.10.2, Hazardous Materials Management**). In the event of a spill or leak from equipment, the spill would be cleaned up promptly in accordance with the SPCCP and HMMP. Thus, Proposed Project construction and decommissioning would not result in substantial sources of polluted runoff. Any impacts from construction would be less than significant, and implementation of **APM WQ-1** would further reduce impacts.

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 stormwater detention basin is designed to capture runoff from a 100-year storm event. Thus, during ongoing O&M activities, stormwater runoff would be retained on-site and would not affect adjacent areas. Any impacts from O&M would be less than significant.

Impede or redirect flood flows?

Less-Than-Significant Impact. The Proposed Project would be constructed on flat land. It would require minimal grading, and the drainage pattern of the site would not be substantially altered. It

is also surrounded by flat lands that have irrigation drains and road ditches which collect water and redirect flows that could reach the site. These flat lands are not expected to generate flood flows upstream of the site such that the Proposed Project would not impede or redirect flood flows. The Proposed Project is not located within a 100-year FEMA floodplain and is classified as an Area of Minimal Flood Hazard.

The Proposed Project 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 stormwater detention basin is designed to capture runoff from a 100-year storm event. Impacts would be less than significant.

Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No impact. The Proposed Project is not located within a flood hazard zone or any identified tsunami inundation or run-up area or within a basin subject to seiche (FEMA, 2020b). Therefore, no impacts would occur under this criterion.

Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No impact. For the reasons discussed above, the Proposed Project would not conflict with or obstruct implementation of the Basin Plan for the Tulare Lake Basin nor any sustainable groundwater management plan. Groundwater is not expected to be encountered and none would be used for the Proposed Project. As stated in **Section 3.5.11.2, Liquid Waste**, while groundwater is not anticipated to be encountered, excavation dewatering effluent may be produced. This effluent would be tested, filtered and managed according to the dewatering plan developed as part of the SWPPP (**APM WQ-1**). In the unlikely event that groundwater is encountered, measures in **APM WQ-2** would ensure that no impacts would occur under this criterion.

4.10.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Hydrology and Water Quality.

4.10.6 APPLICANT PROPOSED MEASURES

APM WQ-1

Because the Proposed Project involves more than an acre of soil disturbance, a SWPPP would be prepared as required by the state NPDES General Permit for Discharges of Stormwater Associated with Construction Activity. This plan would be prepared in accordance with the Water Board guidelines and other applicable erosion and sediment control BMPs. Implementation of the plan would help stabilize disturbed areas and would reduce erosion and sedimentation. The SWPPP would designate BMPs that would be followed during and after construction of the Proposed Project, examples of which may include the following erosion-minimizing measures:

- Using drainage control structures (e.g., straw wattles or silt fencing) to direct surface runoff away from disturbed areas;
- Strictly controlling vehicular traffic;
- Implementing a dust-control program during construction;
- Restricting access to sensitive areas;
- Using vehicle mats in wet areas; or
- Revegetating disturbed areas, where applicable, following construction.

In areas where soils are to be temporarily stockpiled, soils would be placed in a controlled area and would be managed with similar erosion control techniques. Where construction activities occur near a surface waterbody or drainage channel and drainage from these areas flows towards a waterbody or wetland, stockpiles would be placed at least 100 feet from the waterbody or would be properly contained (such as beaming or covering to minimize risk of sediment transport to the drainage). Mulching or other suitable stabilization measures would be used to protect exposed areas during and after construction activities. Erosion-control measures would be installed, as necessary, before any clearing during the wet season and before the onset of winter rains. Temporary measures, such as silt fences or wattles intended to minimize erosion from temporarily disturbed areas, would remain in place until disturbed areas have stabilized.

APM WQ-2

Groundwater encountered during construction would be handled and discharged in accordance with all state and federal regulations including the following:

- Recovered groundwater would be contained on site and tested prior to discharge;
- If testing determines water is suitable for land application, discharge may be applied to flat, vegetated, upland areas, used for dust control, or used in other suitable construction operations (e.g., concrete mixing);
- Land application would be made in a manner that discharge does not result in substantial erosion and would not be made directly to receiving waters or storm drains;
- Water unsuitable for land application would be disposed of at an appropriately permitted facility; and
- Discharge to surface waters or storm drains may occur only if permitted by the agency(ies) with jurisdiction over the resource (e.g., USACE, RWQCB, and/or CDFW, as applicable).

4.11 LAND USE AND PLANNING

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Physically divide an established community?				X
b.	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

This section describes Land Use within the area of the Proposed Project, as well as the potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.11.1 ENVIRONMENTAL SETTING

4.11.1.1 Land Use

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agriculture purposes with no development, and the existing PG&E Gates Substation is located to the south.

Fresno County historically has been California's top agricultural producing county (Fresno County, 2000). Agriculture continues to be a very important part of the local economy and is the dominant land use in Fresno County (California Department of Conservation [DOC], 2008). The Proposed Project is located within an area of predominantly agricultural land uses in southwestern Fresno County. The Proposed Project is not located within a Fresno County-designated regional planning area, community plan area, or specific plan area, and is not located within the sphere of influence of the city of Huron. **Figure 4.11-1, Land Use and Zoning** shows the designated land use and zoning for the vicinity of the Proposed Project.

The dominant land use in the Proposed Project area is Agriculture, specifically row crops, with the exception of the PG&E Gates Substation located directly to the south of the Proposed Project and an existing solar energy facility located west of PG&E Gates Substation.

The General Plan designation for the Proposed Project site is Agriculture. This designation provides for the production of crops and livestock and for location of necessary agriculture commercial centers, agricultural processing facilities, and certain nonagricultural activities.

The existing PG&E Gates Substation and solar facility directly south of the Proposed Project site has a land use designation of Industrial. This designation provides for restricted non-intensive manufacturing and storage activities that do not have detrimental impacts on surrounding

properties. There is also Transportation land use designation along roads near the Proposed Project site.

The Proposed Project is zoned AE-20 (Exclusive Agricultural District, 20-acre minimum lot size) (County of Fresno Zoning Ordinances, 2018) (Fresno County, 2020). The AE-20 District is intended to be an exclusive district for agriculture and for those uses that are necessary and an integral part of agricultural operations. This district is intended to protect the general welfare of the agricultural community from encroachments of nonrelated agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district.

The area to the southwest of the Proposed Project site that is designated as AE-40 (Exclusive Agriculture District, 40-acre minimum lot size) which has the same intended zoning as AE-20 except the 40-acre minimum (Fresno County, 2018).

The Proposed Project is not subject to local zoning ordinances. However, for informational purposes, Fresno County's Zoning Ordinance indicates that electric transmission substations and electric distribution substations are permitted uses in Agricultural Districts, subject to review and approval by the Fresno County Director of the Department of Public Works and Planning.

4.11.1.2 Special Land Uses

The location of the Proposed Project is designated as Prime Farmland. The agricultural areas immediately surrounding the Proposed Project are also mostly designated Prime Farmland interspersed with Farmland of Local Importance. The Proposed Project is also subject to a Williamson Act contract (DOC, 2009). These special land uses and associated impacts are discussed in **Section 4.2, Agriculture and Forestry Resources**. There are no other special land uses, such as land administered by government agencies or private conservation organizations or national landmarks, in the Proposed Project area: therefore, no mileposts are provided.

4.11.1.3 Habitat Conservation Plan

Section 10 of the Federal Endangered Species Act (ESA) allows for the creation of Habitat Conservation Plans (HCP) to protect listed and candidate species in connection with the issuance of an incidental take permit for federally listed species. PG&E has an HCP to cover O&M activities in the San Joaquin Valley (PG&E San Joaquin Valley O&M HCP [Jones & Stokes, 2006]). This HCP covers O&M activities for PG&E's electric and gas transmission and distribution systems within nine counties of the San Joaquin Valley, including Fresno County. Although construction of the Proposed Project is not a covered activity, the Proposed Project area is located within the boundaries of this HCP. The Proposed Project is not expected to require use of the HCP because there are no listed or candidate species expected to be impacted (see **Section 4.4, Biological Resources**).

4.11.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.11.2.1 Regulatory Setting

Federal

Habitat Conservation Plans

As discussed above, the Proposed Project is located within the boundaries of the PG&E San Joaquin Valley O&M HCP.

State

There are no applicable regulations for Land Use that apply to the Proposed Project.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as the 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 land use plans and regulations for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County Code of Ordinances

Pursuant to Fresno County Code of Ordinances § 816.2-D.i, Public Utility Facilities are permitted uses within Exclusive Agriculture (AE) Districts, subject to approval of a conditional use permit by the Fresno County Director of Public Works and Planning. However, the CPUC has preemptive power under the California Constitution (Article XII, Section 8) over local jurisdictions with respect to regulation of investor-owned public utilities and electric utility siting. The CPUC, therefore, has ultimate decision-making authority over most land use decisions for the Proposed Project. However, Fresno County does have jurisdiction over removing the Proposed Project site from Williamson Act lands.

Fresno County General Plan

The Fresno County General Plan (2000) encourages maintaining agriculturally-designated lands for agriculture use, directing urban growth away from agricultural land to areas of Fresno County where public facilities and infrastructure are available or can be provided consistent with the adopted General Plan or Community Plan.

The following Fresno County General Plan (Fresno County, 2000) policies are relevant to the Proposed Project.

- Goal LU-A** To promote the long-term conservation of productive and potentially-productive agricultural lands and to accommodate agricultural-support services and agriculturally related activities that support the viability of agriculture and further the County's economic development goals.
- Policy LU-A.1** The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.
- Policy LU-A.13** The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

4.11.3 IMPACT QUESTIONS

4.11.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Land Use and Planning come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Physically divide an established community; or
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.11.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Land Use and Planning.

4.11.4 IMPACT ANALYSIS

4.11.4.1 Impact Analysis

Would the project physically divide an established community?

No Impact. There are no established communities in the vicinity of the Proposed Project, and no public access (e.g., vehicular or pedestrian) located within the Proposed Project site. The Proposed Project is located within an agricultural area and would be located directly adjacent to the existing PG&E Gates Substation. As such, the development of the new Proposed Project facilities would not physically divide an established community or otherwise impede pedestrian or vehicle access to community features or services. Therefore, no impacts would occur under this criterion.

Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Proposed Project includes new facilities and interconnection transmission lines directly north of the existing PG&E Gates Substation, which is in an Industrial zoning district.

Because the CPUC has regulatory authority over the Proposed Project, the Proposed Project is not under the jurisdiction of Fresno County and, therefore, is not subject to local agency regulations. Nonetheless, the Proposed Project would not conflict with existing General Plan Land Use Element and other policies protecting agriculture since the AE-20 designation allows for certain non-agricultural activities if specified requirements are met. The Proposed Project meets these requirements because the proposed site is adequate in size and shape to accommodate all necessary features and the Proposed Project would not contribute operational traffic to local roadways. The Proposed Project would not be detrimental to the character of the development in the immediate neighborhood because it would be developing a similar electric utility infrastructure site next to an existing substation. These changes would not create an incompatible land use with existing uses. The Proposed Project would not adversely affect public health, safety, or general welfare. In addition, the Proposed Project would improve the reliability of a needed service to the surrounding area, and it is an efficient use of land because an existing substation is already present adjacent to the site. Therefore, no impacts would occur under this criterion.

4.11.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Land Use and Planning.

4.11.6 APPLICANT PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Land Use and Planning because no impacts would occur.

4.12 MINERAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

This section describes the Mineral Resources in the area of the Proposed Project, as well as the potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.12.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development and the existing PG&E Gates Substation is located to the south.

This section describes the mineral resources extent in the vicinity of the Proposed Project. Fresno County has been a leading producer of minerals because of the abundance and wide variety present in the county. Extracted resources include aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction or industrial applications (asbestos, high-grade clay, diatomite, granite, gypsum, and limestone). Aggregate and petroleum are the county's most significant extractive resources and play an important role in maintaining the county's overall economy. There are no active oil wells or gravel mines within the Proposed Project area. The Fresno County General Plan does not identify any known mineral resources on or adjacent to the Proposed Project site. (Fresno County, 2000).

The Proposed Project is not located on or near any areas designated as a Mineral Resource Zone (MRZ), (California Department of Conservation, 2019) The Proposed Project is not located within 0.5 miles of any resource recovery sites or associated specific plans or land use plans delineated in the Fresno County General Plan. The Proposed Project is not located within a mile of any active mines or active mining claims (USGS, 2020).

4.12.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.12.2.1 Regulatory Setting

Federal

The Surface Mining Control and Reclamation Act (SMCRA) (30 U.S.C. §§ 1201-1328) establishes a program for regulating surface coal mining and reclamation activities. It establishes mandatory uniform standards for these activities on state and federal lands. This includes a requirement that minimizes adverse impacts on fish, wildlife, and related environmental values. The act creates an Abandoned Mine Reclamation Fund for use in reclaiming and restoring land and water resources adversely affected by mining practices (California Department of Conservation, 2015).

State

The protection of regionally significant mineral resource deposits is one of the main emphases of the Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code § 2710 et seq.). The law specifically mandates a two-phased process, commonly referred to as classification and designation for mineral resources. The California Geological Survey is responsible under SMARA for carrying out the classification phase of the process. The California Mining and Geology Board is responsible for the second phase, which allows the Board to identify areas within a production-consumption region that contain significant deposits of certain mineral resources that may be needed to meet the region's future demand. SMARA requires the state geologist to classify lands into MRZs based on the known or inferred mineral resource potential of that land. The classification process is based solely on geology, without regard to land use or ownership. The primary goal of mineral land classification is to help ensure that the mineral resource potential of land is recognized and considered in the land use planning process. MRZ definitions are provided below in **Table 4.12-1, Mineral Resource Zone Definitions**.

Table 4.12-1: Mineral Resource Zone Definitions	
Mineral Resource Zone	Definition
MRZ-1	Areas where available geologic information indicates there is little likelihood for the presence of mineral resources.
MRZ-2a	Areas that contain significant measured or indicated reserves.
MRZ-2b	Areas where geologic information indicates that significant inferred resources or demonstrated subeconomic resources are present.
MRZ-3a	Areas likely to contain undiscovered mineral deposits similar to known deposits in the same producing district or region (hypothetical resources).
MRZ-3b	Areas judged to be favorable geologic environments for mineral resource occurrence, but where mineral discoveries have not been made in the region (speculative resources).
MRZ-4	Areas where geologic information does not rule out either the presence or absence of mineral resources.
MRZ-6	Area with aggregate resources rated as highly significant.
Source: California Department of Conservation, Division of Mines and Geology, 2015	

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local mineral resources related policies, plans or programs for informational purposes and to assist with California Environmental Quality Act (CEQA) review.

Fresno County General Plan

The following relevant Mineral Resources goals and policies from the Fresno County General Plan were reviewed, and the following summaries are provided for informational purposes.

- | | |
|-----------------------|--|
| Goal OS-C | To conserve areas identified as containing significant mineral deposits and oil and gas resources for potential future use, while promoting the reasonable, safe, and orderly operation of mining and extraction activities within areas designated for such use, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated. |
| Policy OS-C.1 | The County shall not permit incompatible land uses within the impact area of existing or potential surface mining areas. |
| Policy OS-C.2 | The County shall not permit land uses incompatible with mineral resource recovery within areas designated as Mineral Resource Zone 2 (MRZ-2). |
| Policy OS-C.10 | The County shall not permit land uses that threaten the future availability of mineral resource or preclude future extraction of those resources. |

4.12.3 IMPACT QUESTIONS

4.12.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Mineral Resources come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

4.12.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Mineral Resources.

4.12.4 IMPACT ANALYSIS

4.12.4.1 Impact Analysis

Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. The Proposed Project does not cross lands with known or inferred mineral resources that are of value to the region and the residents of the state, nor would the Proposed Project result in the loss of availability of any known mineral resources. The Proposed Project involves construction of new facilities. The existing substation and associated transmission lines have been in place for many years, and in that time the presence of the existing infrastructure has not resulted in the loss of availability of any mineral resource. The land on which new facilities would be constructed is currently used for agricultural purposes and adjacent to the existing facilities. No mineral resources have been identified on these lands, and construction and operation of the Proposed Project's facilities would not result in the loss of any known mineral resources. Therefore, there would be no impact under this criterion.

Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The Proposed Project is not located on, or in proximity to, any mineral resource recovery sites identified in the Fresno County General Plan, or any other land use plans prepared by Fresno County. Therefore, there would be no impacts under this criterion.

4.12.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Mineral Resources.

4.12.6 APPLICANT PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Mineral Resources because no impacts would occur.

4.13 NOISE

Except as provided in Public Resources Code Section 21099, would the project result in:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b.	Generation of excessive ground-borne vibration or ground-borne noise levels?			X	
c.	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

This section describes the noise environment within the vicinity of the Proposed Project as well as potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.13.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

4.13.1.1 Noise Sensitive Land Uses

Noise-sensitive land uses, or noise-sensitive receivers, are those land uses that are sensitive to loud or intrusive noise levels. Noise sensitive receivers are associated with various land uses including residences, hospitals, places of worship, libraries and schools, nature and wildlife preserves, and parks. These are known as noise sensitive land uses. The Proposed Project is located within a region predominately occupied by agricultural land uses. The Proposed Project site is located approximately 2.2 miles east of Interstate 5 (I-5) and approximately one-mile northwest of West Jayne Avenue and adjacent to Trinity Avenue. Existing noise occurs mainly from vehicular traffic traveling on I-5 and the existing PG&E Substation directly south of the Proposed Project site.

The Proposed Project site is subject to AE20 Exclusive Agricultural zoning regulations which are intended to “protect agricultural land and provide for those uses which are necessary and an integral part of an agricultural operation.” This zone is intended to protect the general welfare of the agricultural community from encroachments of non-related agricultural uses. According to Section 808.2.010(A) of the Fresno County Code, the “AE zone shall be accompanied by an acreage designation which establishes the minimum size of parcels that may be created within the zone... The AE zone is consistent with the Agriculture, Irrigated Agriculture, and Westside/Eastside Rangeland land use designations of the General Plan” (2010).

The nearest potentially noise sensitive land uses are a row of residential structures located approximately 1.8 miles to the northeast of the Proposed Project site along West Tractor Avenue (refer to **Figure 4.3-1, Construction Site and Sensitive Receptor Locations** in **Section 4.3, Air Quality**). The next nearest noise sensitive receiver is another series of residential land uses located approximately 2.3 miles to the southeast of the Proposed Project site along West Jayne Avenue. These noise sensitive land areas are located too far away from the Proposed Project to be affected by project-generated noise. Due to this, and the fact that the Proposed Project site is surrounded by agriculture and an electric substation, ambient noise measurements were not taken.

4.13.1.2 Noise Setting

Noise Fundamentals

Noise is defined as unwanted or annoying sound which interferes with or disrupts normal activities. Exposure to high noise levels has been demonstrated to cause hearing loss. The individual human response to environmental noise is based on the sensitivity of that individual, the type of noise that occurs, and when the noise occurs.

Sound is measured on a logarithmic scale consisting of sound pressure levels known as a decibel (dB). The sounds heard by humans typically do not consist of a single frequency but of a broadband of frequencies having different sound pressure levels. The method for evaluating all the frequencies of the sound is to apply an A-weighting to reflect how the human ear responds to the different sound levels at different frequencies. The A-weighted sound level adequately describes the instantaneous noise whereas the equivalent sound level depicted as Leq represents a steady sound level containing the same total acoustical energy as the actual fluctuating sound level over a given time interval (Caltrans, 2013).

The Community Noise Equivalent Level (CNEL) is the 24-hour A-weighted average for sound, with corrections for evening and nighttime hours. The corrections require an addition of five decibels to sound levels in the evening hours between 7 p.m. and 10 p.m. and an addition of ten decibels to sound levels at nighttime hours between 10 p.m. and 7 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sound appears louder.

Because mobile/traffic noise levels are calculated on a logarithmic scale, a doubling of the traffic noise or acoustical energy results in a noise level increase of three dBA (Caltrans, 2013). Therefore, the doubling of the traffic volume, without changing the vehicle speeds or mix ratio, results in a noise increase of three dBA. Mobile noise levels radiate in an almost oblique fashion from the source and drop off at a rate of three dBA for each doubling of distance under hard site

conditions and at a rate of 4.5 dBA for soft site conditions. Hard site conditions consist of concrete, asphalt, and hard pack dirt while soft site conditions exist in areas having slight grade changes, landscaped areas, and vegetation. On the other hand, fixed/point sources radiate outward uniformly as it travels away from the source. Their sound levels attenuate or drop off at a rate of six dBA for each doubling of distance.

The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers, or relocating the receiver. Any or all of these methods could be required to reduce noise levels to an acceptable level.

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration (Federal Transit Administration [FTA], 2018). There are several different methods that are used to quantify vibration. The peak particle velocity (ppv), in inches per second (in./sec.) is defined as the maximum instantaneous peak of the vibration signal.

Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Man-made vibration issues are, therefore, usually confined to short distances (i.e., 500 feet or less) from the source. Sensitive receivers for vibration include structures (especially older masonry structures), places occupied by people (especially residents, the elderly and sick), and vibration sensitive equipment. Most residential buildings can be exposed to ground-borne vibration levels of 0.5 in./sec. ppv without experiencing structural damage (Caltrans, 2020). The threshold of architectural damage for conventional sensitive structures is 0.2 in./sec ppv. Human response indicates 0.24 in./sec. ppv is the annoyance perception level. Long-term or repeated (frequent/intermittent) sources are perceivable and may be annoying at levels as low as 0.08 in./sec. ppv (Caltrans, 2020). Vibration from construction equipment and activities, such as excavation (i.e., continuous/frequent intermittent vibration), can be barely perceptible to human beings at 0.01 ppv (Caltrans, 2020).

Existing Ambient Noise Environment

The Proposed Project site and surrounding areas are dominated by electrical utilities (multiple power lines and an electrical substation) and agricultural operations. Key factors contributing the ambient noise in these areas are electric utility facilities, agricultural operations, and local roads including transportation of farm equipment and trucks. None of these noise sources produce high levels of sound, and ambient noise levels within and around the Proposed Project site are expected to be relatively low. Noise sources at the nearest noise sensitive land uses (residences located 1.8 miles northeast of the Proposed Project site along West Tractor Avenue and approximately 700 feet to 1,300 feet east of South Lassen Avenue (State Route [SR] 269) are local roads and agricultural operations. Since there have been no ambient noise measurements either at the Proposed Project site or the nearest noise sensitive land uses, estimates were made utilizing the traffic volumes identified in the Fresno County's General Plan to estimate the existing ambient noise levels. Based on traffic data in the Fresno County's General Plan, that segment of SR 269 north of West Jayne Avenue has a traffic volume of 10,600 ADT in 1995 with a posted speed limit of 55 MPH. At distances of 700 feet to 1,300 feet from SR 269, using soft propagation, the ambient noise at the residences would be approximately 50-54 dBA at the residence. Conservatively, the noise levels during the nighttime hours could be 10 decibels lower.

4.13.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.13.2.1 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA), Office of Noise Abatement and Control, was established to coordinate federal noise control activities. The federal Noise Control Act of 1972 established programs and guidelines to identify and address the effects of noise on public health and welfare and the environment. Administrators of EPA determined in 1981 that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in the rulings by EPA in prior years remain upheld by designated federal agencies.

State

There are no applicable regulations for Noise that apply to the Proposed Project.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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” (1995) Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local related policies, plans or programs for informational purposes.

Fresno County Code

Chapter 8.40 of the Fresno County Code (2010) (Noise Control) provides performance standards and noise control guidelines for determining and mitigating non-transportation, or stationary, noise source impacts to adjacent properties. The purpose of the noise ordinance is to protect, create and maintain an environment free from noise that may jeopardize the health or welfare, or degrade the quality of life. It is the intent of the Noise Control Ordinance to “[p]rotect persons from excessive levels of noise within or near a residence, school, church, hospital, or public library ...” The Noise Control Ordinance, Section 8.40.040 states, “[i]t is unlawful for any person, including an owner, whether through the owner or the owner’s agent, lessee, sublessor, sublessee or occupant, at any location within the unincorporated area of the county, to create any noise, or to allow the creation of any noise, on property owned, leased, occupied or otherwise controlled by

such person which causes the exterior noise level when measured at any affected single- or multiple-family residence, school, hospital, church or public library situation in either the incorporated or unincorporated area to exceed the noise level standards as set forth...” in **Table 4.13-1, Sound Level Limits in Decibels**.

Table 4.13-1: Sound Level Limits in Decibels			
Category	Cumulative Number of minutes in any one-hour time period	Noise Level Standards, dBA	
		Daytime	Nighttime
		7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65
Source: Fresno County Code Section 8.40.040, 2010			

Pursuant to Section 8.40.060, noise generated from construction and from maintenance of utility facilities are exempt from the Fresno County Noise Control Ordinance. Specifically, noise from construction activities is exempt provided that such activities do not occur before 6 a.m. or after 9 p.m., Monday through Friday; or before 7 a.m. or after 5 p.m. on Saturday or Sunday. Construction outside of these times must be approved by the county pursuant to Noise Control Ordinance Section 8.40.110.

Notwithstanding the provisions of Section 8.40.040, noise sources associated with the operation of electrical substations are regulated by Section 8.40.090, which states the substations “shall not exceed fifty dBA” when measured at the receiving property. Since the Proposed Project site and surrounding zoning are Agriculture Exclusive, which does not have a specific noise level limit, section 8.40.090 sets a most restrictive operational exterior noise limit of 50 dBA Leq for all hours.

Fresno County General Plan

The Health and Safety element of the Fresno County General Plan 2000 addresses noise control goals and policies. The Noise Element defines noise as “unwanted sound.” The Noise Element also includes development standards and directives aimed towards maintaining separation between noise sensitive uses and common noise-generating land uses, many of which are desired or required within the framework of Fresno County’s future development plans. Applicable policies are discussed below for informational purposes.

Goal HS-G To protect residential and other noise-sensitive uses from exposure to harmful or annoying noise levels; to identify maximum acceptable noise levels compatible with various land use designations; and to develop a policy framework necessary to achieve and maintain a healthful noise environment.

Policy HS-G.6 The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County’s Noise Control Ordinance.

4.13.3 IMPACT QUESTIONS

4.13.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Noise comes from the CEQA, Appendix G (as amended in December 2019), Environmental Checklist. According to the CEQA Checklist, a project may cause a potentially significant impact if it would result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; or
- Generation of excessive ground-borne vibration or ground-borne noise levels; or
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, would the project expose people residing or working in the project area to excessive noise levels.

4.13.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Noise.

4.13.4 IMPACT ANALYSIS

4.13.4.1 Impact Analysis

Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-Than-Significant Impact. Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment includes haul trucks, water trucks, graders, dozers, loaders, excavators, pile drivers, and scrapers, which can reach relatively high noise levels. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

Typical maximum noise levels for construction equipment at 50 feet from the source are shown in **Table 4.13-2, Typical Noise Levels Generated by Construction Equipment**. As shown, the maximum intermittent noise levels (L_{max}) are expected to range between 74 and 89 dBA at approximately 50 feet. **Table 4.3-5, Anticipated Construction Equipment and Durations**, shows the anticipated usage of the construction equipment, including phases of construction and their respective durations (refer to **Section 4.3, Air Quality**).

Table 4.13-2: Typical Noise Levels Generated by Construction Equipment	
Equipment	Noise Level (dBA L_{max}) at 50 feet
Backhoe	80
Concrete mixer	85
Pump truck	82
Crane, Mobile	83
Dozer	85
Excavator	85
Generator	81
Grader	85
Man lift/ Aerial Lift/ Forklift	85
Loader	85
Paver	89
Roller	85
Scraper	89
Trencher	75
Drill rig	85
Trucks (all types)	74-88
Sources: FHWA, 2006; Ontario Ministry of Labour, Training, and Skills Development, 2016	

Grading and excavation operations are typically the loudest construction activity. The grading operations for the Proposed Project would likely include equipment similar to a dozer, a grader, and a tractor/loader/backhoe. Because the Proposed Project site is currently an agricultural operation, there is no pavement or other improvement to demolish prior to constructing the Proposed Project. This list of equipment provides a conservative assessment from a noise perspective as these represent some of the loudest pieces of equipment that would be used during site preparation. Most of the construction activities would consist of clearing and grubbing the site. The equipment is anticipated to be located on the central portion of the site with some equipment potentially operating at or near the southern and eastern property lines during access road construction. Based on the Proposed Project site location, construction activity would be approximately 1.8 miles southwest of the nearest residential land use or other sensitive receptor. The construction noise generated by the Proposed Project would be 34.3 dBA at this distance as can be seen in **Table 4.13-3, On-Site Preparation Noise Levels**. As discussed above, the existing ambient noise levels at these residences is estimated to be 50- 54 dBA. Therefore, construction noise would not be perceptible at this location and Proposed Project construction would have no impact on noise sensitive land uses.

As can be seen in **Table 4.13-3, On-Site Preparation Noise Levels**, if all the site preparation equipment was operating in the same location, which is not physically possible, at a distance as close as 300 feet (to the nearest property line from the point source) noise attenuation from construction activities is -15.6 dBA. This would result in an anticipated worst-case eight-hour average

combined noise level of 64.2 dBA at the western property line. Impacts would be less than significant for construction generated noise on adjacent properties because the Fresno County Noise Control Ordinance (Section 8.40.060) exempts construction noise, provided that construction activities occur within the allowable days and times and because there are no noise-sensitive land uses on the parcels adjacent to the Proposed Project site. If construction activities are required to occur at night, the Proposed Project would comply with Section 8.40.110 of the Noise Control Ordinance.

Table 4.13-3: On-Site Preparation Noise Levels

Construction Equipment	Quantity	Duty Cycle (Hours/Day)	Source Level @ 50-Feet (dBA L_{eq-8h})*	Combined Noise Level @ 50-Feet (dBA L_{eq-8h})
Grader	1	8	74	74.0
Scraper	1	8	75	75.0
Loader/Tractor	2	8	73	76.0
Total Noise Level at 50 Feet (dBA)				79.8
Distance to Nearest Property Line				300
Noise Reduction Due to Distance				15.6
NEAREST PROPERTY LINE NOISE LEVEL				64.2
Noise Level at nearest sensitive receptor located 1.8 miles away				34.3
*Source: Noise Measurements taken at several construction projects throughout southern California by Ldn.				

Construction of the Proposed Project would temporarily increase traffic noise off-site from commuting construction workers and from haul trucks bringing materials to and from the Proposed Project site. All Proposed Project components would be constructed over approximately an 18-month period. However, all construction traffic would access the Proposed Project site via I-5 and West Jayne Avenue. The 60 trips per day would not materially alter noise levels generated by traffic on I-5, and there are no residential or other sensitive receivers along West Jayne Avenue. Therefore, the short-term increase in traffic noise from Proposed Project construction would be less than significant.

As part of operations, the Proposed Project would include two Heating, Ventilation and Air Conditioning (HVAC) units, one for each Static Synchronous Compensator (STATCOM) facility; three 500 kV transformers, only two of which would be active simultaneously; and two 97.5 kV reactors. The HVAC are assumed to be adjacent to the STATCOM buildings, and for modeling purposes they have been located on the north sides of the buildings.

Noise level data for the transformers and reactors were taken from the National Electrical Manufacturers Association (NEMA) test results for transformers and reactors. The proposed 500 kV transformers have an unshielded noise rating of 81 dBA at one meter (3 feet). The proposed 79.5 kV reactors have an unshielded noise rating of 79 dBA at one meter. Each STATCOM facility would include a 4,000 square foot building requiring an estimated seven tons of HVAC. For modeling purposes, a Carrier 48HC-D08, 7.5 tons HVAC unit was modeled on the north side of each building.

Operational noise levels from the Proposed Project were modeled with SoundPlan Essential, version 4.0 (SoundPlan), a three-dimensional acoustical modeling software package. Propagation of modeled stationary noise sources was based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." All site conditions were modeled as hard, or zero percent absorptive. The assessment methodology

assumes that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts since, in reality, only some receivers would be downwind at any one time.

The operations source noise levels are presented in **4.13-4, Project Operations Source Noise Level in Decibels (dBA)**. All sound power reference levels were taken from manufactured specification sheets.

Table 4.13-4: Project Operations Source Noise Level in Decibels (dBA)	
Name	Sound Power Level (dBA)
Three Phase 97.5 - 500 kV Transformers	89
97.5 kV Reactors	87
Carrier 48HC-D08	81
Source: NEMA, 1993	

To be conservative, noise receptors were placed at the parcel boundaries except to the south, because the existing PG&E Gates Substation is located directly south of the Proposed Project site. All equipment was modeled as active at 100 percent power for a full hour during all hours. This is considered a reasonably conservative assumption as it would be unlikely that the transformers or reactors would be at full power for a full hour at the same time. Based on these inputs and the site layout shown in **Figure 4.13-1, Noise Sources and Receiver Locations**, the Proposed Project would not exceed the noise levels limit at any property boundary, as shown by **Table 4.13-5, Operations Noise Levels in Decibels** and **Figure 4.13-2, Operational Noise Level Contours**. Thus, Proposed Project operations would not require noise abatement, and impacts would be less than significant.

Table 4.13-5: Operations Noise Levels in Decibels					
Receiver	Description	Zone	Noise Level (dBA L_{eq})		Does the noise level exceed standard?
			At Property Line	County Standard	
1	Eastern Property Line	AE	33	50	No
2	Northern Property Line	AE	24	50	No
3	Western Property Line	AE	21	50	No

In addition to facility operational noise, periodic site maintenance of the facility would also be required. On-site activities are not anticipated to result in noise levels in excess of existing landscape maintenance and agricultural operations on the existing and surrounding properties. Thus, on-site maintenance is not anticipated to result in a substantial increase in noise levels. Finally, the Fresno County Noise Control Ordinance (Section 8.40.060 (G)) exempts maintenance activities for private and public utilities. The nearest sensitive receptor is located approximately 1.8 miles from the site and has an estimated ambient noise level of 50 - 54 dBA. The operational noise levels would drop at this distance to zero and would not be audible. No impacts would occur as a result of operation noise at the nearest sensitive receptor.

Therefore, impacts from construction and O&M under this criterion would be less than significant.

Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

Less-Than-Significant Impact. Construction activities, such as tamping ground surfaces, excavation, grading, drilling, and passing heavy trucks on uneven surfaces, may produce minor ground-borne vibration in the immediate vicinity of the construction activity. Impacts from construction-related ground-borne vibration, should they occur, would be intermittent and confined to the immediate area surrounding the activity. As shown in **Table 4.13-6, Typical Construction Equipment Vibration Levels**, large bulldozers can create vibration levels of 0.089 in/sec PPV at 25 feet.

Table 4.13-6: Typical Construction Equipment Vibration Levels	
Equipment	PPV at 25 feet (in/sec)
Haul Trucks	0.076
Large Bulldozer	0.089
Notes: in/sec = inches per second; PPV = peak particle velocity Source: Caltrans, 2020.	

Installation of underground (below grade) facilities would be anticipated to generate the highest vibration levels. Below grade activities would require the use of an excavator/backhoe to dig and backfill trenches for installing the ground grid, cables, foundations, footings, and duct banks. Other activities such as facility construction would also generate vibrations; however, these vibration levels would be less intense and would occur for a shorter duration.

The nearest sensitive receivers to construction activities at the Proposed Project Substation site would be residences located 1.8 miles to northeast, north of West Tractor Avenue. Using the reference levels in **Table 4.13-6, Typical Construction Equipment Vibration Levels**, predicted worst-case vibration levels of approximately 0.0001 in/sec PPV at the nearest sensitive receiver could occur from excavation and related below grade activities. These vibration levels would not be noticeable at the nearest receiver and would not exceed any identified threshold for building damage or human annoyance (Caltrans, 2020).

Operation of the Proposed Project would not be anticipated to generate substantial ground-borne vibration or ground-borne noise levels. Operation of the Proposed Project would consist of routine maintenance activities and emergency repairs. These activities would be unlikely to produce ground-borne vibration. Operation of transformers at the Proposed Project Substation could produce ground-borne vibration; however, ground-borne vibrations would be perceptible only in the immediate vicinity (i.e., less than 25 feet) of the transformer pad, if at all. No other component of the Proposed Project would generate vibrations during operation. Thus, impacts resulting from the generation of ground-borne vibration during operation of the Proposed Project would be less than significant.

Therefore, construction and O&M of the Proposed Project would result in a less-than-significant impact related to the generation of ground-borne vibration and ground-borne noise levels.

For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no private airstrips located within the vicinity of the Proposed Project. Therefore, the Proposed Project would not expose people working or residing in the area to excessive construction or operation noise levels attributable to aircraft or airport operations. Therefore, no impacts would occur under this criterion.

4.13.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Noise.

4.13.6 APPLICANT-PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Noise because impacts would be less than significant.

4.14 POPULATION AND HOUSING

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes or business) or indirectly (e.g., through extension of roads or other infrastructure)?				X
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

This section describes Population and Housing conditions within the area of the Proposed Project, as well as the potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.14.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development and the existing PG&E Gates Substation is located to the south.

Historical population and housing data presented below was obtained from the U.S. Census Bureau decennial censuses (2012, 2020). Population projections were obtained from the California Department of Finance (State of California, 2018). Housing development data was obtained through discussions with planning personnel at Fresno County Department of Public Works and Planning (Motta, 2020).

4.14.1.1 Population Estimates

Population data from the 2010 and 2020 decennial Censuses are presented in **Table 4.14-1, Population and Housing Estimates**. Between 2010 and 2020, Fresno County and the city of Huron experienced population increases of 10% and 8%, respectively. According to the California Department of Finance, the population of Fresno County is projected to increase in 2030, 2040, 2050, and 2060, with the population in 2060 estimated to reach 1,291,413. According to the U.S. Bureau of Labor Statistics, the unemployment rate, as of December 2020, in Fresno County is 8.6%. The number of individuals employed in the construction industry in Fresno County is 23,914 persons, as of January 2020 (Fresno County Health Improvement Partnership [FCHIP], 2020). The unemployment rate in the city of Huron is 7.3% (Best Places. 2020). According to Data USA, the city of Huron has 202 persons employed in the construction industry (Data USA, 2020).

4.14.1.2 Housing Estimates

Data on the numbers of occupied and vacant housing units and vacancy rates for Fresno County and the city of Huron are presented in **Table 4.14-1, Population and Housing Estimates**. As shown, vacant housing units are available near the Proposed Project in the city of Huron. In addition, there is short-term lodging near the Proposed Project that could be available at hotels and motels in the city of Huron. According to the city of Fresno Master Environmental Impact Report (MEIR), the County is anticipated to substantially increase housing based on housing projections. The future development under the General Plan Update is projected to provide adequate housing for future employees and their families within the Proposed Project Area. (City of Fresno, 2014).

Table 4.14-1: Population and Housing Estimates		
	Fresno County	City of Huron
Population, 2010	930,450	6,754
Population, 2020	1,023,358	7,299
Housing Units, Total	337,128	1,631
Housing Units, Occupied	314,417	1,671
Housing Units, Vacant	22,711	40
Vacancy Rate (%)	6.7%	2.5%
Source: U.S. Census Bureau		

4.14.1.3 Approved Housing Developments

According to data provided by the Fresno County Department of Public Works and Planning, there are no approved or pending housing developments within one mile of the Proposed Project.

4.14.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.14.2.1 Regulatory Setting

Federal

There are no applicable regulations for Population and Housing that apply to the Proposed Project.

State

There are no applicable regulations for Population and Housing that apply to the Proposed Project.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county are not applicable as Fresno County does not have jurisdiction over the Proposed Project. However, there are no applicable regulations for Population and Housing that would apply to the Proposed Project.

4.14.3 IMPACT QUESTIONS

4.14.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Population and Housing come from the California Environmental Quality Act (CEQA), Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Induce substantial unplanned population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of new roads or other infrastructure); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.14.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Population and Housing.

4.14.4 IMPACT ANALYSIS

4.14.4.1 Impact Analysis

Would the project induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes or business) or indirectly (e.g., through extension of roads or other infrastructure)?

No Impact. Construction of the Proposed Project would not induce, either directly or indirectly, substantial population growth in the area. LS Power Grid California, LLC (LSPGC) expects to utilize up to approximately 20 workers per day during construction. The labor demands of the Proposed Project would be met by existing LSPGC employees, by hiring specialty construction and electrical contractors who already reside in the surrounding areas, or by hiring specialty construction and electrical contractors from outside the local area who may temporarily reside in the vicinity of the Proposed Project while completing their roles in the construction process. Within the Proposed Project area, the number of construction personnel consists of 202 persons in the city of Huron (Data USA, 2020) and 23,914 persons in Fresno County (FCHIP, 2020).

Additionally, the Proposed Project does not include new infrastructure such as publicly accessible roads that could induce population growth. Given the small number of positions required for construction of the Proposed Project and the anticipated short-term construction period, no population growth would be induced by the construction of the Proposed Project.

The Proposed Project would not induce population growth or create new demand being that the Static Synchronous Compensator (STATCOM) Substation facility would support the exiting regional transmission system by providing voltage support and grid stability to existing customer demand. The Proposed Project would facilitate the reliable operation of an existing extra high voltage transmission system in the electrical proximity of the PG&E Gates Substation. The STATCOM Substation facility would replace the functions that the retiring Diablo Canyon nuclear generating units currently provide as discussed in **Section 3.2.3, System Reliability**. O&M of the Proposed Project would not induce, either directly or indirectly, substantial population growth in the area.

The Proposed Project would be operated by LSPGC's control center in Austin, Texas and LSPGC's local maintenance/technical staff, utilizing other existing LSPGC staff and outside contractor resources for maintenance and emergency response. The Proposed Project would be incorporated into LSPGC's existing programs with existing equipment, experienced staff, and trusted contractors. LSPGC currently has five staff in its transmission maintenance group. One additional local California-based field personnel would also be added to support maintenance of the facilities. LSPGC would also have a local California-based electrical engineer available to support any technical aspects of the Proposed Project. Given the small number of positions required for O&M of the Proposed Project, no population growth would be induced by the operation of the Proposed Project. The Proposed Project would not induce population growth or create new demand being that the STATCOM facility would support the exiting regional transmission system by providing voltage support and grid stability to existing customer demand. The Proposed Project would facilitate the reliable operation of the extra high voltage transmission system in the electrical proximity of the PG&E Gates Substation. The STATCOM facility would replace the functions that the retiring Diablo Canyon nuclear generating units currently provide. Thus, there would be no impacts under this criterion.

Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Proposed Project would not displace any existing housing. The Proposed Project facilities and associated interconnection transmission lines would be located on vacant and agricultural lands, absent of people and existing housing developments or residences. In addition, there are no approved or pending housing developments within one mile of the Proposed Project. No people or housing would be displaced by construction or operation of the Proposed Project, and thus, it would not be necessary to construct replacement housing elsewhere.

The construction workforce and equipment deployed for the Proposed Project would be typical for similar transmission line and substation construction projects of this size. The peak employment is anticipated to be 20 workers during construction, but on average, the workforce on site would be minimal. The workers would likely commute from the Fresno area. It is not anticipated that any construction workers would permanently relocate to the Proposed Project area.

As discussed above, the Proposed Project would be operated by LSPGC's control center in Austin, Texas and LSPGC's local maintenance/technical staff, utilizing other existing LSPGC staff and outside contractor resources for maintenance and emergency response. The Proposed Project would be incorporated into LSPGC's existing programs with existing equipment, experienced staff, and trusted contractors. LSPGC currently has five staff in its transmission maintenance group. One additional local California-based field personnel would also be added to support maintenance of the facilities. LSPGC would also have a local California-based electrical engineer available to support any technical aspects of the Proposed Project. Given the small number of positions required for O&M, the Proposed Project would have no impact to the workforce residing in the area. Thus, there would be no impacts under this criterion.

4.14.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Population and Housing.

4.14.6 APPLICANT PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Population and Housing because no impact would occur.

4.15 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?				X
Parks?				X
Other public facilities?				X

This section describes the Public Services within the vicinity of the Proposed Project, as well as the potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.15.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

Public services data includes fire and police protection and maintenance of public facilities such as schools and parks and was obtained using of the Fresno County General Plan (Fresno County, 2000), the Fresno County Ordinance Code (2010), Fresno County Fire Protection District (FCFPD) website, the Fresno County Sheriff's website, and other local service information resources.

4.15.1.1 Service Providers

The following section discusses the public service providers that would serve the Proposed Project.

Police

The Fresno County Sheriff's Department provides law enforcement services to all unincorporated areas of the county, including the area of the Proposed Project. The Proposed Project is located within Patrol Area 1, which provides 24-hour law enforcement for about 2,400 square miles of western Fresno County and includes the cities of San Joaquin, Coalinga, Huron, Kerman, Mendota, and Firebaugh. Although Patrol Area 1 Substation is currently closed to the public due to staffing shortages, Sheriff staff are still working out of the Area 1 Substation and will still be assigned to the area of the Proposed Project (Fresno County Sheriff's Office, 2020). Based on available information, the average response time of the Fresno County Sheriff's Office is currently unknown. However, the Fresno Police Department (FPD) has the goal of answering 95% of all 911 emergency calls in under 15 seconds (FPD, 2019).

Fire

FCFPD is a full-service fire department providing emergency services to approximately 2,655 square miles of the central San Joaquin Valley and serving a population of more than 220,000 citizens in both incorporated and unincorporated areas of Fresno County (Fresno County Fire Protection District, 2020). In cooperation with the California Department of Forestry and Fire Protection (CAL FIRE), FCFPD provides emergency services for 13 district stations and nine state stations. A minimum of two to three career firefighters are on duty 24 hours per day at any given fire engine company, which allows for a minimum of 44 firefighters to be on duty daily. An Emergency Command Center serves CAL FIRE, FCFPD, and 13 other emergency agencies in the region, including the California Emergency Management Agency Region V Coordination Center. Fire protection and emergency services for the Proposed Project would be provided by FCFPD Battalion 14, Station 93, which is located within the city of Huron, with cooperation from CAL FIRE. FCFPD would be the designated first responder for all Proposed Project-related incidents. In addition, fire water storage will be available at on the Proposed Project site.

Emergency response services in the Proposed Project area are provided by Central California Emergency Medical Services, a Division of Fresno County Department of Public Health. An ambulance must be responding within two minutes of being alerted to a call requiring immediate dispatch. If the ambulance unit does not notify that they are enroute or responding within a two-minute time period, the ambulance dispatch center will send a second alert page to the ambulance and consider the dispatch of the next closest appropriate ambulance (Central California Emergency Medical Services, 2018).

Schools

There is a total of 32 public school districts serving more than 200,000 students in Fresno County. The Proposed Project is within District 4 of the Coalinga-Huron Unified School District (Fresno County Office of Education, 2020), which includes 12 charter, kindergarten, elementary, middle,

and high schools. Public primary education is overseen by the Fresno County Office of Education. The public school nearest the Proposed Project site is Huron Middle School, located approximately 3.7 miles northeast of the Proposed Project (see **Figure 4.15-1, Public Service Facilities**). There are also several private schools throughout Fresno County; however, there are no private schools within a mile of the Proposed Project site.

Parks

The Proposed Project is in an area composed of privately owned, mostly agricultural lands. There are no parks or other recreational areas within one mile of the Proposed Project (see **Figure 4.15-1, Public Service Facilities**). The closest public parks, Keenan, Chestnut, and Huron Community Parks are more than 3.7 miles to the northeast in the city of Huron. Additional information about impacts on recreational resources is provided in **Section 4.16, Recreation**.

Hospitals

No medical or mental health hospitals are in the immediate vicinity of the Proposed Project. The nearest available emergency care center is Coalinga Regional Medical Center located within the city of Coalinga, approximately 11.7 miles west of the Proposed Project. The Department of State Hospital – Coalinga (mental health hospital) is located 6.3 miles west of the Proposed Project site (see **Figure 4.15-1, Public Service Facilities**).

4.15.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.15.2.1 Regulatory Setting

Federal

There are no applicable regulations for Public Services that apply to the Proposed Project.

State

California Fire Code

The California Code of Regulations (CCR), Title 24, Part 9 is known as the California Fire Code. This code provides provisions for planning, precautions, and preparations for fire safety and fire protection during various activities. This includes, but is not limited to, construction, demolition, building's requirements, and guidelines for working with flammable chemicals and materials (California Building Standards Commission, 2019). The Proposed Project is located within areas categorized as Non-Wildland/Non-Urban and Urban/Unzoned according to data from the CAL FIRE (CAL FIRE). As such, the California Fire Code was reviewed for informational purposes for the Proposed Project (CAL FIRE, 2007).

California Public Resources Code Sections 4292 and 4293

California Public Resources Code (PRC) Section 4292 states:

[A]ny person that owns, controls, operates, or maintains any electrical transmission or distribution line...shall, during such times and in such areas as are determined to be necessary by the director or the agency, has primary responsibility for fire protection of such areas, maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightening arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such a pole or tower.

PRC Section 4293 states:

[A]ny person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for the fire protection of such area, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

- (a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet
- (b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet
- (c) For any line which is operating at 110,000 or more volts, 10 feet

In every case, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard.

Red Flag Fire Warning and Weather Watches

Like PRC Sections 4292 and 4293, red-flag warnings and fire-weather watches aim to prevent fire events and reduce the potential for substantial damage. When extreme fire weather or behavior is present or predicted in an area, a red-flag warning or fire-weather watch may be issued to advise local fire agencies that these conditions are present. The National Weather Service issues the red flag warnings and fire weather watches, and the CAL FIRE provides safety recommendations for preventing fires. These include clearing and removing vegetation and ensuring the proper use of equipment.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local related policies, plans or programs for informational purposes and to assist with California Environmental Quality Act (CEQA) review.

Fresno County General Plan

The Public Facilities and Services Element of the Fresno County General Plan contains goals and policies for law enforcement, fire protection and emergency medical services, and school and library services. Fresno County has goals and policies to maintain optimal levels of service and quality for fire and police protection and public education. These also include expansion of facilities and staff as needed in conjunction with future planned development.

Fresno County General Plan contains the following potentially relevant goals and policies.

- | | |
|----------------------|--|
| Goal PF-G | To protect life and property by deterring crime and ensuring the prompt and efficient provision of law enforcement service and facility needs to meet the growing demand for police services associated with an increasing population. |
| Policy PF-G.2 | The County shall strive to maintain a staffing ratio of two (2) sworn officers serving unincorporated residents per 1,000 residents served. (This count of officers includes all ranks of deputy sheriff personnel and excludes all support positions, and all sworn officers serving county wide population interests such as bailiffs, and sworn officers serving contract cities and grant specific populations). |
| Goal PF-H | To ensure the prompt and efficient provision of fire and emergency medical facility and service needs, to protect residents of and visitors to Fresno County from injury and loss of life, and to protect property from fire. |
| Policy PF-H.1 | The County shall work cooperatively with local fire protection districts to ensure the provision of effective fire and emergency medical services to unincorporated areas within the county. |
| Policy PF-H.2 | Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in unincorporated areas of the County shall not be approved unless adequate fire protection facilities. |
| Policy PF-H.5 | The County shall require that new development be designed to maximize safety and minimize fire hazard risks to life and property. |

- Policy PF-H.8** The County shall encourage local fire protection agencies in the county to maintain the following as minimum standards for average first alarm response times to emergency calls:
- a. 5 minutes in urban areas;
 - b. 15 minutes in suburban areas; and
 - c. 20 minutes in rural areas.
- Policy PF-H.10** The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other State and local ordinances.
- Policy PF-H.11** The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public, consistent with current practice.

4.15.3 IMPACT QUESTIONS

4.15.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Public Services come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

4.15.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Public Services.

4.15.4 IMPACT ANALYSIS

4.15.4.1 Impact Analysis

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?

Fire and Police Protection

Less-than-Significant Impact. The Proposed Project would not permanently affect service ratios, response times, or other objectives for public services in the area. Fire, emergency, and police services currently serve, and would continue to serve, the areas in which the existing PG&E Gates Substation and solar field and the Proposed Project are located. The Proposed Project would not result in a permanent need for new or additional public services because it would not directly induce population growth or result in the construction of residential or other land uses that would indirectly induce area population growth. It is not anticipated that the Proposed Project would adversely affect the use or operation of fire, police protection services, or emergency services. The Proposed Project would not require the expansion of fire protection services. Work areas would be cleared or trimmed of vegetation by LS Power Grid California, LLC (LSPGC) before staging construction equipment, thus minimizing the probability of a fire during construction. Although the need for emergency services may arise during construction of the Proposed Project, such a need would not substantially affect the provision of existing emergency services or require the provision of service beyond existing capacities. Construction is not anticipated to permanently affect response times because construction lane or road closures would be temporary and would be coordinated with local jurisdictions and emergency service providers, and traffic control would be implemented, as necessary and described in **Applicant Proposed Measure (APM) PS-1**.

As discussed above, emergency response services in the Proposed Project area are provided by Central California Emergency Medical Services. An ambulance must be responding within two minutes of being alerted to a call requiring immediate dispatch. If the ambulance unit does not notify that they are enroute or responding within a two-minute time period, the ambulance dispatch center will send a second alert page to the ambulance and consider the dispatch of the next closest appropriate ambulance (Central California Emergency Medical Services, 2018).

Although the Proposed Project would employ up to 20 construction workers at peak construction, the workforce on site would be less on average and minimal for O&M. Workers would likely commute from the greater Fresno area. The Proposed Project would not create permanent employment or displace people. There would be no relocation of people regarding governmental facilities or services. The Proposed Project would not result in a permanent need for new or additional public services because it would not directly induce population growth or result in the construction of residential or other land uses that would indirectly induce area population growth (see **Section 4.14, Population and Housing**).

Perimeter security fencing would be installed around the outer limits of the work area. Lighting would also be installed for security purposes during construction. Construction crews would lock up and secure each worksite to prevent theft or vandalism associated with work equipment or supplies at the completion of each workday. Once built, the permanent perimeter physical security system would consist of an eight-foot chain link security fence with an additional one-foot barbed

wire extension at the top. The Static Synchronous Compensator (STATCOM) physical security would be designed in accordance with North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) requirements with 24/7 monitoring, response, and control through the LSPGC control center and staff. The perimeter security fence would have two gates integrated with electronic access card readers, including indoor and outdoor physical security cameras placed throughout the site with at least two of the cameras placed around the exterior of the control house. The security cameras would be routed through a network video recorder located in the Wide Area Network (WAN) control panel and communicated to the LSPGC control center for monitoring.

As discussed in **Section 4.17, Transportation**, traffic control measures associated with construction on major streets would be implemented pursuant to all applicable industry standards and applicable local jurisdictional agency review. For overhead power lines, LSPGC would coordinate with the appropriate emergency (fire and police) personnel prior to construction to ensure that construction activities and associated lane closures would not substantially affect emergency response vehicles (refer to **Section 4.17, Transportation**). The Proposed Project is not anticipated to impede ingress and egress of emergency vehicles or impact emergency response times during construction and operation. Any lane or road closures associated with construction of the Proposed Project would be temporary and would be coordinated with local jurisdictions and emergency service providers (**APM PS-1**). Any traffic control would be implemented, as necessary as discussed in **Section 4.17, Transportation**.

Operation of the Proposed Project facilities would not impede emergency vehicle response times, as operation of the Proposed Project facilities would not require any lane or road closures and would require only minimal staffing that would not increase traffic levels near the Proposed Project. Furthermore, all newly constructed private access roads would be built to Fresno County design standards, including those standards facilitating access to emergency response vehicles. Therefore, no impacts to emergency response times are anticipated during construction and operation of the Proposed Project.

As discussed in previous sections, PG&E is currently performing O&M activities at the existing PG&E Gates Substation including inspections along associated transmission lines. The Proposed Project would include the operation of two new STATCOM facilities and interconnection transmission lines outside of the current substation. Although the Proposed Project would include the O&M of new facilities, it is not anticipated that these activities would increase significantly beyond their current levels. The Proposed Project would require no permanent on-site staffing and would not create significant permanent employment associated with O&M activities. These activities would be performed by local LSPGC personnel or contractors that would travel to the site as needed. The Proposed Project would not displace or relocate people and, therefore, would not impact governmental facilities and services. The Proposed Project would not permanently affect service ratios, response times, or other objectives for public services in the area. Fire, emergency, and police services currently serve, and would continue to serve, the areas in which the existing PG&E Gates Substation and solar field and the Proposed Project are located. Therefore, impacts would be less than significant.

Schools, Parks, & Other Public Facilities

No Impact. It is not anticipated that the Proposed Project would adversely affect the use or operation of any schools, parks, or other public facilities in the vicinity of the Proposed Project. The Proposed Project would not generate the need for new or additional public services because it would not result in construction of residential or other land uses that would induce population growth in the area. There are no schools or parks within a 0.25 mile of the Proposed Project area. The Proposed Project is not expected to generate new students for the area's schools. No new or physically altered schools would be necessary as a result of the Proposed Project. Therefore, no impacts would occur under this criterion.

4.15.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Public Services.

4.15.6 APPLICANT PROPOSED MEASURES**APM PS-1**

LSPGC would coordinate construction activities with local law enforcement and fire protection agencies. Emergency service providers would be notified of the timing, location, and duration of construction activities.

4.16 RECREATION

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
c.	Reduce or prevent access to a designated recreation facility or area?				X
d.	Substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas?				X
e.	Damage recreational trails or facilities?				X

This section describes recreational facilities within the area of the Proposed Project, as well as the potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.16.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

Parks and recreation areas were identified by reviewing the Fresno County General Plan (2000) and city of Huron General Plan (2014). There are no developed recreational areas in the immediate vicinity or within one mile of the Proposed Project. The nearest recreational areas are the county-maintained Huron Fishing Access area, located approximately 7.7 miles northeast of the Proposed Project, and three municipal parks within the city of Huron, approximately 3.7 miles northeast of the Proposed Project.

4.16.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.16.2.1 Regulatory Setting

Federal

There are no applicable regulations for Recreation that apply to the Proposed Project.

State

There are no applicable regulations for Recreation that apply to the Proposed Project.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as the Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local recreation related policies, plans or programs for informational purposes and to assist with California Environmental Quality Act (CEQA) review.

Fresno County General Plan

The following relevant Recreation goals and policies from the Fresno County General Plan were reviewed, and the following summaries are provided for informational purposes.

- | | |
|-----------------------|--|
| Goal OS-H | To designate land for and promote the development and expansion of public and private recreational facilities to serve the needs of residents and visitors. |
| Policy OS-H.6 | The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible. |
| Policy OS-H.14 | The County shall encourage the development of recreation facilities in western Fresno County. |

4.16.3 IMPACT QUESTIONS

4.16.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Recreation come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.16.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), the following additional CEQA Impact Questions are required for Recreation:

- Would the project reduce or prevent access to a designated recreation facility or area?
- Would the project substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas?
- Would the project damage recreational trails or facilities?

4.16.4 IMPACT ANALYSIS

4.16.4.1 Impact Analysis

Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The use of parks and recreational facilities is closely tied to population; as population increases, the use of existing parks and recreational facilities can be expected to increase proportionally. Similarly, the loss of existing parks and recreational facilities would result in a concentration of use at remaining parks and facilities.

As presented in **Section 4.14, Population and Housing**, the Proposed Project would not induce any population growth during construction. Given the distance from the Proposed Project, local parks are not likely to be used by workers during their break periods during construction. Therefore, construction of the Proposed Project would not result in an increase in the use of existing parks or recreational facilities.

PG&E is currently performing O&M activities, including inspections, at the existing PG&E Gates Substation, and along associated interconnection transmission lines. These current activities do not impact any recreational areas. The Proposed Project would include similar O&M activities adjacent to the existing substation and would also not impact any nearby recreational areas. Therefore, no impacts would occur under this criterion.

Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Proposed Project does not include any recreational facilities. The Proposed Project would not result in a population increase and would not require the construction or expansion of any recreational facilities. As a result, there would be no adverse physical effect on the environment from the construction of new, or expansion of existing, recreational facilities. Therefore, no impacts would occur under this criterion.

Would the project reduce or prevent access to a designated recreation facility or area?

No Impact. The Proposed Project is not located adjacent or within close, proximity to any designated recreational areas. The nearest recreational areas are located within the city of Huron, approximately 3.7 miles northeast of the Proposed Project. Given the distance to the nearest recreational areas, neither construction or O&M activities associated with the Proposed Project would reduce or prevent access to a designated recreation facility or area. Therefore, no impacts would occur under this criterion.

Would the project substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas?

No Impact. As discussed above, the Proposed Project is not located adjacent or within close, proximity to any designated recreational areas. The nearest recreational areas are located within the city of Huron, approximately 3.7 miles northeast of the Proposed Project. Given the distance to the nearest recreational areas, the Proposed Project would not change the character of any recreational areas. Therefore, no impacts would occur under this criterion.

Would the project damage recreational trails or facilities?

No Impact. The Proposed Project is not located within close, proximity to any recreational trails or facilities and would not cause direct or indirect damage to them. Therefore, no impacts would occur under this criterion.

4.16.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Recreation.

4.16.6 APPLICANT PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Recreation because no impacts would occur.

4.17 TRANSPORTATION

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b.	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d.	Result in inadequate emergency access?			X	
e.	Create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?			X	
f.	Interfere with walking or bicycling accessibility?			X	
g.	Substantially delay public transit?			X	

This section describes Transportation in the area of the Proposed Project, as well as the potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.17.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development and the existing PG&E Gates Substation is located to the south.

4.17.1.1 Circulation System

Fresno County's circulation system consists of a roadway network that is primarily rural in character, with the exception of the urban areas surrounding the cities of Fresno and Clovis and various smaller communities in the southern and western parts of the county (Fresno County, 2000). **Figure 4.17-1, Regional Transportation-Related Infrastructure** illustrates the transportation-related infrastructure in the regional area of the Proposed Project site, and they are discussed in the following sections.

Interstate 5 (I-5), also known as the Westside Freeway, is a major north-south regional transportation corridor in the state that is located approximately 2.2 miles west of the Proposed Project site. It is a four-lane divided highway with a posted speed limit of 65 miles per hour (mph). I-5 would serve as the regional route to the Proposed Project site. Construction and operational vehicles, as well as equipment, would utilize the West Jayne Avenue exit from I-5 then turn left at the north-south access road that would be constructed to access the Proposed Project site.

State Route 269 (SR 269), also known as Lassen Avenue, is a north-south regional transportation corridor located approximately one mile east of the Proposed Project site. It is a two-lane highway with a posted speed limit of 55 mph. SR 269 would also serve as the regional route to the Proposed Project area. Construction and operational vehicles, as well as equipment, would turn onto West Jayne Avenue from SR 269, then turn right onto the Proposed Project's north-south, all-weather access road that would be constructed to access the Static Synchronous Compensator (STATCOM) Substation facility.

The roadway network that would be used for the Proposed Project is located within the southwest portion of Fresno County, a predominantly rural area. The local circulation system near the Proposed Project area comprises primarily of private dirt roads and Fresno County-maintained roadways with individual vehicles serving as the primary mode of transportation. Local roads that serve the nearby communities and provide access to the Proposed Project site are limited. Within the vicinity of the Proposed Project area, Phelps Road is an east-west public dirt road which is located immediately north of the Proposed Project area and has no posted speed limit. South Trinity Avenue¹ (e.g., north-south access road) is a private dirt road located immediately east of the Proposed Project area with no posted speed limit. South Lake Avenue is a private, north-south dirt road located to the west of the Proposed Project area and is within Fresno County's jurisdiction with no posted speed limit. West Jayne Avenue is a public two-lane county road which runs east west and is located immediately south of the Proposed Project area with a speed limit of 55 mph. See **Figure 4.17-2, Local Transportation-Related Infrastructure**.

4.17.1.2 Existing Roadways and Circulation

The primary access to the Proposed Project for both construction and operations would be along West Jayne Avenue. West Jayne Avenue is an existing, county-owned paved roadway, providing access to the existing the PG&E Gates Substation and the Proposed Project from I-5 (to the west) and from SR 269 (to the east). Designated as a rural expressway in the Fresno County General Plan (2000), West Jayne Avenue is a two-lane road with one-lane for each direction of travel. The annual average daily traffic (AADT) for the segment of West Jayne Avenue between I-5 and SR 269 was estimated to be 3,590 in 2018 (Westlands Water District, 2017). No improvements are expected to be required along West Jayne Avenue to accommodate the Proposed Project.

SR 269 is a two-lane state highway with one-lane of traffic for each direction of travel. SR 269 carries an AADT of approximately 4,200 vehicles at its junction with SR 33 and 7,950 vehicles at its junction with SR 198 (Caltrans, 2019a).

I-5 is a four-lane state highway with two-lanes of traffic for each direction of travel. I-5 carries an AADT of approximately 39,500 vehicles at the junction with West Jayne Avenue and the junction with SR 269, as well as 41,000 vehicles at the junction with SR 198 (Caltrans, 2019a).

¹ Although the naming convention of "South Trinity Avenue" is used in publicly available mapping for the Proposed Project area, Fresno County has confirmed that the road is not a public right-of-way.

The Proposed Project site would be accessed from the proposed north-south access road, located off West Jayne Avenue at the southeast corner of the existing PG&E Gates Substation. The north-south access road is an existing one-lane, private dirt road that would be widened to approximately 20 feet and rocked (dust resistant, all-weather base rock or gravel) to approximately 100 feet north of the terminus of West Jayne Avenue. The final approximately 100 feet would be paved in order to avoid track-out² onto West Jayne Avenue. In addition, the Proposed Project's east-west access road, which is a one-lane private, unnamed dirt road that intersects the north-south access road at the southeast corner of the Proposed Project site, would also need to be widened and rocked to approximately 20 feet and graded to the west of the north-south access along the southern Proposed Project site boundary. Access within the STATCOM Substation facility would require a new, all-weather road that would allow access around the perimeter of the facility. This new road would be approximately 20 feet wide and approximately 3,200 feet long and would include a gate at both the entrance and exit. Construction of this internal access road would include grading and rocking per the final Proposed Project design. Access roads are depicted in **Figure 4.17-2, Local Transportation-Related Infrastructure**.

4.17.1.3 Transit and Rail Services

There are no active rail services within 1,000 feet of the Proposed Project site. A branch of the San Joaquin Valley Railroad (SJVR) tracks run in an east/west direction from the city of Exeter (approximately 55 miles east of the Proposed Project) to the city of Huron (3.3 miles north of the Proposed Project site). The SJVR interchanges with Union Pacific Railroad and Santa Fe Railroad in Fresno. Primary commodities it transports include petroleum products, cattle feed, building products, and dry and liquid fertilizers. The SJVR operates seven days a week (Genesee and Wyoming Inc., 2015).

The Santa Fe Passenger Depot, also known as the Fresno Station, is a historic railroad station and transportation hub which is located in downtown Fresno approximately 45 miles north-east of the Proposed Project area. The Fresno Station provides rail transit north to Sacramento and Oakland, as well as south to Bakersfield (AMTRAK, 2020).

The region surrounding the Proposed Project is serviced by the Fresno County Rural Transit Agency. The route closest to the Proposed Project site is the Coalinga Intercity Transit route, which runs from Coalinga to Fresno, including along West Jayne Avenue (Fresno County Rural Transit Agency, 2020). This line runs once per day (Monday through Saturday), and there are no transit stops or stations located within 0.5 mile of the Proposed Project site. The nearest transit stop is located within the city of Huron which is located 3.8 miles north-east of the Proposed Project site.

4.17.1.4 Bicycle Facilities

There are no bicycle facilities within 1,000 feet of the Proposed Project site. The Fresno County Regional Bicycle and Recreational Trails Master Plan (2013) describes the bikeways in unincorporated Fresno County. Although not yet implemented, a Class I Planned Multiple Purpose Bikeway and a Class II Planned Rural Bikeway are intended to be installed near the Proposed Project site. A section of the Class I Planned Multiple Purpose Bikeway would run from Coalinga to Huron and would be located a few miles west and north of the Proposed Project site.

² "Trackout" is dirt, mud, or other debris tracked onto a paved public roadway by a vehicle leaving a construction site.

Class I bikeways are defined as paved rights-of-way completely separated from streets. The Class II Planned Rural Bikeway would run along West Jayne Avenue from Coalinga to the Fresno/King County line located to the east of the Proposed Project site (Fresno County, 2013). Class II bikeways are defined as on-street routes intended to provide continuity to bikeway systems.

4.17.1.5 Pedestrian Facilities

There are no designated pedestrian facilities, such as walkways, trails, or paths, near the Proposed Project site. The north-south and east-west access roads and West Jayne Avenue are the roads which would serve as access for the Proposed Project site during construction and O&M, and these could potentially serve as pedestrian paths of travel. However, the Proposed Project site is located among existing agricultural fields, and no houses are within approximately 1.8 miles.

4.17.1.6 Vehicle Miles Traveled

The daily average vehicle miles traveled (VMT) on rural and urbanized public roadways in Fresno County is 6,191,770 miles (Caltrans, 2019b). Standards or thresholds related to VMT for development projects have not been established for Fresno County. On May 26, 2020, the Fresno County Board of Supervisors unanimously approved a resolution backing a delay on implementing the VMT requirements of SB 743 (Fresno County, 2020). However, the Fresno Council of Governments (COG) provides a VMT analysis guide to assist in analyzing a project for VMT impacts (Fresno COG, 2020). The Initial Screening tool provides project screening criteria to determine if a project can be screened out and considered less than significant to countywide VMT. The criteria include being located in a high-quality transit area or low-VMT zone, consisting of local-serving retail space of less than 50,000 square feet, or being a low trip generator (i.e., less than 500 daily trips generated).

4.17.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.17.2.1 Regulatory Setting

Federal

There are no applicable regulations for Transportation that apply to the Proposed Project.

State

The California Department of Transportation (Caltrans) owns the rights-of-way for the state highway system and is responsible for protecting the public and infrastructure. Caltrans is also the administering agency for regulations related to traffic safety, including the licensing of drivers, transportation of hazardous and combustible materials, and the safe operation of vehicles. Caltrans also requires transportation permits for the movement of vehicles or loads exceeding the limitations on the size and weight contained in Division 15, Chapter 5, Article 1, Section 35551, of the California Vehicle Code. Fresno County is under the jurisdiction of Caltrans District 6. Due

to the likelihood of heavy truck loads during construction, the Proposed Project may require ministerial transportation permits from Caltrans.

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local transportation related policies, plans or programs for informational purposes and to assist with California Environmental Quality Act (CEQA) review.

Fresno County Regional Transportation Plan

The Fresno COG Regional Transportation Plan (RTP) comprehensively assesses all forms of transportation available in Fresno County, as well as travel and goods movement needs through 2042. Fresno COG’s first Regional Transportation Plan was adopted in 1975. Updated editions have been published every four years per federal statutes refinements of the original and subsequent plans. The Fresno County RTP provides guidance for the establishment of a coordinated transportation system for the greater Fresno County area. The plan is intended to connect and improve the regional transportation network of freeways, public transit, and roadways for both present and future residents. The RTP provides an action plan of projects and programs to address needs consistent with adopted transportation policies (Fresno COG, 2017).

Fresno County General Plan

The Fresno County General Plan Transportation and Circulation Element provides a framework for a balanced, multimodal transportation system for the movement of people and goods within the unincorporated areas of the county (2000). The Transportation and Circulation Element reflects the urban and rural nature of Fresno County. The element establishes standards that guide the development of the transportation system and management of access to the highway system by new development, throughout the unincorporated areas of the county. Policies in the Transportation and Circulation Element seek to create a unified, coordinated, and cost-efficient countywide street and highway system by maintaining and rehabilitating existing roads, maintaining an acceptable level of service (LOS), coordinating improvements with other local jurisdictions, maintaining adequate funding, and providing multi-modal uses where appropriate along street and highway corridors.

Fresno County Bicycle Master Plan

Fresno County is currently working on developing an extensive regional bikeway and recreational trail network that connects cities and unincorporated areas countywide (Fresno County, 2013). Recreational bicycling and other nonmotorized forms of transportation (e.g., hiking, equestrian) are generally localized, although there are a few existing segments of Class I (pathway separated

from the roadway) and Class II (designated bike lane adjacent to roadway) recreational trails in the county, primarily located in the urban Fresno area.

4.17.3 IMPACT QUESTIONS

4.17.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Transportation come from the California Environmental Quality Act (CEQA), Appendix G, Environmental Checklist. According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

- Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities; or
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b); or
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

4.17.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 1995) the following additional CEQA Impact Questions required for Transportation.

- Would the project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?
- Would the project interfere with walking or bicycling accessibility?
- Would the project substantially delay public transit?

4.17.4 IMPACT ANALYSIS

4.17.4.1 Impact Analysis

Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less-Than-Significant Impact. Though CPUC has jurisdiction over the Proposed Project, this analysis considers the local land use plans and policies, per CPUC General Order 131-D, Section III.C. Therefore, the applicable programs, plans, ordinances, and policies for the purposes of this analysis include the Fresno COG RTP, Fresno County General Plan, and the Fresno County Bicycle Master Plan.

All construction vehicles and equipment would enter the Proposed Project site via West Jayne Avenue. Vehicles would turn north onto the north-south access road from West Jayne Avenue

into the Proposed Project area. Therefore, construction of the Proposed Project would involve a small, temporary increase in the number of vehicles along West Jayne Avenue primarily due to the transport of heavy equipment and materials to and from the Proposed Project site, as well as construction personnel vehicles. As discussed in **Section 3.6.3, Construction Traffic**, peak vehicle trips would be from approximately March 2022 through August 2022, during the earthwork grading and below-grade construction of the Proposed Project due to the hauling away or importation of fill. Total vehicle trips during this time period would be approximately 45 roundtrips per day, consisting of approximately 25 truck trips and 20 worker trips. Daily truck roundtrips include approximately 18 dump trucks (14 fill/rock deliveries and four excess material haul off), four water trucks, and three equipment delivery trucks. Off-peak periods of construction (September 2022 to December 2023) would have lower average worker vehicle trips and would, therefore, have correspondingly lower impacts. Total vehicle trips during the off-peak period would be approximately 20 roundtrips per day, consisting of approximately 10 truck trips (four water trucks and five equipment delivery trucks) and 10 worker trips.

As discussed above, the daily traffic volumes for West Jayne Avenue between I-5 and SR 269 was estimated to be 3,590 AADT in 2018. As such, the anticipated trips associated with construction of the Proposed Project would represent 1.26% of the estimated traffic volume of West Jayne Avenue.

Although some disruption to traffic flow may occur when the proposed telecommunication line is installed and when trucks ingress or egress from the north-south access road to West Jayne Avenue, such events would be periodic and temporary. Traffic control procedures may be implemented along West Jayne Avenue during construction and times of deliveries. Potentially, one-lane may need to be temporarily closed during installation of the telecommunication line and when equipment is being delivered to the Proposed Project site. These restrictions would be temporary, and detours are not anticipated to be necessary. However, to minimize potential impacts resulting from trucks ingress or egress from the north-south access road to West Jayne Avenue and access road improvements, and a traffic control plan **Applicant Proposed Measure (APM TRA-1)** would be implemented.

Trips associated with daily construction personnel traffic are not anticipated to disrupt traffic flow along West Jayne Avenue. Many workers would be reverse commuting, traveling away from metropolitan areas of Fresno County and neighboring counties towards a rural one in the morning, and then returning in the evening. In addition, parking of personal vehicles would occur within the staging area and, therefore, would not encroach upon public roadways.

The Proposed Project would result in a negligible number of additional vehicle trips during operation because the new facility would be unstaffed and remotely monitored. If equipment malfunctions, O&M personnel would be dispatched to the site to investigate the problem and take appropriate corrective action.

In addition, no alternative modes of transportation such as rail, bus, or bicycle traffic or pedestrian circulation patterns would be altered or adversely affected by construction or O&M of the Proposed Project. The Coalinga Intercity Transit route that utilizes West Jayne Avenue once per day could face a brief delay during construction deliveries; however, this would be short-term and flaggers or other traffic control measures would be utilized. There are no existing rail, bus, bicycle, or pedestrian facilities or paths present on West Jayne Avenue. No improvements to West Jayne

Avenue are associated with the Proposed Project, and therefore, future plans for a Class II Rural Bikeway would not be impacted.

As truck traffic would occur on a county-maintained roadway, a county of Fresno Traffic Control Permit and traffic control plan may also be required, which would ensure potential impacts to traffic congestion are further reduced. Therefore, because the anticipated trips associated with construction of the Proposed Project would represent slightly more than one percent of the estimated roadway capacity of West Jayne Avenue, and with implementation of **APM TRA-1** and compliance with local permits, construction and O&M of the Proposed Project would not conflict with the Fresno COG RTP, Fresno County General Plan, and the Fresno County Bicycle Master Plan. Project-generated traffic would be temporary, periodic, and managed with a traffic control plan, and existing roadways would not be permanently degraded. Therefore, less-than-significant impacts would occur.

Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less-Than-Significant Impact. Section 15064.3 was added to the CEQA Guidelines to provide guidance for determining the significance of transportation impacts. This section provides criteria for determining a project's transportation impacts, including for land use projects (15064.3(b)(1)) and transportation projects (15064.3(b)(2)). The Proposed Project is not a traditional land use project that would generate VMT on a regular basis, and the county has not developed a threshold of significance for VMT. Therefore, Criteria 1 is not applicable to the Proposed Project. The Proposed Project is also not a transportation project, and Criteria 2 would not be applicable. Therefore, for the Proposed Project, a qualitative analysis of transportation impacts is provided (15064.3(b)(3)).

As discussed in **Section 4.17.1.3, Transit and Rail Services**, there are no transit stops or stations located within 0.5 mile of the Proposed Project; the nearest transit stop is 3.8 miles away in the city of Huron. As discussed in **Section 3.6, Construction Workforce, Equipment, Traffic, and Schedule**, the peak employment is anticipated to be approximately 20 workers per day, but on average, the workforce on site would be less. Total vehicle roundtrips during this time would be approximately 45 per day, consisting of approximately 25 truck trips and 20 worker trips. Therefore, the Proposed Project can be considered a low trip generator because it would generate fewer than 500 daily trips (Fresno COG, 2020).

Local labor would be used to the maximum extent practicable. According to the Fresno COG VMT Project Screening Map, the Proposed Project site is located within an area that has an average VMT per employee of 48.52 (Fresno COG, 2020). A 50-mile radius around the Proposed Project site includes parts of Fresno, Visalia, Tulare, and many other smaller cities and towns. Therefore, it is estimated that workers would commute to and from the Proposed Project site daily at an average one-way distance of approximately 50 miles. Given the rural nature of the Proposed Project location, the VMT for construction would be comparable to other rural uses in the county. Workers employed in the rural areas typically use strategies to reduce their reliance on single occupancy vehicles, such as vanpools and carpools, and, thus, reduce their commute costs. LS Power Grid California, LLC (LSPGC) would also encourage carpooling to the greatest extent possible. As outlined in **Table 3-6, Estimated Average Daily Construction Traffic**, the highest average VMT would occur during the below-grade construction phase. The estimated total daily average VMT of 1,900 miles during below-grade construction would last for approximately three

months and would not be considered substantial given the current traffic conditions in the vicinity of the Proposed Project area. The Proposed Project would be operated remotely and, therefore, would generate a negligible amount of VMT.

Implementation of the Proposed Project would generate vehicle trips predominantly during construction activities and would not result in any long-term increase in VMT. While no VMT thresholds have been established by Fresno County, according to the Fresno COG, the Proposed Project is likely to have a less-than-significant impact on regional VMT because construction would generate fewer than 500 daily trips (Fresno COG, 2020). Therefore, the Proposed Project would not result in transportation impacts related to increased VMT and would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, less-than-significant impacts would occur.

Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-Than-Significant Impact. The Proposed Project would involve roadway improvements and widening of the east-west and north-south access roads and the construction of a new all-weather road that would provide internal access to the STATCOM Substation facility. These road improvements and construction of a new road would not include any design features that would substantially increase traffic hazards, such as sharp curves or dangerous intersections. The north-south access road's paved intersection with West Jayne Avenue would be designed to all applicable Fresno County standards for new driveway approaches. In addition, the Proposed Project does not include incompatible uses to existing roads, such as farm equipment. Large construction trucks at local intersections would present temporary, limited-duration changes to driving conditions, as the trucks travel back and forth to the construction site. The new facility would be unstaffed and remotely monitored during operation.

LSPGC would prepare **APM TRA-1** that would describe actions to be taken during construction activities to guide traffic (e.g., signs, workers directing traffic), safeguard construction workers, provide safe passage, and minimize traffic impacts. Therefore, implementation of the Proposed Project would not substantially increase traffic hazards and would not introduce any incompatible uses to the area. Therefore, less-than-significant impacts would occur.

Would the project result in inadequate emergency access?

Less-Than-Significant Impact. Construction of the Proposed Project would not require full closure of any roads. Partial and temporary lane closures may be required along West Jayne Avenue and the other private access roads for the telecommunication line installation and delivery or road widening activities; however, flaggers or other traffic control measures would be utilized to guide traffic around active work areas in a safe manner. Once within the Proposed Project site, construction vehicles would operate within the footprint of the site and would not encroach onto adjacent public roads. LSPGC would also develop **APM TRA-1** to ensure that access is not impeded during construction.

Therefore, in the event of an emergency, vehicles inside the construction area would be able to access West Jayne Avenue to the south or the network of all-weather access roads to the north. In addition, access routes for emergency vehicles within and near the Proposed Project site would be maintained. West Jayne Avenue has a soft shoulder on both sides of the road that could be

used by traffic yielding to emergency response vehicles, and **APM TRA-1** would further assist with safe access during an emergency. No roads would be closed or impeded during operation because the new facility would be unstaffed and remotely monitored. Therefore, less-than-significant impacts would occur.

Would the project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?

Less-Than-Significant Impact. There are no pedestrian or bicycle facilities, such as walkways, trails, paths, or designated bike routes, near the Proposed Project area. There are no public transit stations or stops near the Proposed Project area, and the Coalinga Intercity Transit route that utilizes West Jayne Avenue runs once per day. Vehicular access is the primary mode of transportation near the Proposed Project area.

As discussed above, traffic control procedures may be implemented along West Jayne Avenue during construction and times of deliveries, and public access may be restricted. These restrictions would be temporary, and detours are not anticipated to be necessary. Flaggers or other traffic control measures would be utilized to guide traffic around active work areas in a safe manner. In addition, implementation of **APM TRA-1** would require LSPGC to implement standard safety practices and recommendations for safe traffic movement, which would also further reduce the potential for hazardous traffic conditions during construction activities.

In addition, no alternative modes of transportation such as rail, bus, or bicycle traffic or pedestrian circulation patterns would be altered or adversely affected by long-term O&M activities. Therefore, given the low likelihood of pedestrians and bicyclists, as well as the traffic control measures that would be implemented, less-than-significant impacts would occur.

Would the project interfere with walking or bicycling accessibility?

Less-Than-Significant Impact. As discussed above, there are no existing (or planned) pedestrian or bicycle facilities, such as walkways, trails, paths, or designated bike routes, near the Proposed Project area. Therefore, pedestrians and bicyclists are unlikely to utilize roads near the Proposed Project area. In addition, as discussed above, **APM TRA-1** would be implemented to ensure access along West Jayne Avenue is not impeded during construction. Operation of the Proposed Project would primarily be conducted remotely, and no changes to existing access would occur. Therefore, the Proposed Project would not interfere with walking or bicycling accessibility and less-than-significant impacts would occur.

Would the project substantially delay public transit?

Less-Than-Significant Impact. As discussed above, there are no public transit stations or stops near the Proposed Project area, and the Coalinga Intercity Transit route that utilizes West Jayne Avenue runs once per day. Slight delays to this transit route may occur if supplies are delivered at the same time and require the temporary closure of one-lane. However, flaggers or **APM TRA-1** would be utilized to guide traffic around active work areas in a safe manner. If a delay to the one public transit route occurs, it would be periodic and temporary. Therefore, less-than-significant impacts would occur.

4.17.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Transportation.

4.17.6 APPLICANT PROPOSED MEASURES

The following transportation specific APM would be implemented on the Proposed Project.

APM TRA-1

LSPGC would prepare a Traffic Control Plan to describe measures to be taken to guide traffic (such as signs and workers directing traffic), safeguard construction workers, provide safe passage, and minimize traffic impacts. LSPGC would follow its standard safety practices as needed, including installing appropriate barriers between work zones and transportation facilities, posting adequate signs, and using proper construction techniques. LSPGC would follow the recommendations in this manual regarding basic standards for the safe movement of traffic on highways and streets in accordance with Section 21400 of the California Vehicle Code. If required for obtaining a local encroachment permit, LSPGC would establish a Traffic Management Plan (TMP) to address haul routes, timing of heavy equipment and building material deliveries, potential street and/or lane closures, signing, lighting, and traffic control device placement. Construction activities would be coordinated with local law enforcement and fire protection agencies. Emergency service providers would be notified as required by the local permit of the timing, location, and duration of construction activities

4.18 TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or			X	
b.	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			X	

This section describes the Tribal Cultural Resources within the area of the Proposed Project, as well as potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.18.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

Area of Potential Effects

Pursuant to 36 Code of Federal Regulations [CFR] 800.4(a) (1), an area of potential effects (APE) is the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties eligible for listing in the National Register of Historic Places (NRHP).

Record Search Area

The Record Search Area consists of the APE plus a buffer of one mile. The buffer is included during background research to identify any previous studies or previously recorded historic or archaeological resources in the wider project area.

4.18.1.1 Outreach to Tribes

A Sacred Lands File (SLF) search request of the Proposed Project area was submitted to the Native American Heritage Commission (NAHC) on June 30, 2020. The SLF search was returned by the NAHC with negative results on July 1, 2020 (**Appendix 4.18-A**). The NAHC provided a list of Native American contacts who may be able to supply information pertinent to the Proposed Project area (**Appendix 4.18-B**). Each of the 13 individuals listed were contacted by mail or email sent on July 2, 2020 (**Table 4.18-1, Tribal Contacts**). Copies of the letters are included in **Appendix 4.18-C**.

Table: 4.18-1 Tribal Contacts						
Name	Affiliation	Initial Contact	Initial Reply	Follow-up Contact	Follow-up Reply	Comments
Elizabeth D. Kipp, Chairperson	Big Sandy Rancheria of Western Mono Indians	Email 7/2/2020	Email 7/2/2020	Phone 7/29/2020	None	No comment, please inform of discoveries
Carol Bill, Chairperson	Cold Springs Rancheria Mono	Email 7/2/2020	None	Phone 7/29/2020	None	--
Robert Ledger Sr., Chairperson	Dumna/Foothill Yokuts Mono	Email 7/2/2020	Email 7/8/2020	Email 7/14/2020	Email 7/14/2020	Provided confidential tribal knowledge
Benjamin Charley Jr., Tribal Chair	Dunlap Band of Mono Indians	Email 7/2/2020	None	Phone 7/29/2020	None	--
Dirk Charley, Tribal Secretary	Dunlap Band of Mono Indians	Email 7/2/2020	None	Phone 7/29/2020	Phone 7/29/2020	Deferred to closer tribe
David Alvarez, Chairperson	Traditional Choinumni Tribe	USPS 7/2/2020	None	Phone 7/29/2020	None	--
Rick Osborne, Cultural Resources	Traditional Choinumni Tribe	Email 7/2/2020	None	Phone 7/29/2020	None	--
Kenneth Woodrow, Chairperson	Foothill Yokuts – Mono – Wuksache	Email 7/2/2020	None	Phone 7/29/2020	None	--
Stan Alec	Foothill Yokuts – CA Choinumni	USPS 7/2/2020	None	Phone 7/29/2020	None	--
Ron Goode, Chairperson	North Fork Mono Tribe	Email 7/2/2020	None	Phone 7/29/2020	None	--
Leo Sisco, Chairperson	Tache Tachi Yokut	USPS 7/2/2020	None	Phone 7/29/2020	None	--
Leanne Walker-Grant, Chairperson	Table Mountain Rancheria – Yokuts	Email 7/2/2020	None	Phone 7/29/2020	None	--
Bob Pennell, Cultural Resources Director	Table Mountain Rancheria – Yokuts	Email 7/2/2020	None	Phone 7/29/2020	None	--

To date, three contacts have responded to outreach efforts. On July 2, 2020, Big Sandy Rancheria Tribal Chairperson Elizabeth D. Kipp wrote that they have no comment on the Proposed Project but would like to be notified of any cultural discoveries. On July 8, 2020, Dumna Wo-Wah Tribal Government Chairman Robert G. Ledger, Sr. replied by email and provided confidential tribal knowledge that indicates a high likelihood of buried artifacts in the Proposed Project area, that they would like a monitor on site during ground disturbing activities, and that they would like to participate in official consultation regarding the Proposed Project. The details of Chairman Ledger's confidential tribal information are on file with PanGIS and are summarized below in **Section 4.18.1.2, Tribal Cultural Resources – Identification via Tribal Representatives**. On July 29, 2020, Tribal Liaison Dirk Charley said that the Proposed Project is outside the area of interest of the Dunlap Band of Mono Indians and they defer to a closer tribe.

4.18.1.2 Tribal Cultural Resources

No Tribal Cultural Resources (TCRs) were identified through publicly available documentary resources or archaeological surveys. However, potentially unrecorded TCRs were identified through communication with tribal representatives. The sections below describe the methods and results employed to identify TCRs within or adjacent to the Proposed Project APE.

Identification via Records Search and Historical Research

A record search was conducted to determine if any tribal cultural resources listed or potentially eligible for listing on the NRHP or California Register of Historic Resources (CRHR) were present within or immediately adjacent to the APE. The record search request was submitted by Digtech to the Southern San Joaquin Valley Information Center (SSJVIC) and was fulfilled on May 13, 2019.

Materials consulted by the SSJVIC included prehistoric and historic archaeological resource and report databases, California Office of Historic Preservation (OHP) Historic Properties Directory, NRHP, CRHR, California Historical Landmark, California Historical Points of Interest, California Inventory of Historic Resources, and Archaeological Determinations of Eligibility. The record search area included a one-mile buffer of the APE.

PanGIS consulted historical maps of the record search area including the original survey plat map of 1855 (Bureau of Land Management, 2020), historical topographic maps (US Geological Survey [USGS] 1:125,000 Coalinga 1912; USGS 1:62,500 Gujarral Hills 1933, 1936, and 1937, Huron 1933 and 1937, and Polvadero Gap 1942; USGS 1:24,000 Gujarral Hills 1956 and 1971 and Huron 1956 and 1971) (USGS, 2020), and historic aerial photographs (1963, 1969, 1994, 2005, 2009, 2010, and 2012) (NETROnline, 2020).

The record search identified no prehistoric or ethnographic archaeological sites or traditional cultural resources within or adjacent to the APE. The review of historic maps agrees with the development history of the west side of Fresno County. On the 1855 survey map, nothing is shown in the Proposed Project area. The nearest feature is a wagon road segment approximately 3.5 miles to the northeast. No Native American sites, villages, or place names are shown on historic maps within or adjacent to the APE.

Identification via Archaeological Survey

A cultural resources pedestrian survey of the Proposed Project site and surrounding parcel was conducted on May 18, 2019 by Digtech Principal Investigator Chris Webster, M.S., RPA. There is no portion of the APE that is not plowed and/or heavily disturbed. Ground visibility was excellent throughout the survey area. No prehistoric or ethnohistoric archaeological resources or TCRs were located during the surface survey. Detailed survey methods and results are described in the *Cultural Resource Technical Report for the Gates 500 kV Dynamic Reactive Support Project, Fresno County, California* (Mengers, 2020).

Identification via Tribal Representatives

As detailed above in **Section 4.18.1.1, Outreach to Tribes**, Dumna Wo-Wah Tribal Government Chairman Robert G. Ledger, Sr. replied by email to outreach efforts conducted as part of the SLF search for the Proposed Project. Chairman Ledger provided confidential tribal knowledge that the Proposed Project area was historically used for habitation, resource collection, and ceremonial purposes and that there is a high likelihood of buried tribal cultural resources in the Proposed Project area (Ledger, 2020). The details of Chairman Ledger's confidential tribal information are on file with PanGIS.

4.18.1.3 Ethnographic Study

The Proposed Project is located at the western edge of the San Joaquin Valley at the base of the eastern foothills of the Diablo Range. It is located within the Tulare Lake Basin watershed, a component of the San Francisco Bay Delta watershed. Major rivers in the watershed, including the Kings, Tule, and Kern Rivers, come out of the Sierra Nevada Mountains. Drainages on the west side of the San Joaquin Valley are small and widely dispersed compared to those on the Sierra slopes. The Proposed Project site and surrounding parcel are currently in use for agricultural production, including mature vineyards and row crops surrounded by dirt roads.

Prehistory

Most Late Pleistocene landscapes in the San Joaquin Valley have been destroyed or buried by Holocene-epoch erosion and deposition, while most surface sites, including village mounds, have been obliterated by erosion and agricultural development. Thus, very few archaeological sites exist throughout the Central Valley prior to 2,500 Before the Common Era (BCE) and the cultural-historical framework, especially in the southern San Joaquin Valley, is poorly defined (Rosenthal et al., 2010).

Paleo-Indian Period (11,550-8,550 BCE)

Investigation within remaining Pleistocene deposits in the southern San Joaquin Valley indicates occupation dates between 11,550 BCE-9,550 BCE, based on a large cache of Clovis-like concave base projectile points in the Tulare Lake basin (Rosenthal et al., 2010).

Lower Archaic Period (8,550-5,550 BCE)

Archaeological sites in the San Joaquin Valley are extremely limited in this period due to significant alluvial depositions circa 9050 BCE and 5550 BCE; however, stone tool assemblages from the Tulare Lake basin resemble those from the Great Basin area (Rosenthal et al., 2010).

Middle Archaic Period (5,550-550 BCE)

A warmer and drier climate during this period led to lake desiccation in the San Joaquin Valley while rising sea levels created the Sacramento-San Joaquin delta to the north. Distinct foothill and valley settlement-subsistence patterns are evidenced, as is stable, year-round residence along rivers and well-established trade networks. The Windmill Pattern of oriented and extended burials likely developed in this period, possibly in the San Joaquin Valley (Rosenthal et al., 2010). Intensification of subsistence practices is indicated by new fishing technologies, increased ground stone use, and expansion of manufacturing industries.

Upper Archaic Period (550 BCE-AD 1100)

A cooler, wetter, and more stable environment during this period led to the return of lakes in the San Joaquin Valley. Village mounds appear in the Delta region after 700 BCE, while Windmill descendants are evident in the San Joaquin Valley through the end of the period. A sharp population increase throughout the Central Valley after 500 BCE was accompanied by more reliance on fishing, acorn processing, and soft technology. Southern San Joaquin Valley sites are rare, although they indicate year-round villages and aquatic and terrestrial resource exploitation (Rosenthal et al., 2010).

Emergent Period (AD 1100-Historic)

Evidence exists for continued increase of population and social complexity across the Central Valley during this period, including a transition to cremation, decentralization of production, and development of a monetized system of exchange. Villages expanded along foothill streams, valleys, rivers, and sloughs. While there is little direct evidence of plant use in the San Joaquin Valley, mortars and pestles were common elsewhere in the Central Valley after 1000 AD, and fish- and plant-based subsistence strategies dominated. This period saw the introduction of bows and arrows and pottery to the region, especially in the eastern foothills. At the time of European contact, 15 tribal groups, collectively referred to as Yokuts, occupied the southern San Joaquin Valley (Wallace, 1978).

Ethnography

The southern San Joaquin Valley and lower foothills were inhabited by Yokuts tribes that were linguistically related to the California Penutian language family of central and coastal California (Silverstein, 1978). The Southern Valley Yokuts' homeland stretched from present-day Fresno to south of Bakersfield and encompassed Tulare, Buena Vista, and Kern Lakes and the surrounding sloughs and marshes. Southern Valley Yokuts' lifeways were closely linked to the lake/slough/marsh environmental setting.

Subsistence was centered on fish, primarily lake trout and anadromous fish. Nets strung between tule rafts and shore poles were employed, as well as hand nets, basket traps, and spears. Fish

were generally broiled on hot coals or sun dried. Reliance on game was low, although roasted turtles were favored, and snares and nets were used to catch waterfowl. Plant foods included ground tule roots and seeds, as well as grassnut roots and clover. Acorns were acquired by trading fish with tribes farther east. Single-family huts, granaries, and sweathouses were constructed of tule mats over wood frames. Tule was also used for baskets and other crafts, including watercraft (Silverstein, 1978).

Social organization was based on the biological family, patrilineal totemic lineages, and exogamous totemic lineage, and was divided into moieties for rituals and games. Significant life-cycle rituals included birth, puberty, marriage, and death; group rituals included an annual six-day festival honoring the dead, first-fruit rites, and a springtime Datura rite. No political unity existed between tribes; instead, they were organized into self-governing miniature tribes of about 350 people, each with a different dialect. Tribal land, covering on average about 250 square miles, was owned collectively; any member could use its resources. Population of the Southern Valley Yokuts at European contact is estimated at 15,000. Most tribes were spread across several settlements, with one dominant larger village (Wallace, 1978).

The plains and foothills of the west side of the San Joaquin Valley were occupied by several Southern Valley Yokuts tribes, the largest of which was the Tache. The Tache wintered at the village of Poza Chaná, five miles southwest of present-day Huron (3.5 miles northwest of the Proposed Project site). Poza Chaná functioned as a trading village, where tribes from the coast would come inland to trade shell beads and other ocean resources for obsidian, soapstone beads, and seeds (Breschini and Haversat, 1987). According to confidential tribal knowledge provided by the Dumna Wo-Wah Tribal Government, the Proposed Project area was historically used for habitation, resource collection, and ceremonial purposes (Ledger, 2020).

History

Spanish Period (1772–1822)

The earliest recorded European entry into the southern San Joaquin Valley was the Pedro Fages expedition of 1772. The Francisco Garcés expedition of 1776 terminated approximately 20 miles north of present-day Bakersfield. The 1806 Gabriel Moraga-Fr. Pedro Muñoz expedition reached the Tule River and the Koyeti village of Chokowesho, near present-day Porterville. Records of contact with and impact on Native Americans are minimal from this period; no ranchos were established in the San Joaquin Valley. However, almost all the Yokuts along the plains and foothills of the west side of the San Joaquin Valley had been taken to the Spanish missions on the Pacific coast (Breschini and Haversat, 1987). The region was used as a rendezvous point for neophytes fleeing the Mission system, which resulted in the transmission of some foreign native and European culture and physiological threats to the area.

Mexican Period (1822–1848)

Most European activity in the region during the Mexican period consisted of punitive expeditions to recover or acquire livestock, thieves, or enslaved people. Expeditions by fur trappers, traders, and explorers during this period included those led by Jedidiah Smith (1827), Kit Carson (1830) and John Fremont (1844). European influence during this period increased, as evidenced by the 1833 malaria epidemic which exterminated most remaining Yokuts west of the San Joaquin River (Breschini and Haversat, 1987).

American Period (1848–Present)

The San Joaquin Valley was on the primary wagon route from the eastern United States to the California gold fields farther north in the Sierra Nevada foothills. Settlement in the region during the early American period primarily consisted of removal by force of Native Americans and the construction of trading posts and ferries at river crossings along the Los Angeles-Stockton road, most of which were established by 1850. Remaining Native Americans were removed to reservations, including the Sebastian (Tejon) Indian Reservation (1853-1864) and the Fresno River Farm (1854-1860).

4.18.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.18.2.1 Regulatory Setting**Federal**

There are no applicable regulations for Tribal Cultural Resources that apply to the Proposed Project.

State***California Health and Safety Code and Public Resources Code***

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030). Several provisions of the Public Resources Code (PRC) also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered. Furthermore, Section 7050.5 of the California Health and Safety Code states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in PRC Section 5097.99. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological, Paleontological, and Historical Sites, defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor. A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

Assembly Bill 52

Assembly Bill 52 (AB 52) was approved by California Governor Edmund Gerald “Jerry” Brown, Jr. on September 25, 2014. The act amended PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) is filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under the California Environmental Quality Act (CEQA), known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact or a tribal representative of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the tribe’s request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an Environmental Impact Report (EIR) or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public

without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Confidentiality does not, however, apply to data or information that are, or become publicly available, are already in lawful possession of the project applicant before the provision of the information by the California Native American tribe, are independently developed by the project applicant or the project applicant's agents, or are lawfully obtained by the project applicant from a third party that is not the lead agency, a California Native American tribe, or another public agency (PRC Section 21082.3(c)(2)(B)).

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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. In any event, there are no County regulations for Tribal Cultural Resources that would apply to the Proposed Project.

4.18.3 IMPACT QUESTIONS

4.18.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Tribal Cultural Resources come from the CEQA, Appendix G (as amended in December 2019), Environmental Checklist. According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1 (k); or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of

Public Resources Code Section 50421.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.18.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Tribal Cultural Resources.

4.18.4 IMPACT ANALYSIS

4.18.4.1 Impact Analysis

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1 (k)?

Less-Than-Significant Impact. There are no recorded TCRs within the APE. However, confidential tribal knowledge indicates that there is a high likelihood of unrecorded subsurface TCRs within the APE. The Proposed Project would entail excavation that might encounter TCRs that are eligible for listing in the CRHR or in a local register. **Applicant Proposed Measure (APM) CUL-1** (Development and Implementation of a Worker Environmental Awareness Program), **APM CUL-3** (Archaeological and Native American Monitoring), and **APM CUL-4** (Unanticipated Discovery of Potentially Significant Prehistoric and Historic Resources) would reduce impacts to less than significant if previously unidentified TCRs are encountered during construction. **APM CUL-2** (Cultural Resources Inventory) would reduce impacts to less than significant if the Proposed Project APE is expanded or adjusted. Based on confidential tribal knowledge provided during background research, unrecorded human remains may be present within the APE. If encountered, **APM CUL-5** (Unanticipated Discovery of Human Remains) would ensure that impacts to human remains are reduced to less than significant.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 50421.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less-Than-Significant Impact. There are no recorded TCRs within the APE. However, confidential tribal knowledge indicates that there is a high likelihood of unrecorded subsurface TCRs within the APE. The Proposed Project would entail excavation that might encounter TCRs that may be determined significant by the lead agency. **APM CUL-1** (Development and

Implementation of a Worker Environmental Awareness Program), **APM CUL-3** (Archaeological and Native American Monitoring), and **APM CUL-4** (Unanticipated Discovery of Potentially Significant Prehistoric and Historic Resources) would reduce impacts to less than significant if previously unidentified TCRs are encountered during construction. **APM CUL-2** (Cultural Resources Inventory) would reduce impacts to less than significant if the Proposed Project APE is expanded or adjusted. Based on confidential tribal knowledge provided during background research, unrecorded human remains may be present within the APE. If encountered, **APM CUL-5** (Unanticipated Discovery of Human Remains) would ensure that impacts to human remains are reduced to less than significant.

4.18.4.2 Information Provided by Tribes

Currently, there are no recorded TCRs within the Proposed Project APE. However, confidential tribal knowledge indicates that there is a high likelihood of unrecorded subsurface TCRs within the APE. If undocumented subsurface TCRs are present in the APE, Proposed Project ground disturbing activities might cause a substantial adverse change in the significance of these TCRs. **APM CUL-1** (Development and Implementation of a Worker Environmental Awareness Program), **APM CUL-3** (Archaeological and Native American Monitoring), and **APM CUL-4** (Unanticipated Discovery of Potentially Significant Prehistoric and Historic Resources) would reduce impacts to less than significant if previously unidentified TCRs are encountered during construction. **APM CUL-2** (Cultural Resources Inventory) would reduce impacts to less than significant if the Proposed Project APE is expanded or adjusted. Based on confidential tribal knowledge provided during background research, unrecorded human remains may be present within the APE. If encountered, **APM CUL-5** (Unanticipated Discovery of Human Remains) would ensure that impacts to human remains are reduced to less than significant.

4.18.5 CPUC DRAFT ENVIRONMENTAL MEASURES

There are no CPUC Draft Environmental Measures suggested for Tribal Cultural Resources.

4.18.6 APPLICANT PROPOSED MEASURES

The Tribal Cultural Resources specific APMs are listed in **Section 4.5, Cultural Resources**.

4.19 UTILITIES AND SERVICE SYSTEMS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
c.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d.	Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X
f.	Increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts?			X	

This section describes the Utility and Service Systems in the vicinity of the Proposed Project, as well as the potential impacts that could result from construction and operation and maintenance (O&M) of the Proposed Project.

4.19.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The lands to the north, east, and west of the Proposed Project site are primarily used for agricultural purposes with no development, and the existing PG&E Gates Substation is located to the south.

The Fresno County General Plan (Fresno County, 2000), Fresno County Ordinance Code (2010), California Code of Regulations (CCR), and local relevant websites were reviewed for regulatory information and for background information related to water, gas and electrical, sewer, stormwater, and telecommunication service providers for the Proposed Project site.

There are no existing utility and service systems that currently serve the Proposed Project site, and the Proposed Project would not result in any changes to the use of utilities and service systems within the Proposed Project area. Similarly, the new Proposed Project facilities and interconnection transmission lines associated with the Proposed Project would be unmanned and remotely controlled and would require little or no use of utility and service systems.

4.19.1.1 Utility Providers

The following identifies the existing utility providers and the associated infrastructure that serves the Proposed area.

Water

Unincorporated areas of Fresno County receive municipal and industrial water from one of approximately 370 water service providers. However, private wells are used primarily in Fresno County, including the Proposed Project area (more than 19,000 permits have been issued for private wells in Fresno County since 1976) (Fresno Bee, 2019). Westlands Water District is the largest agricultural water district in the United States and is the primary source of irrigation water used for lands in the Proposed Project area (Westlands Water District, 2020). Water would be required for construction and would be trucked into the Proposed Project site from available local sources. The Proposed Project would not require a distribution water connection for O&M activities.

Gas and Electrical

PG&E provides electrical power and natural gas to Fresno County. The adjacent PG&E Gates Substation is an integral part of the Central Valley 500 kilovolt (kV) transmission system importing and exporting electricity to other substations in the region. There are numerous local electrical distribution lines in the area that could serve the Proposed Project during construction and during O&M. The Proposed Project would tap into the existing PG&E distribution line that runs along the unpaved access road, east of the Proposed Project site, by constructing a new line that would extend approximately 1,200 feet to the west on approximately 20 wood poles.

PG&E also operates transmission and distribution level natural gas lines in the Proposed Project area. The Proposed Project would not require a natural gas distribution connection.

Sewer

There are approximately 80 special districts in unincorporated Fresno County that provide sewage collection and treatment (Fresno County, 2020). Of these, only 30 are also capable of providing wastewater services. Fresno County owns and operates 11 wastewater treatment facilities on behalf of water works districts and county service areas. If a public system is unavailable, many rural areas rely on private on-site septic systems for wastewater treatment and disposal. Accumulated solids pumped from on-site leach fields or leach pits can be disposed of at the

Fresno-Clovis Regional Wastewater Treatment and Reclamation Facility. Because the Proposed Project would be unmanned and would not generate wastewater, it would not connect to a wastewater collection system.

Stormwater

Stormwater drainage in the Proposed Project area generally percolates into pervious soils or drains to nearby roadside ditches. The adjacent PG&E Gates Substation has an on-site stormwater detention system that captures the majority of runoff on that site. The Proposed Project would implement an appropriate stormwater detention system commensurate with the impacts of the Proposed Project to retain stormwater on-site and would not require a connection to a regional stormwater conveyance system.

Telecommunications

Communications within the vicinity of the Proposed Project includes telephone service provided by AT&T, cable television service provided by several providers, including Dish Network and Direct TV, and several internet providers, including AT&T and HughesNet. The Proposed Project requires connections to telecommunication systems for O&M activities. The Supervisory Control and Data Acquisition (SCADA) system 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 (i.e., public right-of-way [ROW]) and then north along the Proposed Project's access roads, and finally into the Static Synchronous Compensator (STATCOM) Substation facility. The secondary telecommunication line 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.

4.19.1.2 Utility Lines

There is no known existing utility infrastructure on the Proposed Project site. Prior to initiating construction, LS Power Grid California, LLC (LSPGC) would contact Underground Service Alert (USA), also known as USA North 811, to locate previously identified underground utilities in the immediate area. In the event that underground utilities are identified, LSPGC would work with the owner of those utilities to determine relocation procedures and locations.

4.19.1.3 Approved Utility Projects

No utility projects, that are not yet constructed, have been approved for construction within the Proposed Project's ROW.

4.19.1.4 Water Supplies

As described in **Section 3.5.9, *Water Use and Dewatering***, the Proposed Project would not require water sources for O&M activities as the facility would be unmanned. Water used for

construction activities, such as for dust suppression and compaction requirements, would be trucked in from local sources within the city of Huron or the city of Coalinga, which are both provided water via the Westlands Water District. It is estimated that a total of up to approximately 740,000 gallons (2.2 acre-feet) of water would be used for construction purposes during the approximately 22-month course of the construction process. The Westlands Water District has an existing water capacity of 412,716 acre-feet per year to meet water use demands. The city of Coalinga receives 3,672 acre-feet of water per year, and the city of Huron receives 677 acre-feet of water per year (Westlands Water District, 2017).

4.19.1.5 Landfills and Recycling

Landfills within Fresno County (closest to the Proposed Project site) include the Avenal Regional Landfill, located in Avenal, and the American Avenue Disposal Site, located in Kerman. The Avenal Regional Landfill has a permitted throughput of 6,000 tons per day of agricultural, ash, construction/demolition, industrial and municipal waste and is expected to be operational until 2042. As of 2020, the Avenal Regional Landfill has approximately 48,180,000 tons of capacity available. The American Avenue Disposal Site has a permitted throughput of 2,200 tons per day of a variety of waste materials, including agricultural, asbestos, construction/demolition, industrial, mixed municipal, and tires and is expected to be operational until 2031 (California Department of Resources Recycling and Recovery, 2019). As of 2020, American Avenue Disposal Site has approximately 8,833,000 tons of capacity available. The American Avenue Landfill also provides an oil recycling program, a triple-rinse pesticide container recycling program, and a green waste recovery program. Fresno County operates a Recycling Market Development Zone for businesses using recyclable goods and has a used oil recycling program. LSPGC would implement recycling to the maximum extent practicable during its construction and O&M activities.

4.19.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.19.2.1 Regulatory Setting

Federal

There are no applicable regulations for Utility and Service Systems that apply to the Proposed Project.

State

California Integrated Waste Management Board

The Integrated Waste Management Act of 1989 (Public Resources Code [PRC] 40050 et seq.), administered by the California Department of Resources Recycling and Recovery, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. Senate Bill 1016 (2007) builds on Assembly Bill (AB) 939 by implementing simplified measures of performance toward meeting solid waste reduction goals.

California Government Code

Section 4216 of the California Government Code protects underground structures during excavation. Under this law, excavators are required to contact a regional notification center at least two days prior to excavation of any subsurface installations. In the Proposed Project area, USA is the regional notification center. USA notifies utility providers with buried lines within 1,000 feet of the excavation, and those providers are required to mark the specific location of their facilities prior to excavation.

The code also requires excavators to probe and expose existing utilities, in accordance with state law, before using power equipment. CCR Title 20 (2014) contains statutes relating to power plant siting and certification.

California Health and Safety Code § 25150.7(d)(1)

The Integrated Waste Management Act of 1989, also known as AB 939, mandates that California's jurisdictions divert 50 percent of their solid waste from landfills. CalRecycle is under the umbrella of the California Environmental Protection Agency (CalEPA) and is responsible for the implementation of AB 939.

California Code of Regulations (Title 27)

Title 27 of the CCR defines regulations for the treatment, storage, processing, and disposal of solid waste. The State Water Resources Control Board (SWRCB) maintains and regulates compliance with Title 27 of the California Code of Regulations. The compliance of the Proposed Project would be enforced by the Central Valley (Region 5) Regional Water Quality Control Board (RWQCB).

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (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" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but 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 policies and regulations pertaining to utility services for informational purposes and to assist with California Environmental Quality Act (CEQA) review. Although LSPGC is not subject to local discretionary permitting, ministerial permits would be secured as required.

Fresno County

The Fresno County Code of Ordinances Title 8, Chapters 8.25 (Construction and Demolition Debris Disposal Ban) and 8.28 (Industrial Waste) provides guidelines for removal and disposal of industrial waste materials, including fluids and solid materials incidental to the construction and O&M activities of the Proposed Project. Other Fresno County ordinances include Title 14, Chapter 14.13 (Regulation of Wastewater Discharge in the County of Fresno), that addresses stormwater runoff, and Title 15, which includes multiple chapters regarding building and construction guidelines.

4.19.3 IMPACT QUESTIONS

4.19.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Utilities and Service Systems come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; or
- Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years; or
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; or
- General solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.19.3.2 Additional CEQA Impact Question

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), the following additional CEQA Impact Questions are required for Utilities and Service Systems:

- Would the project increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts?

4.19.4 IMPACT ANALYSIS

4.19.4.1 Impact Analysis

Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-Than-Significant Impact. Proposed Project construction would require the temporary use of water and wastewater facilities by construction workers. Water used for construction activities, such as for dust suppression and compaction requirements, would be trucked in from an off-site location in the city of Huron or city of Coalinga. It is estimated that a total of up to approximately 740,000 gallons (2.2 acre-feet) of water, 37,000 gallons (0.1 acre-feet) per month, or 1,233 gallons (0.004 acre-feet) per day would be used for construction purposes during the 22-month construction process as discussed in **Section 3.5.9.1, Water Use**. Water used during construction activities would be temporary, minimal, and originate from local sources that have the existing capacity to service the Proposed Project's needs. Because the Proposed Project would be unmanned for O&M activities, it would not require a source of potable water.

During construction, wastewater service would be provided by portable toilets, and solid waste would be disposed at appropriately licensed off-site facilities. The construction workforce would be relatively small (maximum of approximately 20 workers on a given day), and only minimal water use and wastewater generation would be anticipated. Because the Proposed Project would be unmanned for O&M, it would not require wastewater treatment facilities.

The Proposed Project footprint would minimally increase the amount of impervious surface at the Proposed Project site. Construction of the Proposed Project would include a stormwater detention basin that would be designed for runoff for a 24-hour, 100-year storm and would be located within the northeastern portion of the site. It would be constructed in currently heavily cultivated farmlands and would not significantly impact any existing stormwater drainage patterns. During O&M activities, runoff from the site would drain to the basin where it would then filter through the underlying soils or evaporate. Runoff would be contained entirely on-site. The new basin would be designed to provide sufficient capacity to handle runoff from the Proposed Project facility. On-site stormwater would be managed consistent with the project-specific Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention Control and Countermeasure Plan (SPCCP).

For electric power, LSPGC would coordinate the appropriate distribution tap locations with PG&E, and it would require the construction of a new distribution line to the Proposed Project site. It is anticipated that distribution power would come from the existing PG&E distribution lines located on the eastern edge of the Proposed Project site. The extension of distribution power would result in the installation of approximately 20 wood poles along the Proposed Project's east-west access road. The impacts associated with this distribution line are addressed throughout this document. For the reasons discussed there, the construction of the new distribution line within a previously disturbed area (e.g., heavily cultivated farmlands) would result in less than significant impacts.

The Proposed Project would not require natural gas facilities. The STATCOM Substation would require new, redundant telecommunication facilities. The telecommunication lines would be installed underground and would be designed in order to avoid conflicts with existing utilities. As

such, installation of the telecommunication lines would not require the relocation of existing utilities. In addition, implementation of **Applicant Proposed Measure (APM) UTIL-1**, that would require all utility companies with utilities located on or crossing the Proposed Project site locate and mark existing underground utilities along their entire length, would ensure that impacts under this criterion would be less than significant.

Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. It is not anticipated that water would be needed for O&M activities since the STATCOM Substation facility would not have permanent on-site staff requiring water; therefore, no impacts would occur during O&M activities. Potable water would be supplied to construction workers for drinking and would be delivered to the Proposed Project site by construction vehicles and equipment. During construction, water would be used for dust control, compaction requirements, and worker needs. As described above, it is estimated that a total of approximately 740,000 gallons of water or 1,233 gallons (0.004 acre-feet) per day would be used for construction purposes during the 22-month construction process as discussed in **Section 3.5.9.1, Water Use**. The water would be trucked in from off-site locations in the city of Huron or city of Coalinga, both of which have adequate water supplies to serve the Proposed Project's needs in normal, dry, and multiple dry years; therefore, no new or expanded entitlements would be required to accommodate the Proposed Project's minimal, temporary, and short-term water needs. Additionally, the Proposed Project does not meet the criteria for consideration as a project subject to Water Supply Assessment Requirements under Water Code Section 10912 (State of California, 2016). Therefore, no impacts would occur under this criterion.

Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. Portable toilets would be provided for construction workers. Wastewater would be disposed of by a third-party wastewater disposal company at appropriately licensed facilities that have adequate capacity to accommodate the Proposed Project's needs. O&M activities would be unstaffed, and the Proposed Project would not have permanent sanitary facilities. Portable toilet facilities would not be needed on-site for use during O&M activities. Therefore, no impacts would occur under this criterion.

Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-Than-Significant Impact. Solid wastes generated during construction would primarily be non-hazardous wastes including wood, metal, paper, and plastic packaging. Construction debris volumes are estimated at total of approximately 300 cubic yards. The Proposed Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of Fresno County solid waste reduction goals. If possible, recyclable construction material would be transported to an approved recycling facility. Construction waste that cannot be recycled would ultimately be disposed of at the Avenal Regional Landfill or another approved facility. Construction waste would be disposed of properly and in accordance with all applicable federal, state, and local laws regarding solid and hazardous

waste including, but not limited to, the California Integrated Waste Management Act of 1989 which has set reduction rates for the amount of solid waste sent to landfills. It is not anticipated that existing wood poles would be removed or need to be disposed. The Avenal Regional Landfill has sufficient capacity to accommodate the amount of waste anticipated to be generated during construction activities.

The Proposed Project would be an unmanned facility and would generate minimal solid waste because workers would only periodically visit the site to perform O&M activities. Any waste generated by O&M activities would also be disposed at the Avenal Regional Landfill, which has ample capacity. Therefore, the Proposed Project would not generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure. Therefore, impacts would be less than significant.

Would the project comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. Construction and O&M activities of the Proposed Project would not be anticipated to generate a substantial amount of solid waste. As previously discussed, solid waste produced during construction would be disposed of at a nearby licensed landfill. Management and disposal of solid waste would comply with all applicable federal, state, and local statutes and regulations. As discussed in **Section 3.9.1, Decommissioning**, prior to removal or abandonment of the facilities, LSPGC would prepare a removal and restoration plan addressing the removal of the STATCOM Substation facility from the permitted area and any requirements for habitat restoration and revegetation which would need to be approved by the CPUC before being implemented. Thus, the Proposed Project would not violate any solid waste management and reduction statutes or regulations. Therefore, no impacts would occur under this criterion.

Would the project increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts?

Less-Than-Significant Impact. Alternating Current (AC) associated with overhead electric transmission lines can cause interference with AC protection, which could lead to accelerated corrosion on buried transmission pipelines located near a power line if the current density would exceed the design standards for protection of the metallic pipelines. The review of the Proposed Project area, including a property boundary survey of the Proposed Project parcel and an 811 utility identification request, did not identify any utility pipelines within the STATCOM Substation facility (the only location with overhead electric transmission lines). LSPGC would implement **APM UTIL-1** to further ensure impacts to any adjacent utility pipelines would be avoided. **APM UTIL-1** requires that all utility companies with utilities located on or crossing the Proposed Project site locate and mark existing underground utilities along their entire length. Therefore, impacts under this criterion would be less than significant.

4.19.5 CPUC DRAFT ENVIRONMENTAL MEASURES

The CPUC recommends **APM UTIL-1** Draft Environmental Measure for Utilities and Service Systems.

APM UTIL-1

The Applicant shall notify all utility companies with utilities located within or crossing the Proposed Project ROW to locate and mark existing underground utilities along the entire length of the Proposed Project at least 14 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-party utilities and underground excavations is less than five feet, the Applicant shall submit the intended construction methodology to the owner of the third-party utility for review and approval at least 30 days prior to construction. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.

4.19.6 APPLICANT PROPOSED MEASURES

No additional APMs would be implemented for Utilities and Service Systems because no impacts would occur.

4.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard security zones, would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b.	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c.	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

This section describes the potential wildfire hazards and impacts within the vicinity of the Proposed Project, as well as the potential impacts resulting from construction and operation and maintenance (O&M) of the Proposed Project.

4.20.1 ENVIRONMENTAL SETTING

The Proposed Project is located within an unincorporated area of Fresno County directly north of, and adjacent to, the Pacific Gas and Electric (PG&E) owned PG&E Gates Substation. The Proposed Project is located approximately 3.3 miles southwest of the city of Huron. The land to the north, east, and west of the Proposed Project is primarily used for agricultural purposes with no development and the existing PG&E Gates Substation is located to the south.

4.20.1.1 High Fire Risk Areas and State Responsibility Areas

Wildland fire protection in California is the responsibility of the state, local, or federal government. State responsibility areas (SRAs) are areas of the state in which the financial responsibility of preventing and suppressing fires has been determined to be primarily the responsibility of California Department of Forestry and Fire Prevention (CAL FIRE) (Section 4102 Public Resources Code). Local responsibility areas (LRAs) include incorporated cities, cultivated agriculture lands, and portions of the desert where fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government.

CAL FIRE adopted Fire Hazard Severity Zone (FHSZ) mapping for SRAs throughout the state (CAL FIRE, 2020a). These maps identify wildfire hazard zones and rate them as “moderate,” “high,” or “very high” based on fuel loading, slope, fire weather, and other relevant factors. Government Code Section 51175 requires CAL FIRE to also evaluate fire hazard severity in LRAs and to make a recommendation to the local jurisdiction where Very High Fire Hazard Severity Zones (VHFHSZ) exist. The Government Code then provides direction for the local jurisdiction to take appropriate action. To that end, CAL FIRE prepared Draft FHSZ maps for LRAs and prepared Recommended Maps, which identify VHFHSZ areas within LRAs.

The Proposed Project is located within an LRA but not a SRA (CAL FIRE, 2007a). The closest SRA to the Proposed Project is located approximately eight miles to the southwest near the city of Coalinga. This SRA is mapped as “moderate.” CAL FIRE has determined that Fresno County has no VHFHSZ in its LRA (CAL FIRE, 2020a). CAL FIRE has specifically mapped the Proposed Project site as being in an LRA Unzoned area (CAL FIRE, 2007b). See **Figure 4.20-1, Fire Hazard Severity Zones**.

In response to the California Public Utilities Commission’s (CPUC’s) Fire Safety Rulemaking, the CPUC mapped high fire threat areas where more stringent requirements would be implemented due to the elevated risk for power line fires. The CPUC High Fire Threat District Map identifies three tiers of elevated risk for fires associated with utilities. As shown in **Figure 4.20-2, CPUC Fire Threat Districts**, the Proposed Project site is not located within a CPUC designated Fire Threat District (CPUC, 2020).

LS Power Grid California, LLC (LSPGC) and PG&E have not independently identified High FHSZ areas within the vicinity of the Proposed Project.

4.20.1.2 Fire Occurrence

A “wildfire” is defined in Section 51177(j) of the California Government Code as “...an unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to extinguish the fire.”

CAL FIRE defines a “large fire” as being 300 acres or greater (CAL FIRE, 2010). The CAL FIRE Incident Archive was reviewed for large fires within a ten-mile radius of the Proposed Project area that have occurred since 2013¹. No large fires were documented in 2013, 2014, 2015, 2016, 2018, and 2019 (CAL FIRE 2013, 2014, 2015, 2016, 2018, and 2019a). The following is a list of large fires that were documented within a ten-mile radius of the Proposed Project area.

- The Jayne Fire was a grass fire that burned approximately 4,532 acres off of Highway 33 and south of Coalinga (CAL FIRE, 2017 and 2019b). The fire started burning on April 20, 2017 as a result of unknown causes, possibly from equipment use.
- There were two fires along Interstate 5 (I-5), one in 2017 and the other in 2020. Both were not under CAL FIRE jurisdiction. The 2017 fire began on August 24 and burned approximately 2,312 acres near Quebec Avenue, north of Avenal (CAL FIRE, 2017). The cause is unknown. The 2020 fire began on May 3 and burned approximately 2,060 acres near Avenal Cutoff, south of Fresno County line (CAL FIRE, 2020b). The cause is under investigation.

4.20.1.3 Fire Risk

Due to the Proposed Project’s location within a low fire risk area and surrounded by agricultural fields, fuel modeling and digital elevation models were not prepared. A summary of the average wind direction and speed, relative humidity, temperature, elevation, terrain, and vegetation is provided below.

Fresno County experiences mild seasonal variation over the course of the year. The windier part of the year lasts for approximately four months, from April to July, with average wind speeds of around 5.6 miles per hour (Weather Spark, 2020). The National Weather Service describes wind speeds between four and seven miles per hour as a Light Breeze (2020). The predominant average wind direction in Fresno varies throughout the year as well, with the most common direction being from the west. The humidity in Fresno County is relatively low and constant throughout the year, generally not exceeding 1% humidity levels. The region in which the Proposed Project is located has a climate characterized by warm to hot, dry summers while winters are characterized by mild temperatures and rain (City Data, 2020). The average temperatures in Fresno County are 39.6° F in January; 94.1° F in August; and an annual average of 62.5° F. The average annual precipitation in Fresno County is 9.86 inches.

Fresno County is located within the San Joaquin Valley in the central part of California. The terrain in Fresno County is relatively flat with a sharp rise in elevation in the east to the foothills of the Sierra Nevada Mountains. The terrain in the study area is characterized by flat topography.

Vegetation in the Proposed Project area consists primarily of agriculture. The existing PG&E Gates Substation and solar generating facility are located adjacent to the Proposed Project site to the south. The non-developed portions of the PG&E properties lack vegetation and are actively

¹ The CAL FIRE Incident Archive does not include reports for fires earlier than 2013.

disked to minimize vegetation growth. The Proposed Project would also lack vegetation and actively disked similar to the above referenced projects.

4.20.1.4 Values at Risk

The only existing utility infrastructure located within 1,000 feet of the Proposed Project site are the existing PG&E Gates Substation and a solar generating facility. Both of these facilities consist of predominantly steel structures. The Proposed Project site is surrounded by existing agriculture, which has been the predominant use in the area for a number of decades. As identified in **Section 4.4, Biological Resources**, sensitive habitat is not located within the Proposed Project site and the surrounding area. The nearest community to the Proposed Project is the city of Huron, which is located approximately 3.3 miles northeast.

4.20.1.5 Evacuation Routes

No designated evacuation routes are located adjacent to or within the Proposed Project area. During an emergency, including the risk of fire, the all-weather, north-south and east-west access roads within the Proposed Project site would provide access to West Jayne Avenue to the south and a larger network of small roads to the north.

4.20.2 REGULATORY SETTING

Federal, state, and local regulations were reviewed for applicability to the Proposed Project.

4.20.2.1 Regulatory Setting

Federal

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) requires utilities to adopt and maintain minimum clearance standards between vegetation and transmission voltage power lines. These clearances vary depending on voltage. In most cases, the minimum clearances required in state regulations are greater than the federal requirement. In California for example, CPUC has adopted General Order 95 rather than the North American Electric Reliability Corporation (NERC) Standards as the electric safety standard for the state.

North American Electric Reliability Corporation Standards

NERC is a not-for-profit international regulatory authority whose mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid (NERC, 2020). NERC develops and enforces reliability standards; annually assesses seasonal and long-term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel. NERC is the Electric Reliability Organization (ERO) for North America, subject

to oversight by FERC. To improve the reliability of regional electric transmission systems and in response to the massive widespread power outage that occurred on the Eastern Seaboard, NERC developed a transmission vegetation management program that is applicable to all transmission lines operated at 200 kilovolt (kV) and above to lower-voltage lines designated by the Regional Reliability Organization as critical to the reliability of the electric system in the region (NERC, 2006). The plan establishes requirements of the formal transmission vegetation management program, which include identifying and documenting clearances between vegetation and any overhead, ungrounded supply conductors while taking into consideration transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, fire risk, line terrain and elevation, and the effects of wind velocities on conductor sway. The clearances identified must be no less than those set forth in the Institute of Electrical and Electronics Engineers Standard 516-2009, Guide for Maintenance Methods on Energized Power Lines.

Federal Wildland Fire Management Policy

The Federal Wildland Fire Management Policy was developed in 1995 and updated in 2001 by the National Wildfire Coordinating Group, a federal multi-agency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions (National Interagency Fire Center, 2009). An important component of the Federal Wildland Fire Management Policy is the acknowledgment of the essential role of fire in maintaining natural ecosystems. The Federal Wildland Fire Management Policy and its implementation include the following guiding principles: risk management is a foundation for all fire management activities; fire management plans and activities are based upon the best available science; and standardization of policies and procedures among federal agencies is an ongoing objective.

State

Senate Bill 1028

Senate Bill 1028 (2016) requires each electrical corporation to construct, maintain, and operate its electrical lines and equipment in a manner that would minimize the risk of catastrophic wildfire posed by those electrical lines and equipment, and makes a violation of these provisions by an electrical corporation a crime under state law. The bill also requires each electrical corporation to annually prepare a wildfire mitigation plan and submit to CPUC for review. The plan must include a statement of objectives, a description of preventive strategies and programs that are focused on minimizing risk associated with electric facilities, and a description of the metrics that the electric corporation uses to evaluate the overall wildfire mitigation plan performance and assumptions that underlie the use of the metrics.

2019 Strategic Fire Plan for California

Developed by the Board of Forestry and Fire Protection (the Board), the Strategic Fire Plan outlines goals and objectives to implement CAL FIRE's overall policy direction and vision. The

2019 Plan demonstrates CAL FIRE's focus on: 1) fire prevention and suppression activities to protect lives, property, and ecosystem services; and 2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation. Unit Plans are developed and updated in order to implement the programs and goals of the 2019 Plan. Through the Strategic Plan, CAL FIRE implements and enforces the policies and regulations set forth by the Board and carries forth the mandates of the governor and the legislature (CAL FIRE, 2019b).

California Emergency Response Plan

Pursuant to the Emergency Services Act (Government Code §8550 *et seq.*), California developed an Emergency Plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan of which is administered by the State Office of Emergency Services (OES). The OES coordinates the responses of other agencies including the United States Environmental Protection Agency (USEPA), California Highway Patrol (CHP), California Department of Fish and Wildlife (CDFW), the Regional Water Quality Control Boards (RWQCBs) (in this case, the Fresno County RWQCB), the local air districts (in this case, the Fresno County Air Pollution Control District), and local agencies. The State Emergency Plan defines the "policies, concepts, and general protocols" for the proper implementation of the California Standardized Emergency Management System (SEMS). The SEMS is an emergency management protocol that agencies within the state of California must follow during multiagency response efforts whenever state agencies are involved.

California Code of Regulations

The California Fire Code is contained within Title 24, Chapter 9 of the California Code of Regulations. Based on the International Fire Code, the California Fire Code is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the California Fire Code and the California Building Code (CBC) use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

Title 14, Division 1.5 establishes the regulations for CAL FIRE. Article 4 of Chapter 7 (§§1250-1258) codifies the State of California's Fire Prevention Standards for Electric Utilities and provides specific exemptions from electric pole, tower firebreak, and electric conductor clearance standards. It also specifies when and where standards apply.

Public Resources Code

The California Public Resources Code includes a number of requirements for development within fire-prone areas. Public Resources Code Sections 4292 and 4293 are specific to utility companies and include requirements such as: any person who owns, controls, operates, or maintains any electrical transmission or distribution line must maintain a firebreak clearing around and adjacent

to any pole, tower, and conductors that carry electric current; and a ten-foot clearance must be maintained around the base of poles be cleared of all flammable vegetation.

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” (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county’s regulations are not applicable as Fresno County does not have jurisdiction over the Proposed Project. This section includes a summary of local related policies, plans or programs for informational purposes.

Fresno County General Plan

The Health and Safety Element of the Fresno County General Plan (2000) establishes policies and programs to protect the community from risks associated with hazardous materials and wildfire hazards. Goals and policies are further implemented in the County of Fresno Code of Regulatory Ordinances, which includes codes involving public safety, regulation of buildings, construction, and fire.

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|----------------------|--|
| Goal HS-B | To minimize the risk of loss of life, injury, and damage to property and natural resources resulting from fire hazards. |
| Policy HS-B.1 | The County shall review project proposals to identify potential fire hazards and to evaluate the effectiveness of preventive measures to reduce the risk to life and property. |
| Policy HS-B.2 | The County shall ensure that development in high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable State and County fire standards. Special consideration shall be given to the use of fire-resistant construction in the underside of eaves, balconies, unenclosed roofs and floors, and other similar horizontal surfaces in areas of steep slopes. |
| Policy HS-B.3 | The County shall require that development in high fire hazard areas have fire resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and fuel management program. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas. |
| Policy HS-B.8 | The County shall refer development proposals in the unincorporated county to the appropriate local fire agencies for review of compliance with |

fire safety standards. If dual responsibility exists, both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall apply.

Fresno County Fire Protection District

The Fresno County Fire Protection District (FCFPD) is a full-service fire department providing emergency services to approximately 2,655 square miles of the central San Joaquin Valley and serves a population of more than 220,000 citizens in both incorporated and unincorporated areas of Fresno County (Fresno County Fire Protection District, 2020). In cooperation with the CAL FIRE, FCFPD provides emergency services from 13 district stations and nine state stations. A minimum of two to three career firefighters are on duty 24 hours per day at any given fire engine company, which allows for a minimum of 44 firefighters to be on duty daily providing fire suppression, emergency medical services, and rescue. An Emergency Command Center serves CAL FIRE, FCFPD, and 13 other emergency agencies in the region, including the California Emergency Management Agency Region V Coordination Center. Fire protection and emergency services for the Proposed Project site are provided by FCFPD Battalion 14, Station 93, which is located within the city of Huron, with cooperation from CAL FIRE. FCFPD would be designated as the first responder for all Proposed Project related incidents.

The California Health and Safety Code provides that a fire protection district (in this case, the FCFPD) may adopt building standards relating to fire and panic safety that are more stringent than the building standard adopted by the State Fire Marshal and contained in the California Building Standards Code (Section 13869.7). As required by Fresno County Code of Ordinances Title 15 - Building and Construction, Chapter 15.60 – State Responsibility Area Fire Safe Regulations of the County: new construction located within the SRA of Fresno County is required to meet certain minimum uniform standards for basic emergency access, perimeter wildlife protection measures, signing and building numbering, private water supply reserves for emergency fire use and vegetation modifications. In cooperation with Fresno County and local fire protection districts, and to address their concerns where feasible, LSPGC has considered relevant policies and issues in the design of the Proposed Project.

California Public Utilities Commission General Orders

General Order 95

CPUC General Order 95 applies to construction and reconstruction of overhead electric lines in California. The replacement of poles, towers, or other structures is considered reconstruction and requires adherence to all strength and clearance requirements of this order. The CPUC has promulgated various rules to implement the fire safety requirements of General Order 95, including:

- Rule 18A, which requires utility companies take appropriate corrective action to remedy Safety Hazards and General Order 95 nonconformances. Additionally, this rule requires that each utility company establish an auditable maintenance program.

- Rules 31.2, which requires that lines be inspected frequently and thoroughly. Rule 35, which requires that vegetation management activities be performed in order to establish necessary and reasonable clearances. These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order, including facilities on lands owned and maintained by California state and local agencies.
- Rule 38, which establishes minimum vertical, horizontal, and radial clearances of wires from other wires.
- Rule 43.2.A.2 which requires that for lines located within Tier 2 or Tier 3 zones, the wind loads required in Rule 43.2.A.1 be multiplied by a wind load factor of 1.1.

General Order 165

General Order 165 establishes requirements for the inspection of electric distribution and transmission facilities that are not contained within a substation. Utilities must perform “Patrol” inspections, defined as a simple visual inspection of utility equipment and structures that is designed to identify obvious structural problems and hazards, at least once per year for each piece of equipment and structure. “Detailed” inspections, where individual pieces of equipment and structures are carefully examined, are required every five years for all overhead conductor and cables, transformers, switching/protective devices, and regulators/capacitors. By July 1st of each year, each utility subject to this General Order must submit an annual report of its inspections for the previous year under penalty of perjury.

General Order 166

General Order 166 applies to all electric utilities subject to the jurisdiction of the CPUC with regard to matters relating to electric service reliability and/or safety. Standard 1.E requires utility companies to develop a Fire Prevention Plan, which describes measures that the electric utility would implement to mitigate the threat of power-line fires. Additionally, this standard requires that utility companies outline a plan to mitigate power line fires when wind conditions exceed the structural design standards of the line during a Red Flag Warning in a high fire threat area. Fire Prevention Plans created by utility companies are required to identify specific parts of the utility’s service territory where the conditions described above may occur simultaneously. Standard 11 requires that utilities report annually to the CPUC regarding compliance with General Order 166.

4.20.3 IMPACT QUESTIONS

4.20.3.1 CEQA Impact Questions

The significance criteria for assessing the impacts to wildfires come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Environmental Checklist, a project may cause a potentially significant impact if it is located in or near state responsibility areas or lands classified as very high fire hazard severity zones and would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan; or
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; or
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

4.20.3.2 Additional CEQA Impact Questions

Pursuant to the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing Proponent's Environmental Assessments* (CPUC, 2019), there are no additional CEQA Impact Questions required for Wildfire.

4.20.4 IMPACT ANALYSIS

4.20.4.1 Impact Analysis

If located in or near state responsibility areas or land classified as very high fire hazard security zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The Proposed Project is not located within or near SRAs or lands classified as VHFHSZ. An adopted emergency response plan in Fresno County is the Master Emergency Services Plan (2017), which serves as a guide for the county's response to emergencies/disasters in the unincorporated areas of the county and ensures effective and economical use of resources, material, and personnel for maximum benefit and protection of affected populations in an emergency/disaster (Fresno County, 2020).

Most of the construction would occur on private lands, although some activities, such as the telecommunication installation and equipment delivery, could temporarily affect public roadways, specifically on West Jayne Avenue. This effect would be temporary and localized; however, any impacts would be less than significant because the equipment could be readily moved aside in the event of an emergency. Moreover, in accordance with **APM TRA-1**, potential lane closures or traffic lane modification plans would be reviewed and approved by the county of Fresno, and all construction activities would be coordinated with local law enforcement and fire protection agencies, and emergency service providers would be notified of the timing, location, and duration of construction activities. The Proposed Project would be operated remotely and would be located on private land. Therefore, construction and operation of the Proposed Project would not impair

the Fresno County Master Emergency Services Plan. In addition, no designated evacuation routes are located adjacent to or within the Proposed Project area. Therefore, no impacts would occur under this criterion.

If located in or near state responsibility areas or land classified as very high fire hazard security zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The Proposed Project is not located within or near SRAs or lands classified as VHFHSZ, and therefore, the risk of a wildfire is low. In addition, the Proposed Project area is characterized by flat topography, surrounded by agricultural fields, and typically experiences low windspeeds (National Weather Service, 2020). As discussed in **Section 3.5.12, Fire Prevention and Response**, during construction activities that are considered “hot work”, LSPGC would implement buffers and clear vegetation. No personnel would be located at the facility during operations, and LSPGC would create a fire break around the STATCOM Substation in accordance with all applicable state and federal regulations. Therefore, construction and operation of the Proposed Project would not exacerbate wildfire risks, thus not exposing Proposed Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, no impacts would occur under this criterion.

If located in or near state responsibility areas or land classified as very high fire hazard security zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The Proposed Project is not located within or near SRAs or lands classified as VHFHSZ. While the Proposed Project includes two new single circuit 500 kV transmission lines, the surrounding area is primarily comprised of agricultural fields with low wind speeds, and at low risk for wildfires. In addition, as discussed in **Section 3.5.12, Fire Prevention and Response**, during construction activities that are considered “hot work”, LSPGC would implement buffers and clear vegetation. For operations, the facility would be operated remotely and LSPGC would create a fire break around the Static Synchronous Compensator (STATCOM) Substation in accordance with all applicable state and federal regulations. Therefore, the Proposed Project would not exacerbate fire risk such that temporary or ongoing impacts to the environment would occur. Therefore, no impacts would occur under this criterion.

If located in or near state responsibility areas or land classified as very high fire hazard security zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Proposed Project is not located within or near SRAs or lands classified as VHFHSZ. In addition, as discussed in **Section 4.7, Geology, Soils, and Paleontological Resources**, the Proposed Project is not located within a landslide-prone area. As discussed in

Section 4.10, *Hydrology and Water Quality*, the Proposed Project would not significantly impact the drainage or existing runoff. Therefore, no impacts would occur under this criterion.

4.20.5 CPUC DRAFT ENVIRONMENTAL MEASURES

The CPUC Draft Environmental Measures for Wildfire include a Construction Fire Prevention Plan and Fire Prevention Practices (Construction and Maintenance) to be considered as the basis for mitigation where appropriate to address potentially significant impacts. However, because the Proposed Project is not located within an area designated as Very High or High Fire Hazard Severity Zones and there would be no impacts, these measures are not warranted. In addition, **APM HAZ-4** includes fire prevention practices for construction and maintenance as well as developing a Fire Protection Plan prior to construction.

4.20.6 APPLICANT PROPOSED MEASURES

No Applicant Proposed Measures would be implemented for Wildfires because no impacts would occur.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b.	Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X	
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

This section provides an impact analysis for each of the Mandatory Findings of Significance provided in Appendix G of the California Environmental Quality Act (CEQA) Guidelines.

4.21.1 IMPACT QUESTIONS

4.21.1.1 CEQA Impact Questions

The significance criteria for assessing the impacts to Mandatory Findings of Significance come from the CEQA, Appendix G Environmental Checklist (as amended in December 2019). According to the CEQA Checklist, a project may cause a potentially significant impact if it would:

- Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory; or

- Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.); or
- Have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly.

4.21.2 IMPACT ANALYSIS

4.21.2.1 Impact Analysis

Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less-than-Significant Impact. See **Sections 4.3** (*Air Quality*); **4.4** (*Biological Resources*); **4.5** (*Cultural Resources*); **4.9** (*Hazards, Hazardous Materials, and Public Safety*); **4.18** (*Tribal Cultural Resources*); and **Section 5.0** (*Cumulative and Other CEQA Considerations*). For the reasons explained there, the Proposed Project does not have the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.

The Proposed Project is located within heavily, modified and highly, disturbed agricultural and disturbed lands adjacent to the existing Pacific Gas and Electric (PG&E) Gates Substation. These areas generally lack habitat for special-status species, sensitive aquatic resources, and sensitive natural communities. No special-status plants have a potential to occur within the Proposed Project area. Special-status animals with a high or moderate potential to occur are limited to red-tailed hawk (known to occur) and loggerhead shrike (moderate to high potential to occur); eleven other special-status species have a low potential for occurrence. The Proposed Project area has existing transmission structures nearby that support raven and raptor nests; there is a lack of trees and shrubs that are suitable for nesting birds. However, there is a potential for raptors to nest in the transmission towers and migratory birds to nest on the ground or vineyards located within and in the immediate vicinity of the Proposed Project area. No wetlands or streams are present within the Proposed Project area. Two small agricultural ditches are located approximately a half mile south of the Proposed Project, but do not support a riparian habitat, are not jurisdictional features, do not provide a habitat for fish or wildlife, and would not be affected by Proposed Project activities. Impacts on biological resources are less than significant. The Applicant would implement **Applicant Proposed Measures (APMs) BIO-1** through **BIO-8**, which further reduce the potential for impacts.

There are no known historical resources or archeological resources within the Proposed Project area. In the unlikely event that archaeological, historical or paleontological resources are

discovered during construction activities, **APMs CUL1** through **CUL-5** and **PALEO-1** and **PALEO-2** would be implemented so that the Proposed Project would not eliminate important examples of major periods of California history or prehistory. The impact would be less than significant.

Would the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less-than-Significant Impact. A cumulative impact analysis for each resource area is presented in **Section 5.0, Cumulative and Other CEQA Considerations**. The Proposed Project would contribute incrementally to cumulative impacts during construction in the Proposed Project area related to air quality, greenhouse gas (GHG) emissions, hazardous materials, and traffic; however, the Proposed Project would not make a cumulatively considerable contribution to any cumulative impacts. Thus, the Proposed Project would not have environmental effects that are individually limited but cumulatively considerable. Therefore, the impact would be less than significant.

Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact. The Proposed Project would not adversely affect human beings, either directly or indirectly. Potential construction impacts associated with human health include the presence of hazards, hazardous materials use, temporary air quality, and GHG emissions. As discussed previously, construction impacts associated with air quality, GHG, and hazards and hazardous materials would be less than significant. APMs would further reduce the potential for adverse effects. The Proposed Project would have a beneficial effect on human beings in the Proposed Project area by increasing the stability and reliability of the regional electrical transmission system and facilitating the use of renewable energy. Therefore, the impact would be less than significant.

5.0 CUMULATIVE AND OTHER CEQA CONSIDERATIONS

5.1 CUMULATIVE IMPACTS

5.1.1 LIST OF CUMULATIVE PROJECTS

Projects included in the cumulative impact assessment were identified by using a list approach (CEQA Guidelines Section 15130[b][1][A]), including all pending development projects within an approximately 2-mile radius of the Proposed Project. **Table 5-1: Cumulative Projects** summarizes these pending development projects. **Figure 5-1: Cumulative Projects** depicts these projects.

Table 5-1: Cumulative Projects				
Project Name and Type	Project Description and Location	Proximity to Project (approx.)	Project Status and Anticipated Construction Schedule	Project Information, Date Checked and Source
Pacific Gas & Electric (PG&E) 500kV Dynamic Reactive Support (Interconnection with Proposed Project)	Existing PG&E Gates Substation 500kV yard would be modified and would extend 500kV buses #1 and #2 to the west and allowing the installation of a new partial 500 kV Bay #6 and Bay #2. Install new 500 kV tie-lines from the Proposed Project's Change-of-Ownership dead-end structures adjacent to Gates Substation and terminate on dead-end structures in the Gates Substation before transitioning to gas-insulated bus within the substation property and terminating at Points of Interconnection at 500 kV Breaker and a Half (BAAH) bays #2 and #6. Relocate the existing security wall to the west and north to accommodate the substation and interconnection work. Install underground conduits, pull boxes, and junction boxes as needed. Install asphalt roadway to new equipment for future substation maintenance work.	Adjacent at the PG&E Gates Substation	2022	Existing PG&E Gates Substation 500 kV yard would be modified and extend 500 kV buses #1 and #2 into the west and north allowing the installation of a new partial 500kV Bay #6 and Bay #2. Install new 500 kV tie-lines from Proposed Project's Change-of-Ownership structures to two new dead-ends in the Gates substation before transitioning to gas-insulated bus and terminating at Points of Interconnection (POI) at 500 kV Breaker and a Half (BAAH) bays #2 and #6. Source: PG&E, 2020

Table 5-1: Cumulative Projects

Project Name and Type	Project Description and Location	Proximity to Project (approx.)	Project Status and Anticipated Construction Schedule	Project Information, Date Checked and Source
Bank 11 Replacement-500/230 kV - Substation	Replace Bank inside existing PG&E Gates Substation	Adjacent at the PG& E Gates Substation	Projected April 2023	Replace existing Bank 11 inside the existing PG&E Gates Substation. Source: PG&E, 2020
230 kV Bus E BAAH Conversion	Convert the existing 230 kV double bus section E to two half bays; one full bay; one future bay with control and battery buildings; retention basin. Install (2) 230 kV sectionalizing breakers. Relocate the security wall and rearrange transmission lines to accommodate the substation work. Located inside existing PG&E Gates Substation	Adjacent at the PG& E Gates Substation	Projected April 2023	Convert the existing 230 kV double bus section E inside the existing PG&E Gates Substation. Source: PG&E, 2020
Interconnection Customer (Generation)	Installation of a 230 kV gen-tie approximately 1800 feet in length within the northeast corner of the PG&E Gates Substation to be hung on approximately two tubular steel poles (TSPs).	Adjacent at the PG& E Gates Substation	Projected December 2021	Installation of a 230 kV gen-tie approximately 1800 feet in length within the northeast corner of the substation to be hung on approximately two TSPs. Source: PG&E, 2020
Interconnection Customer (Generation)	Installation of a 230 kV gen-tie approximately 630 feet in length within the southeast corner of the PG&E Gates Substation to be hung on approximately two TSPs. Approximately 360 feet of 230 kV gen-tie spans outside of PG&E Gates Substation.	Adjacent at the PG& E Gates Substation	Projected November 2020	Installation of a 230kV gen-tie approximately 630 feet in length within the southeast corner of the substation to be hung on approximately two TSPs. Approximately 360 feet of 230 kV gen-tie spans outside of PG&E Gates Substation. Source: PG&E, 2020

Table 5-1: Cumulative Projects

Project Name and Type	Project Description and Location	Proximity to Project (approx.)	Project Status and Anticipated Construction Schedule	Project Information, Date Checked and Source
Interconnection Customer (Generation)	Install 230kV bay to section "F" of the PG&E Gates Substation. Potential installation of 230 kV gen-tie line within PG&E Gates Substation property.	Adjacent at the PG&E Gates Substation	Projected October 2023	Install 230kV bay to section "F". Potential installation of 230 kV gen-tie line within substation property. Full scope is undetermined. Source: PG&E, 2020
Fifth Standard Solar Project Complex	<p>The project includes:</p> <p>Fifth Standard Solar: 150 MW solar PV generation facility</p> <p>Stonecrop Solar Facility: 20 MW solar PV generation facility</p> <p>Blackbriar Energy Storage: 20 MW energy storage facility.</p> <p>Located on South Lassen Avenue and West Jayne Avenue</p>	Northeast of the Proposed Project (adjacent parcel)	<p>Final EIR October 2020 and Construction of the project facilities would occur over 11 to 12 consecutive months, with an expected start between late 2020 and late 2021.</p> <p>Blackbriar Energy Storage Facility: expected to begin construction between late 2020 and late 2021 and to be completed between mid 2021 and mid 2022.</p> <p>Fifth Standard Solar Facility: expected to begin construction between late 2020 and late 2021, occur simultaneously with Blackbriar construction for several months, continue beyond the completion of Blackbriar, and be completed between December 2021</p>	<p>The project includes:</p> <p>Fifth Standard Solar: 150 MW solar PV generation facility</p> <p>Stonecrop Solar Facility: 20 MW solar PV generation facility</p> <p>Blackbriar Energy Storage: 20 MW energy storage facility.</p> <p>Located on South Lassen Avenue and West Jayne Avenue</p> <p>Date checked website below: 11/9/2020</p> <p>Source: https://ceqanet.opr.ca.gov/Project/2017091038</p> <p><u>Stantec, 2020</u></p>

Table 5-1: Cumulative Projects

Project Name and Type	Project Description and Location	Proximity to Project (approx.)	Project Status and Anticipated Construction Schedule	Project Information, Date Checked and Source
			and December 2022. Stonecrop Solar Facility: Construction of the Stonecrop Facility would begin after completion of Blackbriar but prior to the completion of Fifth Standard and is expected to begin between August 2021 and August 2022 and to be completed at the same time as Fifth Standard.	

5.1.2 GEOGRAPHIC SCOPE

The geographic scope of analysis for cumulative impacts varies depending on the resource and should consider the extent to which impacts can be cumulative. Therefore, the sections below describe the appropriate geographic scope for each resource that would be analyzed for cumulative impacts.

As shown in **Section 4.0, Environmental Analysis**, implementation of the Proposed Project would result in no impacts or negligible impacts on land use, mineral resources, population and housing, recreation, and wildfire. Consequently, the Proposed Project would not have a potential to contribute to cumulative impacts related to these resource areas, and they are not discussed further.

Aesthetics. The geographic scope of analysis for cumulative aesthetics impacts to which the Proposed Project may contribute includes the Proposed Project's viewshed, as described in **Section 4.1.1.3, Viewshed Analysis**, and the resultant key observation points (KOPs) from which views into the Proposed Project are available. As such, the cumulative aesthetics impact analysis area generally encompasses the visual landscape within an approximately five-mile radius, primarily including motorists' views from West Jayne Avenue and other roadways.

Agricultural and Forestry Resources. The geographic scope of analysis for cumulative agricultural and forestry resource impacts includes all of the cumulative projects listed in **Table 5-1, Cumulative Projects**, within a radius of two miles.

Air Quality. The San Joaquin Valley Air Basin, which covers approximately 25,000 square miles of central California, represents the cumulative geographic scope for air quality because plans and thresholds are established at the basin level to attain air quality standards that are assigned for the entire air basin. Cumulative impacts on sensitive receptors, project workers, and odors are considered at a more localized level due to the more limited area of dispersion. The geographic scope for these impacts is a two-mile radius because impacts from projects located beyond this distance would not combine with the Proposed Project to create cumulative effects.

Biological Resources. The geographic scope of analysis for cumulative biological resource impacts is a two-mile radius around the Proposed Project area. This allows for a cumulative analysis of habitat, wildlife corridors, or other sensitive natural communities that stretch beyond the Proposed Project area while taking into account the developed, agricultural nature of the surrounding area.

Cultural Resources and Tribal Cultural Resources. The geographic scope of analysis for cumulative cultural resource impacts depends on the type of resource. Typically, prehistoric and historic resources are located subsurface and, therefore, cumulative impacts are considered at a localized level, which for the Proposed Project includes the Area of Potential Effects (APE), as defined in **Section 4.5.1, *Environmental Setting***. The geographic scope for historic built environment resources and tribal cultural resources includes a one-mile buffer around the APE because these resources can be impacted by changes in the visual landscape or by increases in ambient noise levels, as well as direct impacts.

Energy. The geographic scope of analysis for energy usage (i.e., fuels) and compliance with local plans is Fresno County, which comprises approximately 6,000 square miles. The Proposed Project's fuel usage statistics were compared against fuels usage from the entire county. With respect to renewable energy usage, the PG&E service territory is used as the geographic scope of analysis because the renewable energy usage statistics applicable to the Proposed Project are those of PG&E. Finally, the state of California is the geographic scope for cumulative impacts relating to statewide plans.

Geology, Soils, and Paleontology. The geographic scope for cumulative impacts on geology, soils, and paleontology depends on the geologic issue. The geographic scope with respect to seismicity includes the Proposed Project area and those projects within a 2-mile radius because an earthquake capable of creating substantial damage or injury at the Proposed Project area could cause similar damage throughout this area. The geographic scope for other geologic issues is considered at a more localized level because impacts are generally site-specific and not additive across a landscape.

Greenhouse Gases (GHG). The geographic scope of cumulative analysis for GHGs is the state of California because GHG reduction regulations are at the state level, and the impacts of global climate change affect the entire state.

Hazards, Hazardous Materials, and Public Safety. The hazards and hazardous materials geographic scope consists of the areas that could be affected by Proposed Project activities, as well as areas affected by other projects whose activities could directly or indirectly affect the proposed activities within the Proposed Project area. Therefore, a two-mile radius was considered in this analysis.

Hydrology and Water Quality. The geographic scope of analysis for cumulative impacts on hydrology and water quality typically includes the hydrologic region and groundwater basin because water sources throughout the region are interconnected. However, there are no waterbodies within or near the Proposed Project area and the depth to groundwater is beyond 51.5 feet below ground surface. Therefore, the geographic scope for the purposes of this cumulative analysis includes the Proposed Project area and adjacent parcels.

Noise. The geographic scope of analysis for cumulative noise impacts includes the Proposed Project area and adjacent parcels because noise attenuates rapidly with distance, equaling an approximate reduction of 6dB for every doubling of distance from the noise source. Noise generated from a farther distance would not be cumulative with noise generated on the Proposed Project site. Therefore, only projects within the 2-mile radius included in **Table 5-1, Cumulative Projects** above would have the potential for cumulative impacts.

Public Services. The geographic scope of analysis for cumulative public service impacts includes the service areas of the service providers discussed in **Section 4.15, Public Services** because substantial changes to a provided service would influence the entire service area for each specific service.

Transportation. A typical geographic scope for cumulative transportation impacts includes all roadways that are affected by a proposed project. As discussed in **Section 4.17, Transportation**, construction vehicles for the Proposed Project would primarily utilize West Jayne Avenue and South Trinity Avenue. Therefore, the geographic scope of analysis for cumulative transportation impacts includes the roadways that are adjacent to the Proposed Project area.

Utilities and Service Systems. A significant cumulative impact would result if the Proposed Project were to contribute to impacts that exceeded the planned use and capacity of the wastewater, water, solid waste, and/or energy service providers. Therefore, the geographic scope of analysis for this resource includes the utility providers service areas identified in **Section 4.19.1, Environmental Setting**.

5.1.3 CUMULATIVE IMPACT ANALYSIS

The discussion below evaluates the potential for the Proposed Project to contribute to a cumulatively considerable impact on the environment. As shown in **Chapter 4.0, Environmental Analysis**, implementation of the Proposed Project would result in no impacts or negligible impacts on land use, mineral resources, population and housing, recreation, and wildfire. Consequently, the Proposed Project would not have a potential to contribute to cumulative impacts related to these resource areas, and they are not discussed in the cumulative impact analysis below.

The cumulative analysis that follows addresses the incremental contribution of the Proposed Project to cumulative impacts associated with aesthetics; agricultural and forestry; air quality and greenhouse gases and energy; biological resources; cultural and tribal resources; geology, soils and paleontology; hazards, hazardous materials, and public safety; hydrology and water quality; noise; public services; transportation; and utilities and service systems.

Aesthetics: A cumulatively considerable impact on aesthetics could result if the Proposed Project would: contribute to a significant cumulative impact related to a substantial and adverse change in the overall character of the area; include structures that substantially differ from the character

of the vicinity; or result in the addition of a substantial cumulative amount of light and/or glare. At the project level, there were determined to be no impacts related to scenic vistas and scenic resources; as such, cumulative impacts for these issues are not evaluated.

The Proposed Project area is surrounded by relatively flat terrain dominated by vineyards, orchards, and row crops. As discussed in **Section 4.1, Aesthetics**, the existing PG&E Gates Substation and an existing solar field are prominent visual features adjacent to and south of the Proposed Project area, along with numerous extra-high voltage transmission lines. The surrounding visual landscape also includes trucks and other equipment to support mechanized agricultural production activities. As detailed in **Section 4.1.4, Impact Analysis**, structures associated with the Proposed Project are relatively low profile compared to the existing PG&E Gates Substation and would consist of little to no visual change from the existing landscape. In addition, light and glare impacts associated with the Proposed Project would be minimal. **Applicant Proposed Measure (APM) AES-1 and AES-2** would be implemented to further reduce project-level impacts to less-than-significant levels.

The cumulative projects listed in **Table 5-1, Cumulative Projects** would be visible from the Proposed Project area. These cumulative projects would also each introduce several changes to the visual landscape, including additional gen-tie transmission lines, new double-circuit 500 kV lines, and solar panels. Although permanent removal of farmland and installation of high voltage transmission lines and structures would result from the Proposed Project, these incremental impacts are not cumulatively considerable. As detailed in **Section 4.1.4, Impact Analysis**, the Proposed Project would consist of little to no visual change from the existing landscape. In addition, the Proposed Project area is approximately 20 acres, while the Fifth Standard Solar complex projects encompass approximately 1,600 acres, and no cumulatively considerable impacts to visual resources were identified in the Fifth Standard Solar Project Complex EIR (Stantec, 2020).

Therefore, the Proposed Project would not contribute to a significant cumulative impact, include structures that are substantially different from the surrounding visual character, or result in a substantial amount of light or glare. As a result, the Proposed Project's incremental contribution to cumulative aesthetic impacts would not be cumulatively considerable and would be less than significant.

Agricultural and Forestry Resources: A cumulatively considerable impact on agriculture and forestry resources could result if the Proposed Project would contribute to a significant cumulative impact related to a conversion of farmland or forestry resources to non-agricultural or forestry uses.

The Proposed Project is located within a predominantly agricultural area within Fresno County. As discussed in **Section 4.2, Agriculture and Forestry Resources**, the Proposed Project would require the permanent conversion of less than 10 acres of Prime Farmland to non-agricultural use to accommodate the STATCOM Substation, switchyard and associated facilities, and ancillary facilities such as a stormwater detention basin, access roads, and parking. The Proposed Project site is located on agricultural land subject to an active Williamson Act contract, and all adjacent lands (within one mile) are also under active Williamson Act contracts, excluding the two PG&E-owned parcels located to the south. **APM AGR-1** would be implemented to ensure that the Proposed Project would not conflict with the Williamson Act and reduce project-level impacts to less-than-significant levels.

However, the Fifth Standard Solar complex projects would have significant and unavoidable impacts to agricultural resources due to the conversion of 1,600 acres of Prime Farmland to non-agricultural use and conflicts with Williamson Act contracts (Stantec, 2020). While the Proposed Project would convert almost 10-acres of Prime Farmland to non-agricultural use, the conversion is not cumulatively considerable in connection with the other cumulative projects and would not preclude the surrounding area from future agricultural use.

Therefore, the Proposed Project and the cumulative projects are not anticipated to result in cumulatively significant impacts to agriculture and forestry. The Proposed Project's incremental contribution to cumulative agriculture and forestry impacts would not be cumulatively considerable and would be less than significant.

Air Quality: The Proposed Project is located within the San Joaquin Valley Air Basin (SJVAB), which covers multiple counties within the Central Valley. The SJVAB has a federal nonattainment/extreme status for ozone (8-hour) and a nonattainment status for particulate matter (2.5 microns and smaller – PM_{2.5}). The SJVAB has a state nonattainment status for ozone (1-hour and 8-hour) and for particulate matter (PM₁₀ and PM_{2.5}). The Proposed Project vicinity is dominated by agricultural operations and the PG&E Gates Substation. The nearest sensitive residential receptor is approximately 1.8 miles from the Proposed Project site. Fresno County is designated as endemic for San Joaquin Valley fever by the state of California and by the federal Center for Disease Control (CDC).

Potential cumulative impacts relating to air quality could occur for localized impacts (such as odor, dust, and some health impacts) if cumulative projects are located within the vicinity of the Proposed Project. As described above, there are a number of anticipated projects that would occur within the vicinity of the Proposed Project, including a solar generation project as well as projects associated with the PG&E Gates Substation. With respect to dust, all applicable construction and demolition projects within the SJVAB must comply with San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VII, and Rule 8021 (refer to **APM AQ-2**). Rule 8021 requires the preparation of a Dust Control Plan, which reduces the adverse effects of dust from construction and similar activities. While projects occurring adjacent to the Proposed Project site, such as projects at the PG&E Gates Substation, could combine with the Proposed Project to create cumulatively greater dust, each project would independently comply with Rule 8021, and total generation and transmission of dust would be mitigated for all work, regardless of any potential overlap. That is to say, Rule 8021 is assumed to effectively mitigate potential impacts from dust regardless of potential overlap of project-related construction and earth-moving activities. When applied to a construction site (i.e., project site in terms of this cumulative analysis), Rule 8021 would ensure that emissions of dust are limited in the extent they are allowed to leave the site. Regardless if two or more projects are adjacent, the emission of dust leaving any given site would be the same, and not cumulative. Therefore, potential cumulative impacts from dust would be less than significant.

Like impacts associated with dust, impacts from Valley fever could be cumulative if multiple projects created an increased risk of exposure to airborne fungal spores. However, as described above, each construction project is required to control dust emissions from the site through preparation and implementation of a Dust Control Plan. Therefore, workers and personnel on each project site would not be anticipated to be exposed to dust from any adjacent work that may occur simultaneously. Cumulative impacts to workers on any given project would be less than significant. With respect to the public and especially sensitive receptors, the Proposed Project site is not located within an area where soil disturbance or dust would be expected to impact any

vulnerable populations because the Proposed Project site is surrounded by agricultural operations and the PG&E Gates Substation. The closest sensitive receptor to the Proposed Project site is approximately 1.8 miles distant, which is too far for the Proposed Project to affect. The Proposed Project would not be cumulatively considerable for impacts to sensitive receptors because of the Proposed Project's distance from any such receptors. Cumulative impacts relating to Valley fever would be less than significant.

The Proposed Project is not anticipated to result in cumulatively considerable health impacts associated with emissions of diesel particulate matter (DPM) because DPM concentrations in ambient air associated with the Proposed Project will be very low in relation to the distance to the nearest sensitive receptors. As explained in **Section 4.3, Air Quality** and **Appendix 4.3-A, Air Quality Assessment**, the Proposed Project is located approximately 1.8 miles from the nearest sensitive receptors and the potential health impacts from DPM emissions are well below established thresholds of significance. Given the relatively low amount of DPM emissions and the distance to the nearest receptor, the Proposed Project's addition to any potentially significant impact to sensitive receptors would not be cumulatively considerable.

Potential cumulative impacts from emission of Criteria Pollutants are also anticipated to be less than significant, as further explained in **Section 4.3, Air Quality**. Impact thresholds for Criteria Pollutants are developed with respect to the fact that impacts from these pollutants are inherently cumulative. This is true of the SJVAPCD thresholds used to assess the Proposed Project's impacts associated with emission of Criteria Pollutants. Therefore, projects with emissions below the established thresholds are understood to have less-than-significant project-level and cumulative impacts. Therefore, cumulative impacts from emission of Criteria Pollutants would be less than significant for the Proposed Project because the project's emissions are below the thresholds developed by SJVAPCD.

Biological Resources: A significant cumulative impact on biological resources could result if the Proposed Project would contribute to cumulative impacts related to sensitive habitat or species, sensitive habitat/natural communities, or wildlife movement corridors. At the project level, there were determined to be no impacts related to riparian habitat, wetlands, or local policies, ordinances, and plans; as such, cumulative impacts for these issues are not evaluated.

As discussed in **Section 4.4, Biological Resources**, due to the low quantity of observations of special-status animals at the Proposed Project during surveys, the limited number of special-status species, habitat, or other sensitive natural communities that could occur, the small footprint of the Proposed Project in relation to local and global ranges and populations of these species, the highly disturbed agricultural and industrial landscape, and the high level of human activity and disturbance already occurring in region, project-level impacts were found to be less than significant. **APMs BIO-1** through **APM BIO-8** were identified to further reduce impacts.

All present and future projects would be required to mitigate for impacts to biological resources, and it is anticipated that other projects would be subject to similar protection measures, as well as the applicable federal, state, and local laws and regulations that protect biological resources. Therefore, the Proposed Project's incremental contribution to cumulative biological resources impacts would not be cumulatively considerable and would be less than significant.

Cultural Resources: A significant cumulative impact on cultural resources could result if the Proposed Project would contribute to cumulative direct or indirect impacts on significant historical or archaeological resources, and/or inadvertently discovered human remains.

As shown in **Section 4.5, Cultural Resources**, there are no known historical or archaeological resources or graves within the Proposed Project area or cumulative geographic scope. While the possibility exists that subsurface resources or remains could be unearthed during construction, the Proposed Project included **APM CUL-1** through **APM CUL-5** to reduce impacts to less-than-significant levels.

While present and reasonably foreseeable future projects could also encounter subsurface resources or remains, the existing regulations and plans, as well as standard mitigation measures, would reduce potentially significant impacts to less-than-significant levels. In addition, impacts to cultural resources are site-specific, and as such are not expected to combine with the development of other projects to cumulatively increase the risk of impacting subsurface resources or remains. Potential impacts are evaluated on a case-by-case basis. The Proposed Project is designed to avoid known cultural resources and includes APMs to ensure impacts to any cultural resources within the Proposed Project area are less than significant.

Therefore, the Proposed Project's incremental contribution to cumulative cultural resources impacts would not be cumulatively considerable and would be less than significant.

Energy: As explained in **Section 4.6, Energy**, the Proposed Project would have no impact with respect to conflicts with state or local plans for renewable energy or with respect to adding capacity for the purpose of serving a non-renewable energy source (significance criteria b and c respectively). Therefore, the Proposed Project cannot contribute to a cumulatively significant impact for either of these criteria.

With respect to adverse environmental impacts resulting from wasteful, inefficient, or unnecessary consumption of energy resources, the Proposed Project was found to have a less-than-significant impact because the construction and operation would utilize a relatively small amount of energy and fossil fuels, while increasing the electrical system efficiency for future uses of renewable energy within the region. While other projects and activities within the Proposed Project vicinity and beyond would also utilize fossil fuels and electrical energy from the PG&E electrical grid, the Proposed Project's contribution to any potentially significant effect would not be considerable. The Proposed Project's usage of diesel fuel represents less than 0.15 percent of the total usage in Fresno County. The Proposed Project's proportional usage of gasoline fuel is even less. Even if, as a worst case, a cumulatively significant impact was to occur regarding fossil fuel usage in the Proposed Project vicinity, in Fresno County, or in California as a whole, the Proposed Project's contribution to such an impact would be insignificant. The Proposed Project's incremental contribution to energy impacts is, therefore, not cumulatively considerable, and the Proposed Project's impacts to cumulative energy resources is less than significant.

Geology, Soils and Paleontological Resources: A significant cumulative impact on geology and soils could result if the Proposed Project would contribute to cumulative impacts related to exacerbating the potential of a seismic activity, unstable soils, or lateral spreading. A significant cumulative impact on paleontological resources would result if the Proposed Project would contribute to cumulative impacts on significant resources, sites, or unique geologic features. At the project level, there were determined to be no impacts related to liquefaction, landslides, expansive soil, and soils incapable of supporting septic tanks; as such, cumulative impacts for these issues are not evaluated because the project has no impacts in this category of analysis.

As shown in **Section 4.7, Geology, Soils, and Paleontological Resources**, the Proposed Project is located within a seismically active area, though no known active faults are located on or near

the site. **APM GEO-1** and **APM GEO-2** would reduce impacts related to unstable soils to less-than-significant levels. In addition, encountering paleontological resources is unlikely; however, **APM PALEO-1** is included to reduce potential impacts to less-than-significant levels.

While present and reasonably foreseeable future projects within the geographic scope for cumulative impacts could also result in soil erosion or loss of topsoil, or other impacts related to geologic hazards or unstable soils, none of these projects would be capable of exacerbating the potential for a geologic hazard given their limited impact on the area's geologic setting and the requirement to grade and compact soils in accordance with local and state standards designed to prevent soil hazards from occurring. Moreover, specific regulations that address worker safety would be in place if a seismic event were to occur, helping to avoid any harm to people or extensive damage to structures. In addition, the existing regulations and plans, as well as standard mitigation measures, in place to protect paleontological resources would reduce potentially significant impacts to less-than-significant levels.

Therefore, the Proposed Project's incremental contribution to cumulative geology, soils, and paleontological resources impacts would not be cumulatively considerable and would be less than significant.

Greenhouse Gas Emissions: GHG emissions directly generated during construction, operation, and decommissioning would result in a less-than-significant, short-term impact to climate change (refer to **Section 4.8, Greenhouse Gases**). GHG impacts within the SJVAB are assessed based on a reduction from business as usual (BAU). The basis of this threshold is that if all projects show a reduction from BAU, overall GHG impacts within the SJVAB would be less than significant. As shown in **Table 4.8-5, Operational Emissions Summary MT/Year (Project)**, the Proposed Project would have less-than-significant impacts from emission of GHGs based on reduction from BAU. In addition, the Proposed Project would ultimately increase the efficiency of integrating existing and future renewable energy projects. As a result, the Proposed Project would not contribute considerably to the emissions associated with the construction or operation of other projects planned in the Proposed Project vicinity or within the basin as a whole. Thus, the Proposed Project's impacts from GHG emissions would not be cumulatively considerable.

Hazards, Hazardous Materials, and Public Safety: A significant cumulative impact on hazards, hazardous materials, and public safety could result if the Proposed Project were to contribute to impacts related to the release, transport, use, or disposal of hazardous materials, substances, or waste. At the project level, there were determined to be no impacts related to noise, wildland fires, and air traffic and transportation; as such, cumulative impacts for these issues are not evaluated.

As discussed in **Section 4.9, Hazards, Hazardous Materials, and Public Safety**, the Proposed Project would not result in any significant impacts to this issue area. **APM HAZ-1** through **APM HAZ-4** would be implemented to ensure potential impacts would remain less than significant. Other present and reasonably foreseeable future projects within the geographic scope, including the projects listed in **Table 5-1, Cumulative Projects** could involve hazards and hazardous materials similar to those identified for the Proposed Project; however, it is anticipated that these projects would be required to follow applicable regulations for characterization, handling, and disposing of any hazards or hazardous materials. Therefore, potentially cumulative impacts from routine use, handling, and disposal of hazardous materials would be less than significant. The likelihood of upset, emergency, or other abnormal conditions occurring on multiple projects simultaneously is very low.

Therefore, the Proposed Project's incremental contribution to cumulative hazards, hazardous materials, and public safety impacts would not be cumulatively considerable and would be less than significant.

Hydrology and Water Quality: A significant cumulative impact on hydrology and water quality could result if the Proposed Project were to contribute to impacts related to water quality, depletion of groundwater supplies or interference with recharge, or alterations to drainage patterns. At the project level, there were determined to be no impacts related to floods or conflicts with applicable plans; as such, cumulative impacts for these issues are not evaluated.

As shown in **Section 4.10, Hydrology and Water Quality**, the Proposed Project would not violate any water quality standards or waste discharge requirements, it is not anticipated that recycled or reclaimed water or groundwater would be used by the Proposed Project, and no substantial changes to the existing drainage pattern would occur. Implementation of **APM WQ-1** and **APM WQ-2** would further reduce project-level impacts to less-than-significant levels. The cumulative projects listed in **Table 5-1, Cumulative Projects** would involve at least one acre of soil disturbance and, therefore, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared as required by the state National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater Associated with Construction Activity. These projects would also be subject to regulations that require compliance with water quality standards, including state and local water quality regulations. Compliance with existing laws, ordinances, regulations, and standards in place for the protection of water quality are designed to address potential effects at a regional level and, therefore, are designed and intended to mitigate potential adverse effects resulting from multiple discrete projects or locations (i.e., cumulative impacts).

Therefore, the Proposed Project's incremental contribution to cumulative hydrology and water quality impacts would not be cumulatively considerable and would be less than significant.

Noise: For the Proposed Project, both construction and operational noise and vibration levels were analyzed in **Section 4.13, Noise**. Construction of the Proposed Project would temporarily increase noise levels in the area; however, there are no sensitive receptors near the Proposed Project area, and no mitigation measures were proposed. The Proposed Project was found to not exceed the noise levels limit at any property boundary during operations and maintenance activities. In addition, construction and operations-related vibration was determined to not be noticeable to the nearest sensitive receptor.

A significant cumulative impact on noise and vibration would result if the Proposed Project were to contribute to impacts related to exceedances of noise standards or ground-borne vibration when evaluated within the context of past, present, and reasonably foreseeable future projects. At the project level, there were determined to be no impacts related to private air strips; as such, cumulative impacts for this issue are not evaluated.

Construction of the Proposed Project would partially overlap with construction of the cumulative projects listed in **Table 5-1, Cumulative Projects**, which could further increase noise levels in the surrounding area. However, the Fresno County Noise Control Ordinance (Section 40.80.060) exempts construction noise, provided that construction activities occur within the allowable days and times. Therefore, the cumulative construction noise levels would not exceed applicable noise standards. In addition, the potential for cumulatively considerable noise impacts is low given the size of the potentially cumulative projects and their geographic orientation to one another. For example, the Proposed Project site is located on a large parcel which, given the attenuative nature

of noise, results in low levels of noise where the boundary of other projects begin. This would be true of the other projects located within the geographic scope for noise impacts. This special arrangement dictates that two or more projects would not result in cumulative considerable effect on any given receptor or location. As such, the Proposed Project's incremental contribution to potential cumulative noise impacts would be less than significant.

Public Services: Cumulative impacts on public services—including fire and police protection—could result when past, present, and reasonably foreseeable future projects combine to increase demand on public services facilities such that additional facilities must be constructed to maintain acceptable levels of service, and the construction of such facilities would result in a physical impact on the environment. At the project level, there were determined to be no impacts related to schools, parks, and other facilities; as such, cumulative impacts for these issues are not evaluated.

As discussed in **Section 4.15, Public Services**, the Proposed Project would not permanently affect service ratios, response times, or other objectives for fire and police protection services in the area. Implementation of **APM PS-1** would ensure that emergency service providers would be notified of the timing, location, and duration of construction activities in the event that temporary lane closures are required during construction.

The cumulative projects listed in **Table 5-1, Cumulative Projects** would have a similarly low demand for public services, as none of the related projects are residential or commercial uses. During construction phases of the related projects, construction workers would be on-site and the increase in people present could incrementally increase the potential need for fire or medical resource services if an emergency were to occur. However, the likelihood of an emergency is low, and the likelihood of simultaneous emergencies at multiple construction sites would be even lower. Additionally, because the increased need would be temporary, no new or physically altered public service facilities would be required to meet demand. During operation, the Proposed Project would not require regular oversight, service, or management. The facility would operate in an unmanned nature. This minimizes the number of public services that would be required during operation.

Therefore, the Proposed Project's incremental contribution to cumulative public services impacts would not be cumulatively considerable and would be less than significant.

Transportation: The cumulative assessment of transportation impacts includes existing traffic volumes, project-generated construction traffic, and traffic from future projects on roads and highways in the project vicinity. At the project level, there were determined to be no impacts related to operational transportation impacts; as such, cumulative impacts related to Proposed Project operations and maintenance are not evaluated. As shown in **Section 4.17, Transportation**, construction traffic associated with the Proposed Project would represent less than two percent of the estimated roadway capacity of West Jayne Avenue and would have a less-than-significant impact on regional vehicle miles traveled (VMT). The implementation of **APM TRA-1** would further reduce impacts to less-than-significant levels. Cumulative traffic impacts could occur during construction from related projects having overlapping construction timeframes, particularly if the related projects generated traffic on the same roads at the same time as the Proposed Project. Most of the projects listed in **Table 5-1, Cumulative Projects** would partially overlap with construction of the Proposed Project and would utilize West Jayne Avenue. Cumulative traffic impacts would be less than significant given the temporary, short duration of the anticipated construction overlap with other projects, and the Proposed Project's contribution to construction

traffic would be minimal, and all projects would be required to implement similar traffic control measures required by the county of Fresno.

Any projects in Fresno County that add access (driveways, streets) are required to provide access for emergency vehicles (including adequate turning radius). Similarly, construction zones must provide emergency vehicle access to and, if applicable, through the construction zone at all times. Thus, there would be no adverse effects on emergency access at a particular site. Emergency access along the road network may be slightly affected by cumulative construction traffic if vehicles are not able to move off the road quickly to allow emergency vehicles to pass by. However, the Proposed Project's contribution to construction traffic is minimal, and all projects would be required to implement a traffic control plan that would address emergency vehicle access. In addition, construction traffic would be temporary and would not permanently affect transportation issues such that a conflict with a program, plan, or other regulations would occur.

Therefore, the Proposed Project's incremental contribution to cumulative transportation impacts would not be cumulatively considerable and would be less than significant.

Tribal Cultural Resources (TCRs): A cumulatively considerable impact on tribal cultural resources could result if the Proposed Project's incremental contribution to significant cumulative tribal cultural resource impacts would be considerable.

As discussed in **Section 4.18, Tribal Cultural Resources**, there are no recorded TCRs within the geographic scope; however, confidential tribal knowledge indicates that there is a high likelihood of unrecorded subsurface TCRs. Therefore, **APM CUL-1** through **APM CUL-5** would be implemented to reduce potential impacts to less-than-significant levels.

The cumulative projects identified in **Table 5-1, Cumulative Projects** are located within a similar area as the Proposed Project and have the potential to uncover TCRs during ground disturbing activities. However, all projects are required to comply with state regulations that protect TCRs. In addition, impacts to tribal cultural resources are site-specific, and as such are not expected to combine with the development of other projects to cumulatively increase the risk of impacting tribal cultural resources. Potential impacts are evaluated on a case-by-case basis. The Proposed Project includes APMs to ensure impacts to any tribal cultural resources within the Proposed Project area are less than significant. Therefore, the Proposed Project's incremental contribution to cumulative tribal cultural resource impacts would not be cumulatively considerable and would be less than significant.

Utilities and Service Systems: Cumulative impacts to utilities or service systems have the potential to occur within the utility service areas if multiple projects have a combined impact on local utility services or infrastructure. At the project level, there were determined to be no impacts related to water supplies, wastewater treatment, or solid waste; as such, cumulative impacts for these issues are not evaluated.

As discussed in **Section 4.19, Utilities and Service Systems**, the Proposed Project would require the temporary use of utilities such as water, wastewater facilities, and electric power during construction, and runoff would be managed by a stormwater detention basin. In addition, construction would generate solid waste that would be disposed of in a local landfill or another approved facility in accordance with applicable federal, state, and local laws. To further reduce impacts, **APM UTIL-1** would be implemented.

The cumulative projects listed in **Table 5-1, Cumulative Projects** would also require water and electric power during construction and would generate wastewater. The Fifth Standard Solar Project Complex EIR estimates that the total water volume used during construction could be approximately 300 acre-feet (Stantec, 2020), compared to approximately 2.2 acre-feet estimated for the Proposed Project. Water demand for the Fifth Standard Solar project complex is not expected to result in adverse water supply reliability impacts because the estimated demand is lower than the existing demand for agricultural production, and a sufficient water supply is available, as is the case for the Proposed Project, which will require roughly 150 times less water for construction. The use of electric power during construction of the Proposed Project and cumulative projects would not be a substantial increase in usage from existing levels and would be temporary. Operational electrical power requirements of the Proposed Project and cumulative projects would be minor and would be served via existing local PG&E distribution lines that have the capacity to serve all projects in the area.

Based on the anticipated landfill capacity described in **Section 4.16.2, Environmental Setting**, sufficient capacity would be available to handle disposal of waste generated by the Proposed Project during construction. The cumulative projects listed in **Table 5-1, Cumulative Projects**, and within the local landfill service areas would be required to comply with all applicable federal, state, and local laws regarding solid and hazardous waste including, but not limited to, the California Integrated Waste Management Act of 1989 which has set reduction rates for the amount of solid waste sent to landfills. Therefore, the total volume of waste that would be landfilled under the cumulative scenario is not expected to exceed the permitted capacity of available landfills.

Therefore, the Proposed Project's incremental contribution to cumulative utilities and service systems impacts would not be cumulatively considerable and would be less than significant.

5.2 GROWTH-INDUCING IMPACTS

5.2.1 GROWTH-INDUCING IMPACTS

Growth-inducing impacts per the California Public Utilities Commission (CPUC) CEQA Guidelines (CPUC, 2019) consider ways in which a project could induce growth. The analysis considers if the Proposed Project fosters any economic or population growth either directly or indirectly in the surrounding environment, would increase population that would tax existing community services, remove obstacles to population growth and/or encourage and facilitate other activities that would cause population growth and that could significantly affect the environment, either individually or cumulatively.

The peak construction employment is anticipated to be 20 workers, but on average, the workforce on site would be less. Most of the workers would likely commute from the greater Fresno area, and the short construction duration is not likely to induce any non-local workers to move to the area. Highly specialized construction workers for certain aspects of installing the Static Synchronous Compensator (STATCOM) and associated facilities may be non-local. However, such non-local specialty workers are likely to travel from job to job and stay in the area only for the construction phase in which they are involved.

The number of construction workers who would visit the area would be too small to have a substantial probability of causing new employees to be hired in service businesses or affect obstacles to population growth. During operation, the Proposed Project would not have any permanent employees. Therefore, the Proposed Project would not cause a population increase

and would not induce growth by direct or indirect employment and would not tax the existing community services or encourage activities that would cause population growth.

The Proposed Project would be implemented to increase the efficiency and reliability of transmission system following retirement of the Diablo Canyon Nuclear Generation Station. The Proposed Project is not being implemented in advance of, or in response to, planned growth or other increases in the system capacity. The Proposed Project involves the installation and operation of two STATCOM units that would serve to stabilize the regional transmission system and increase reliability within the Central Valley. The capacity (i.e., rating) of the existing transmission system would not increase or expand as a result of the Proposed Project. The Proposed Project would accommodate existing and independently planned transmission and generation projects but would not induce or require any expansion or upgrade of the transmission system. Although it is possible that the Proposed Project could remove an obstacle to growth (e.g., lack of reliable electric transmission) and contribute to secondary effects of growth, it would be speculative to estimate the extent to which the Proposed Project could result in growth inducement in the Central Valley. Even if the Proposed Project did induce growth indirectly or directly, any growth would be negligible. Finally, the Proposed Project would not provide any new or increased capacity to serve end users of electrical power. Therefore, the Proposed Project would not directly or indirectly foster growth or remove obstacles to economic or population growth in the area.

For all these reasons, the Proposed Project would not be growth-inducing.

6.0 LIST OF PREPARERS

6.1 LIST OF PREPARERS

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	4.14 Population and Housing 4.16 Recreation
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<i>San Diego Natural History Museum</i>	
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<i>Terracon Consultants, Inc.</i>	
Nicholas Novotny	Appendix 4.7-A Preliminary Geotechnical Engineering Report
Patrick Dell	Appendix 4.7-A Preliminary Geotechnical Engineering Report

7.0 REFERENCES

7.1 REFERENCE LIST

The following section is organized to include all references cited in the PEA by section. In addition, Section 4 references are organized by subheading for each resource area section.

2.0 INTRODUCTION

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7.2 ELECTRONIC REFERENCES

All electronic references that are not available will be provided under a separate cover. Internet addresses and URLs that can be accessed have been provided in **Section 7.1**.

Appendix 1-A – Figures

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 3-1 General Vicinity

Fresno County, CA

LEGEND

Project Components

★ Project Site

General Features

Interstate

Highway

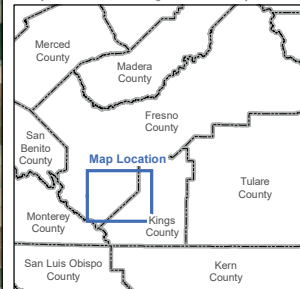
Railroad

Municipal Boundary

County Boundary



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, USDA
E:\Projects\Gates\MXDs\PEA\Fig 3-1 General Vicinity 101920



Data Sources: ESRI, Fresno Co., USDA, USGS
SPCS NAD83 CA Zone IV, US FL
E:\Projects\Gates\MXDs\PEA\Fig 3-1 General Vicinity 101920

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 3-2 Project Location

Fresno County, CA

LEGEND

Project Components

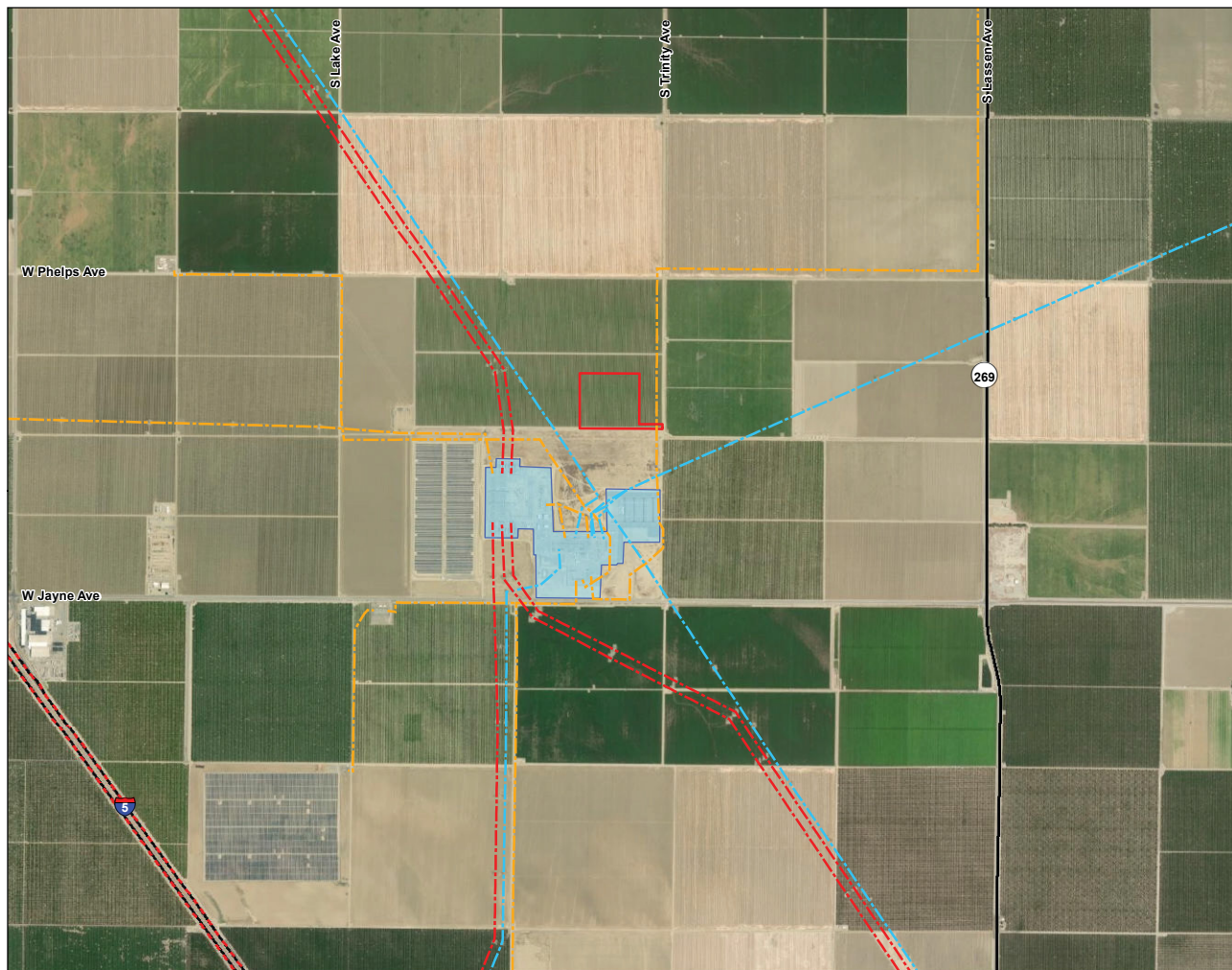
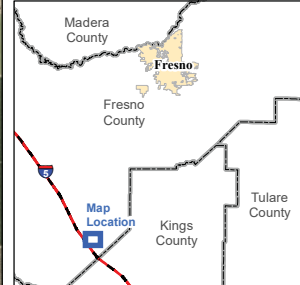
- Site Boundary - Approx. 20 Acres

General Features

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



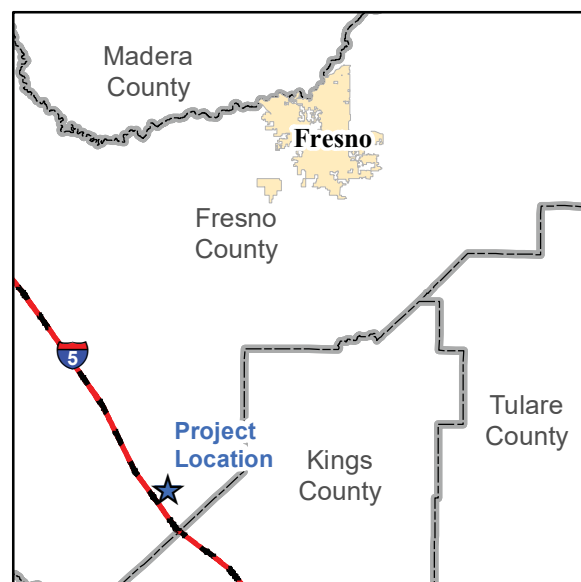
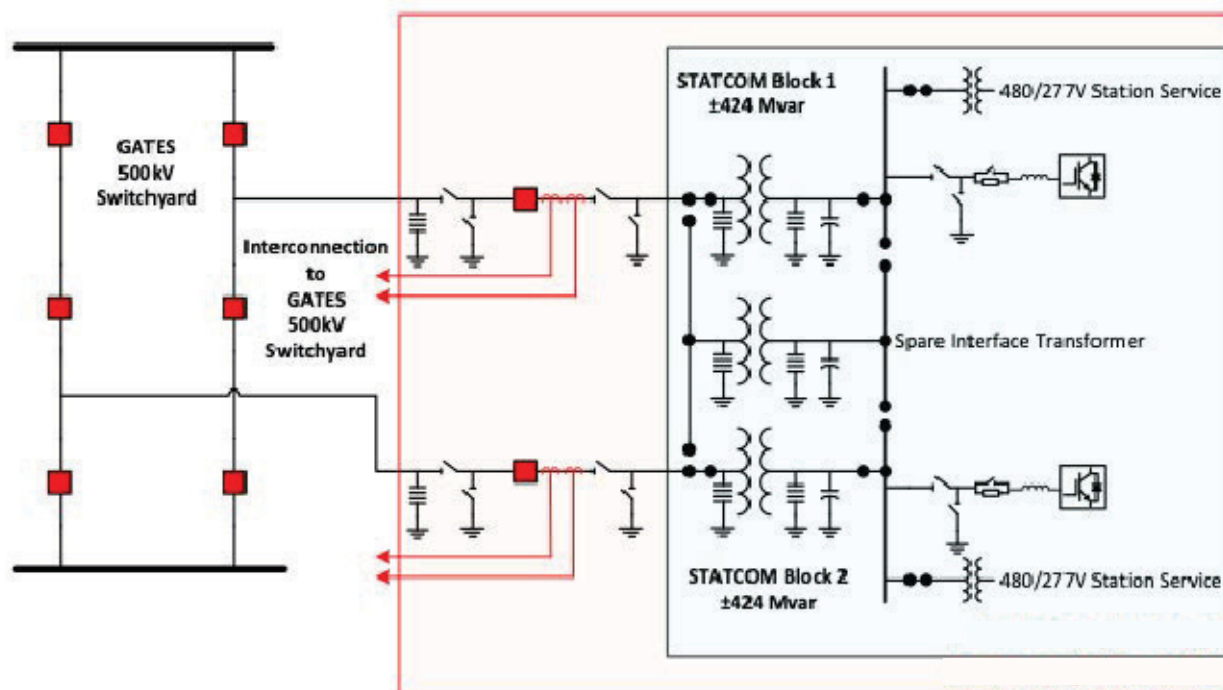
SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA
E:\Projects\Gates\MXDs\PEA\Fig 3-2 Project Location 101920



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 3-3
STATCOM Substation Diagram**

Fresno County, CA



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**
**Figure 3-5
STATCOM Substation General
Arrangement**
Fresno County, CA

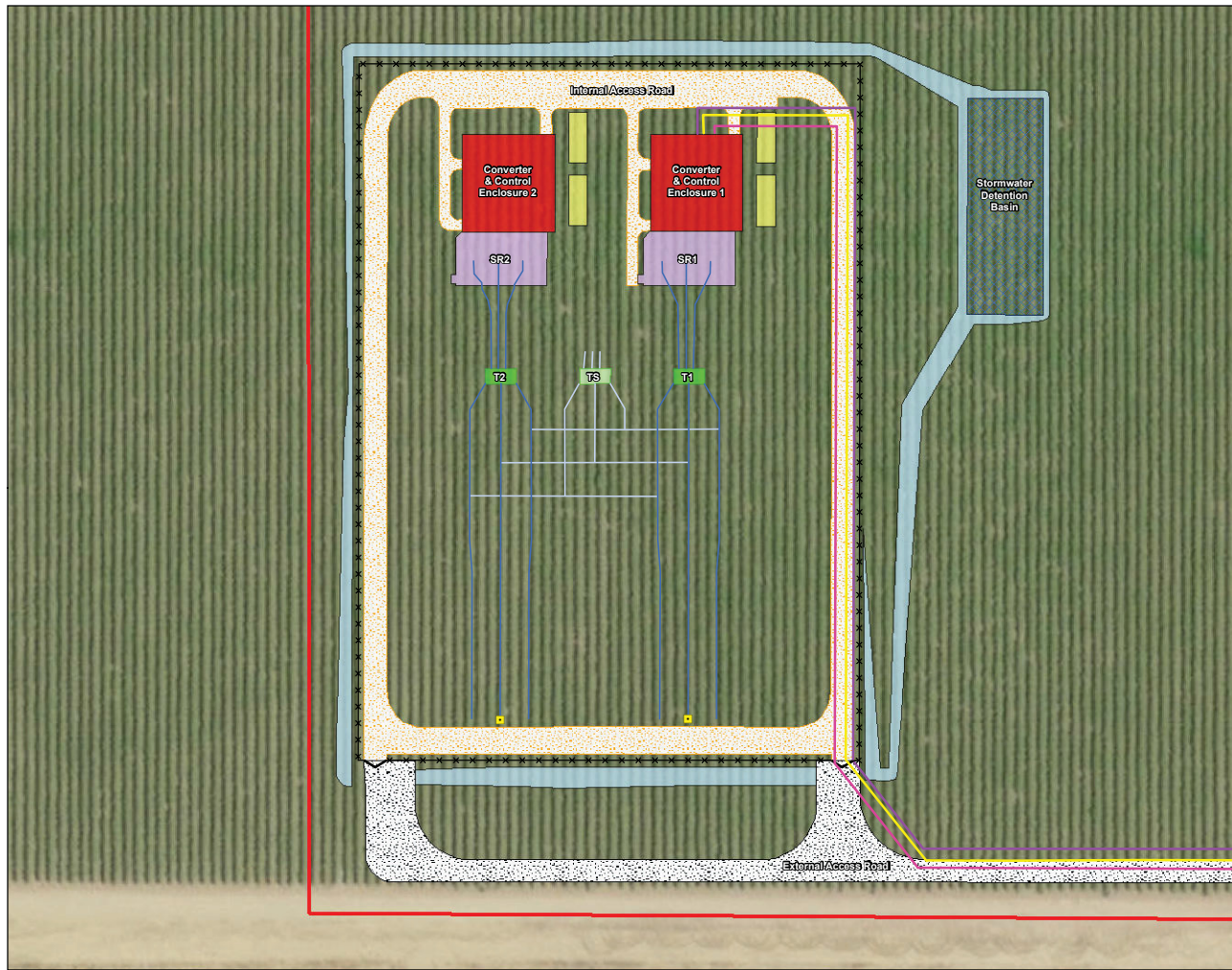
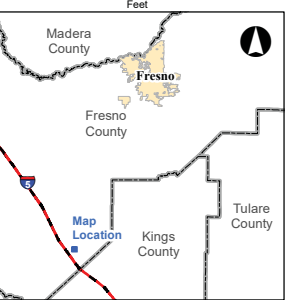
LEGEND

Project Components

- Project Take-Off Structure
- Project Tie Line
- Project Tie Line (if Using Spare Transformer)
- Distribution Line
- Primary Telecommunications Line
- Secondary Telecommunications Line
- Substation Fence
- Gate
- Transformer
- Spare Transformer
- Outdoor Cooler
- Reactor
- Converter & Control Enclosure
- Interior Access Road
- Exterior Access Road
- Stormwater Conveyance System
- Stormwater Detention Basin
- Site Boundary - Approx. 20 Acres

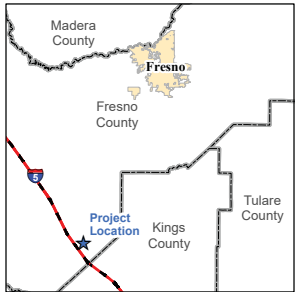
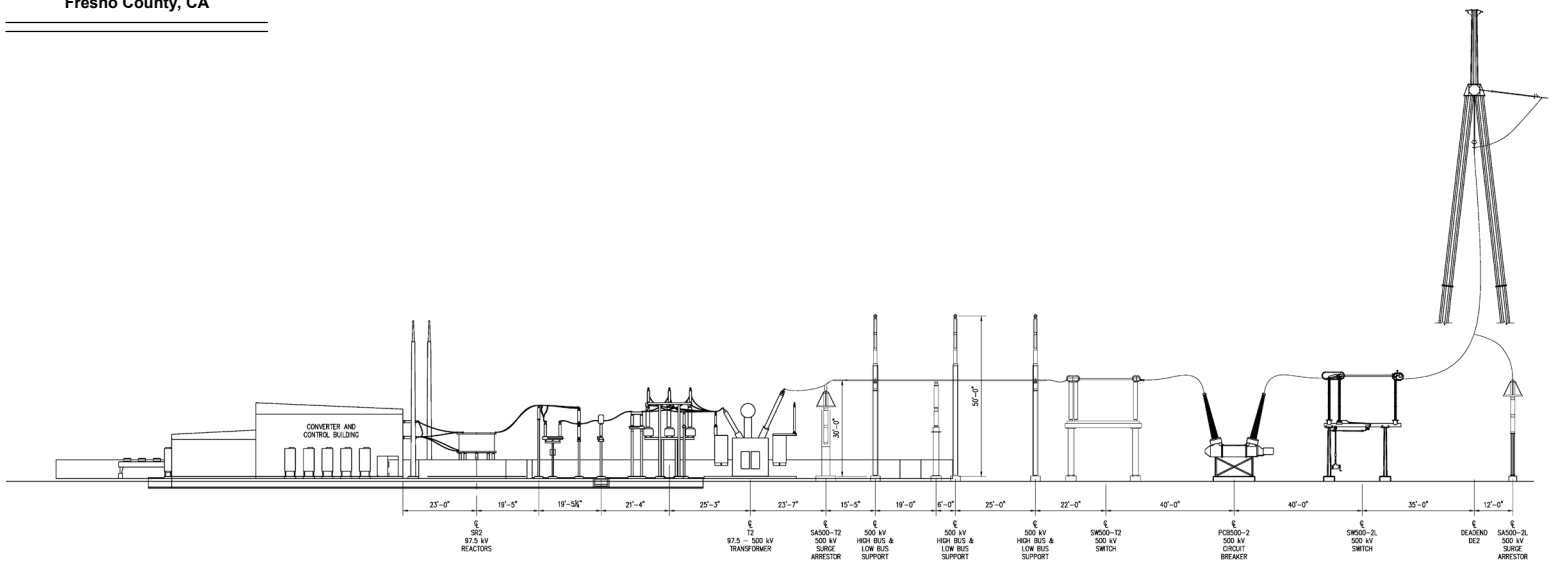
General Features

- Interstate
- County Boundary
- Municipality



SPCS NAD 83, CA Zone IV, US F1 Data Sources: CalTrans, ESRI, Fresno County, USDA E:\Projects\Gates\MXDs\PEA\Fig 3-5 STATCOM GA 101520

**Figure 3-6
STATCOM Substation Profile
Fresno County, CA**



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 3-7 Construction Staging Area

Fresno County, CA

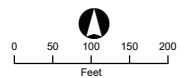
LEGEND

Project Components

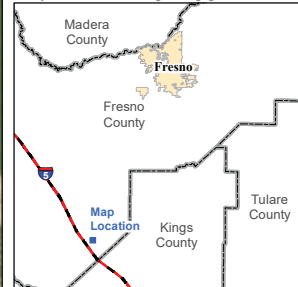
- x—x— Substation Fence
- x—x— Temporary Staging Area Fence
- Gate
- Exterior Access Road
- Construction Staging Area
- Potential Borrow Area
- Site Boundary - Approx. 20 Acres

General Features

- Existing <100kV Transmission Line
- Interstate
- County Boundary
- Municipality



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA,
E:\Projects\Gates\MXDs\PEA\Fig 3-7 Staging Area 101220



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**
Figure 3-8 Project Disturbance Areas
Fresno County, CA

LEGEND

Project Components

- X—X— Substation Fence
- X—X— Silt Fence
- Exterior Access Road
- Construction Staging Area Access Road
- Stormwater Detention Basin
- Construction Staging Area
- Potential Borrow Area
- Site Boundary - Approx. 20 Acres

Project Disturbance Areas

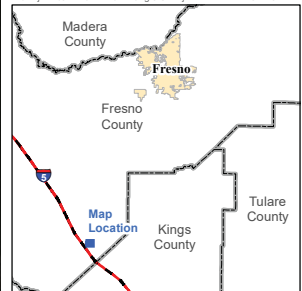
- Temporary Disturbance Area
- Permanent Disturbance Area

General Features

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



SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXD\PEA\Fig 3-8 Project Dist Areas 101220.mxd



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.1-1
Scenic Resources**

Fresno County, CA

LEGEND

Project Components

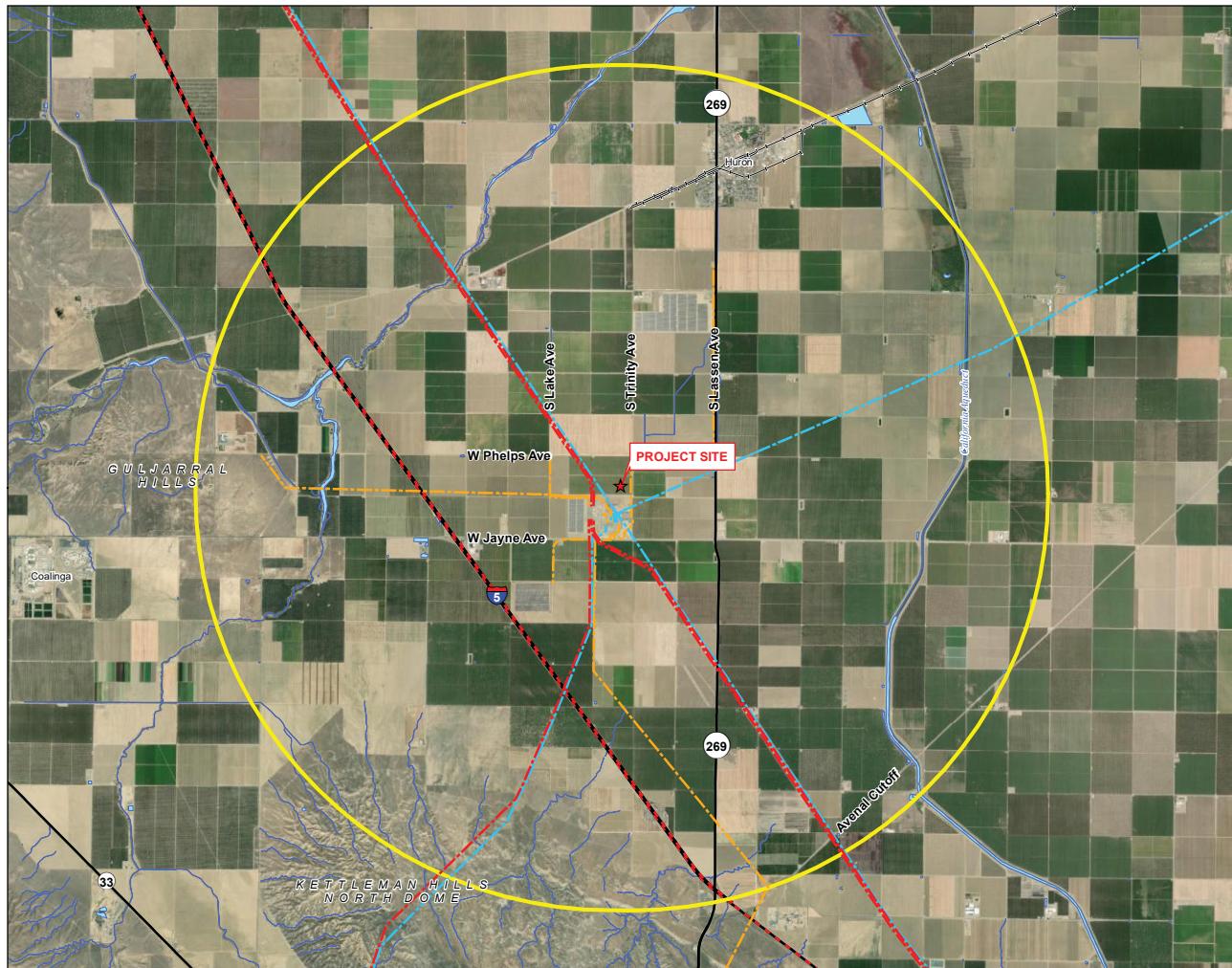
- ★ Project Site
- 5-Mile Buffer of Project Site

General Features

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Railroad
- County Boundary
- Municipality
- NWI Wetlands



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA
J:\Gates\MXDs\IPEA\Fig 4.1-1 Scenic Resources 101920.mxd



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.1-2
Representative Viewpoints**

Fresno County, CA

LEGEND

Project Components

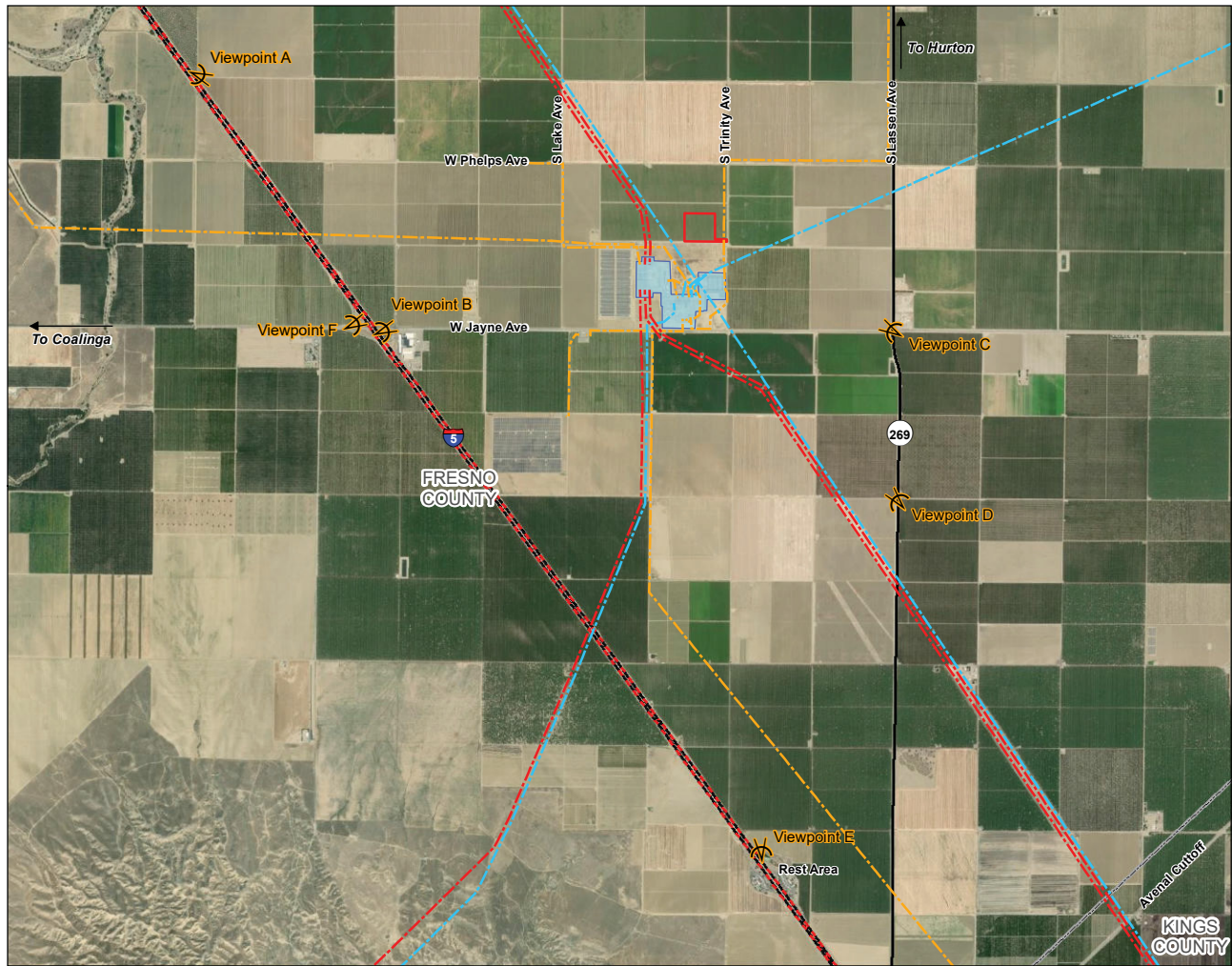
- Representative Viewpoint Location
- Site Boundary

General Features

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA
J:\Gates\MXDs\PEA\Fig 4.1-2 Representative Viewpoints 101920



Existing View



I-5 Looking Southeast

Refer to Figure 4.1-2 for photograph viewpoint locations.

**Figure 4.1-3: KOP A
Representative Photographs**
LS Power Gates 500 kV Dynamic Reactive Support Project

Existing View



I-5 and West Jayne Ave Intersection Looking East

Refer to Figure 4.1-2 for photograph viewpoint locations.

**Figure 4.1-4: KOP B
Representative Photographs**
LS Power Gates 500 kV Dynamic Reactive Support Project

Existing View



Lassen Ave and West Jayne Ave Intersection Looking Northwest

Refer to Figure 4.1-2 for photograph viewpoint locations.

**Figure 4.1-5: KOP C
Representative Photographs**
LS Power Gates 500 kV Dynamic Reactive Support Project

Existing View



Lassen Ave Looking Northwest

Refer to Figure 4.1-2 for photograph viewpoint locations.

**Figure 4.1-6: KOP D
Representative Photographs**
LS Power Gates 500 kV Dynamic Reactive Support Project

Existing View



Interstate 5 Rest Area Looking North

Refer to Figure 4.1-2 for photograph viewpoint locations.

**Figure 4.1-7: KOP E
Representative Photographs**
LS Power Gates 500 kV Dynamic Reactive Support Project

Existing View

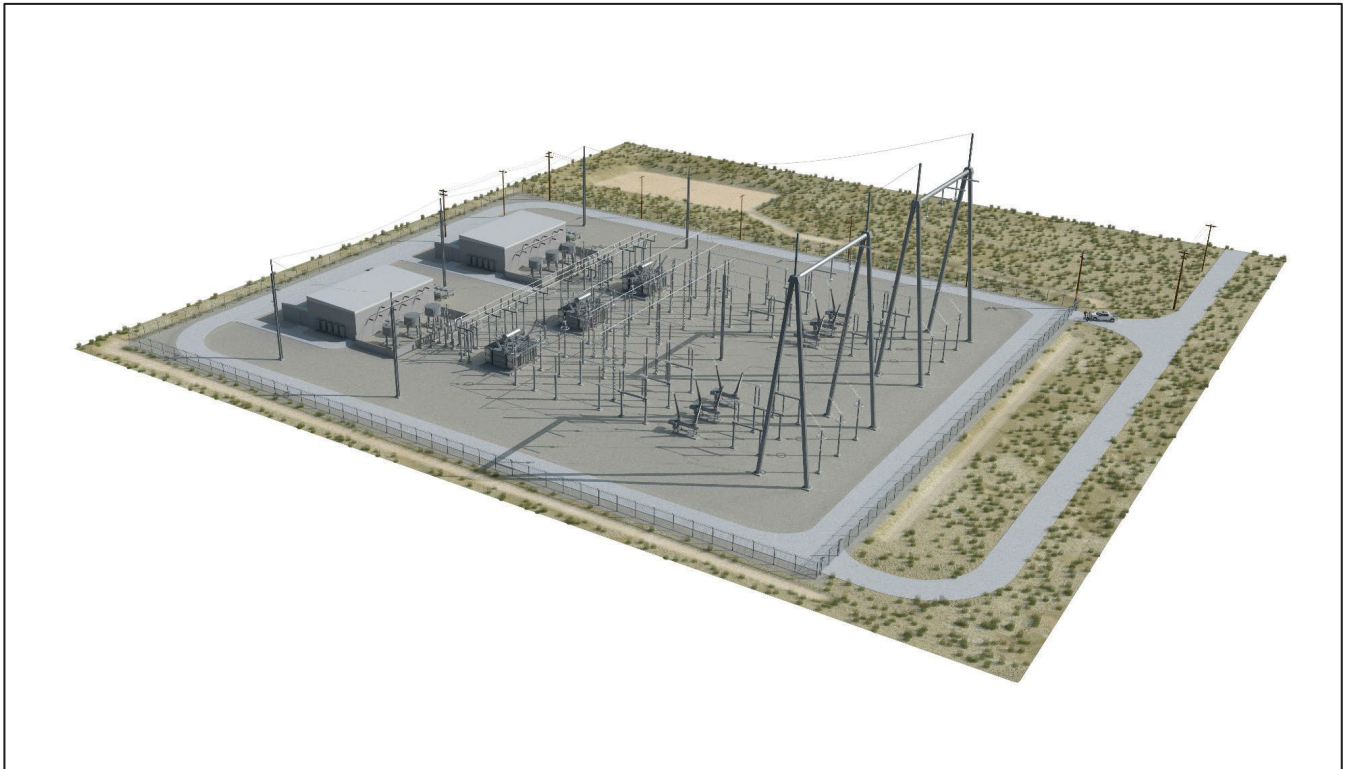


West Jayne Ave West of Interstate 5 Looking Northeast

Refer to Figure 4.1-2 for photograph viewpoint locations.

**Figure 4.1-8: KOP F
Representative Photographs**
LS Power Gates 500 kV Dynamic Reactive Support Project

Existing View



Switchyard Render Looking Northeast

Refer to Figure 4.1-2 for Project site location.

**Figure 4.1-9: Switchyard
Representative Rendering**
LS Power Gates 500 kV Dynamic Reactive Support Project

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 4.2-1 Agricultural Resources

Fresno County, CA

LEGEND

Project Components

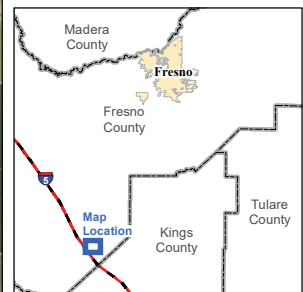
- Access Road
- [Red Solid Line] Site Boundary - Approx. 20 Acres
- [Red Dashed Line] 1-Mile Buffer of Site Boundary and Access Road

General Features

- [Red Dashed Line] Existing 500kV Transmission Line
- [Blue Dashed Line] Existing 230kV Transmission Line
- [Orange Dashed Line] Existing <100kV Transmission Line
- [Thick Black Line] Interstate
- [Thin Black Line] State Highway
- [Blue Outline] Gates Substation
- [Grey Outline] County Boundary
- [Yellow Outline] Municipality

Agricultural Resources

- [Hatched Pattern] Williamson Act Lands
- [Green] Prime Farmland
- [Yellow] Farmland of Local Importance
- [Pink] Urban and Built-Up Land



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.3-1 Construction Site
and Sensitive Receptor Locations**

Fresno County, CA

LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres

Sensitive Receptor Locations

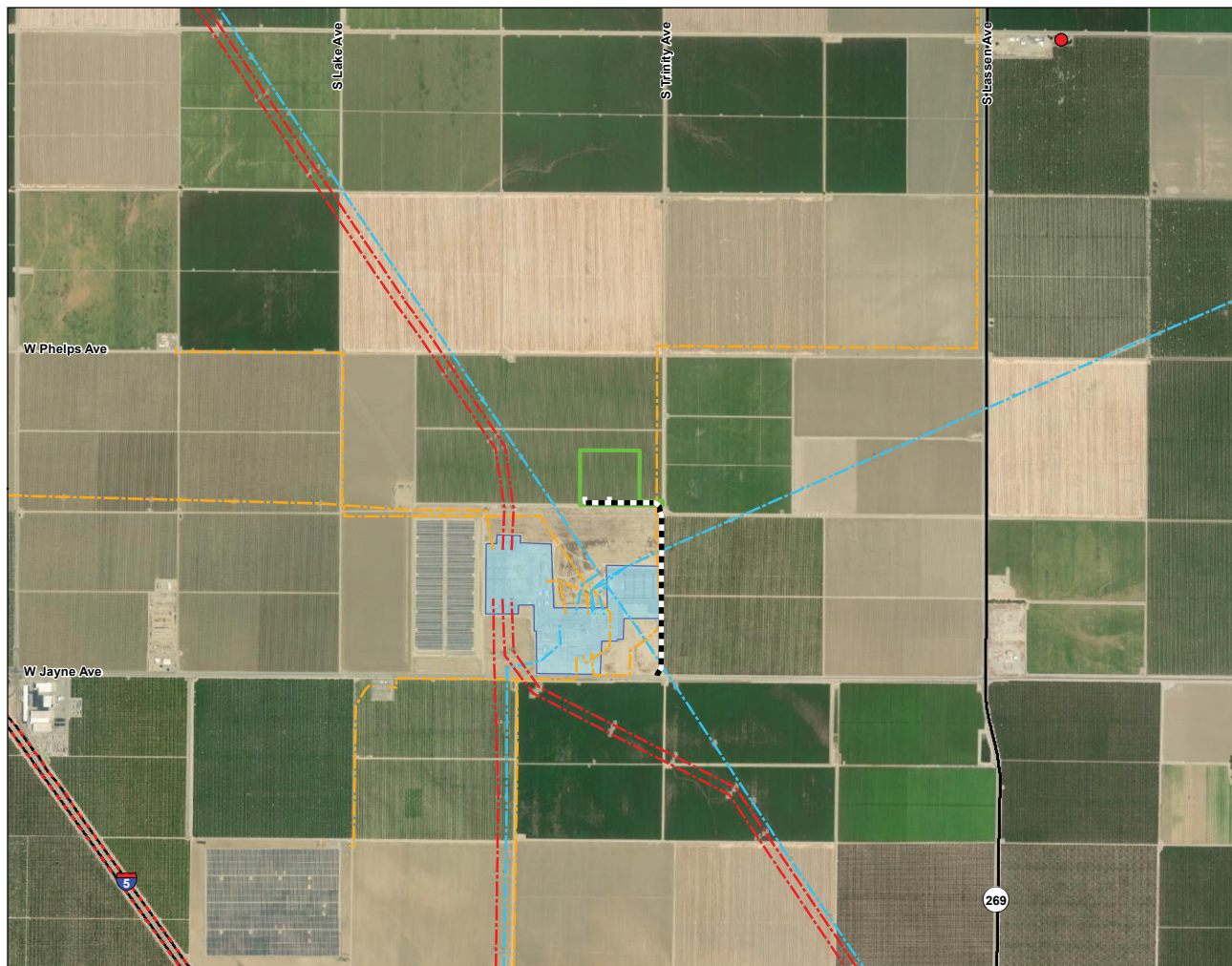
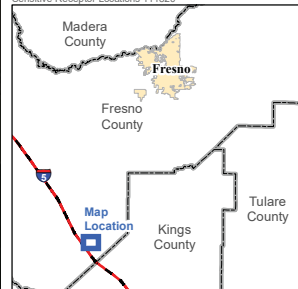
- Sensitive Receptor

General Features

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



SPCS NAD 83, CA Zone IV, US F1
Data Sources: CalTrans, ESRI, Fresno County, USDA,
E:\Projects\Gates\MXD\PEA\Fig 4.3-1 Construction Site and
Sensitive Receptor Locations 111820



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.4-1 Proposed Project
Fresno County, CA**

LEGEND

Project Components

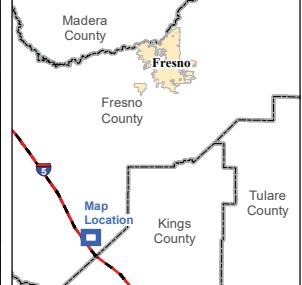
- Primary Telecommunications Line
- Secondary Telecommunications Line
- Access Road
- Site Boundary - Approx. 20 Acres
- Biological Resources Survey Area

General Features

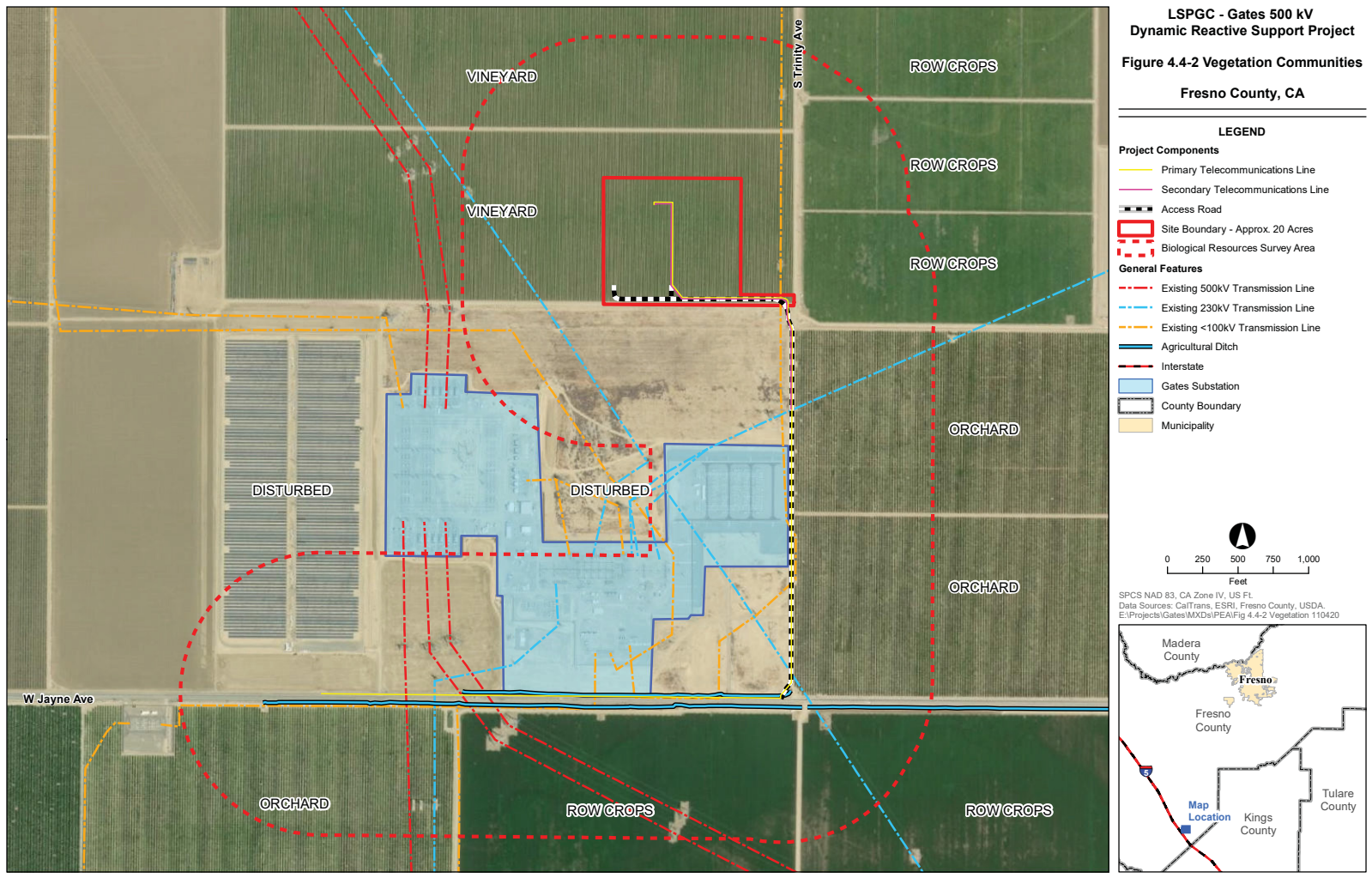
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA,
E:\Projects\Gates\MXDs\PEA\Fig 4.4-1 Proposed Project 110420



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**
Figure 4.4-2 Vegetation Communities
Fresno County, CA



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.4-3 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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA.
E:\Projects\Gates\MXD\PE\Fig 4.4-3 NWI Wetlands 110420

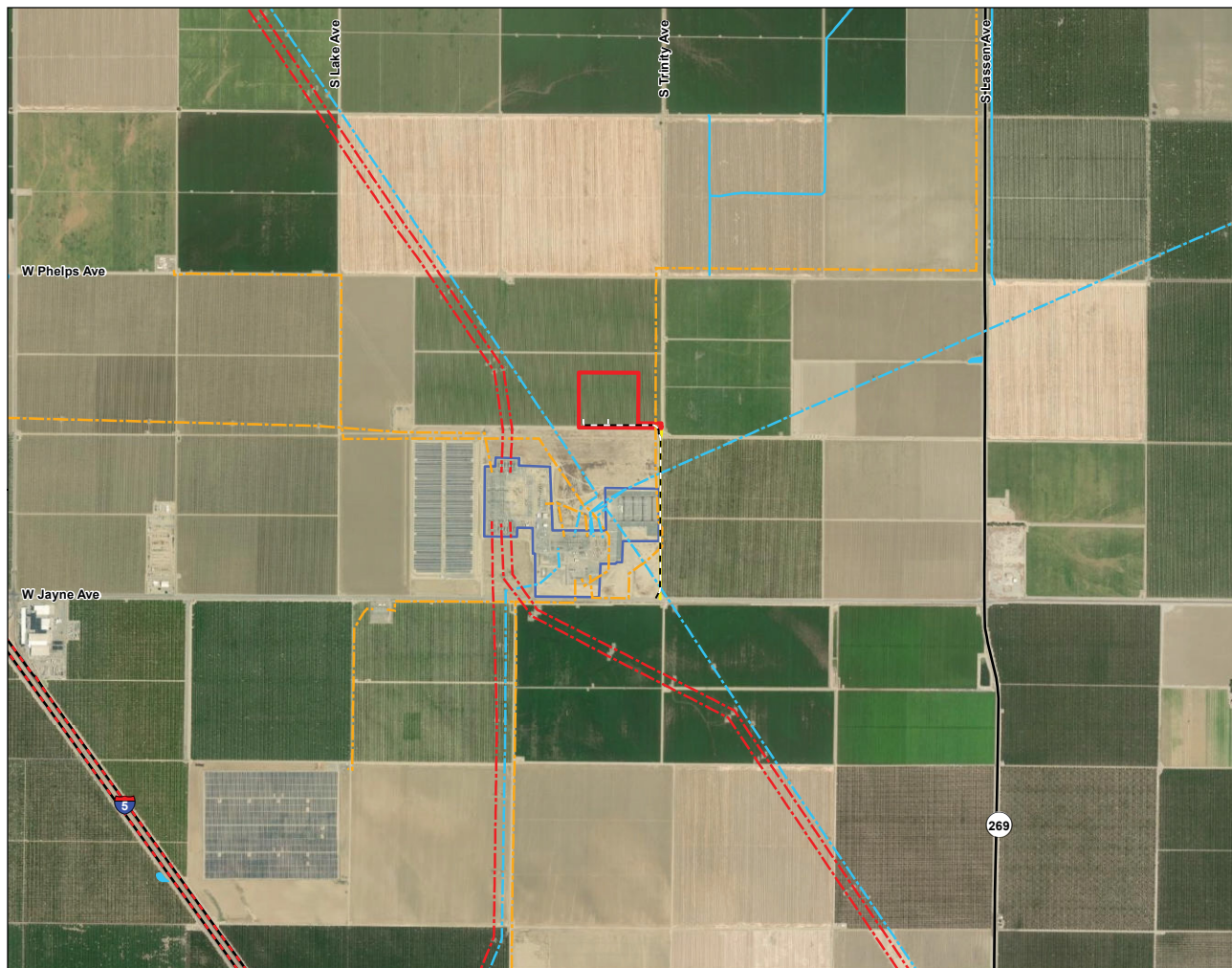
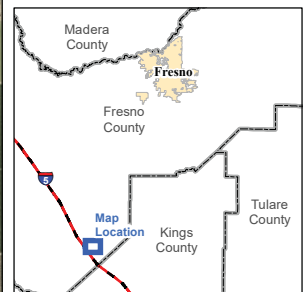
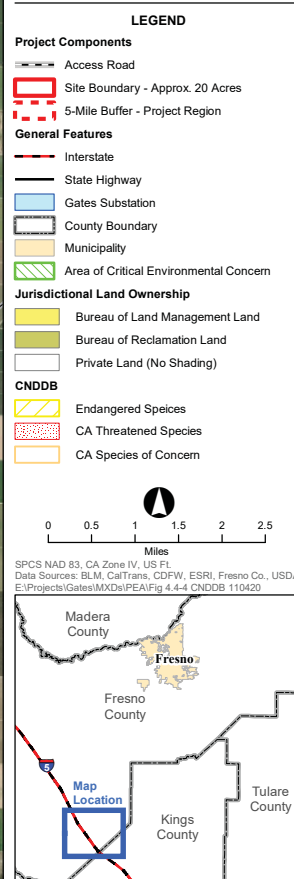




Figure 4.4-4 CNDDDB

Fresno County, CA



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 4.4-5 Soil Types

Fresno County, CA

LEGEND

Project Components

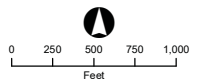
- Primary Telecommunications Line
- Secondary Telecommunications Line
- Access Road
- Site Boundary - Approx. 20 Acres
- Biological Resources Survey Area

General Features

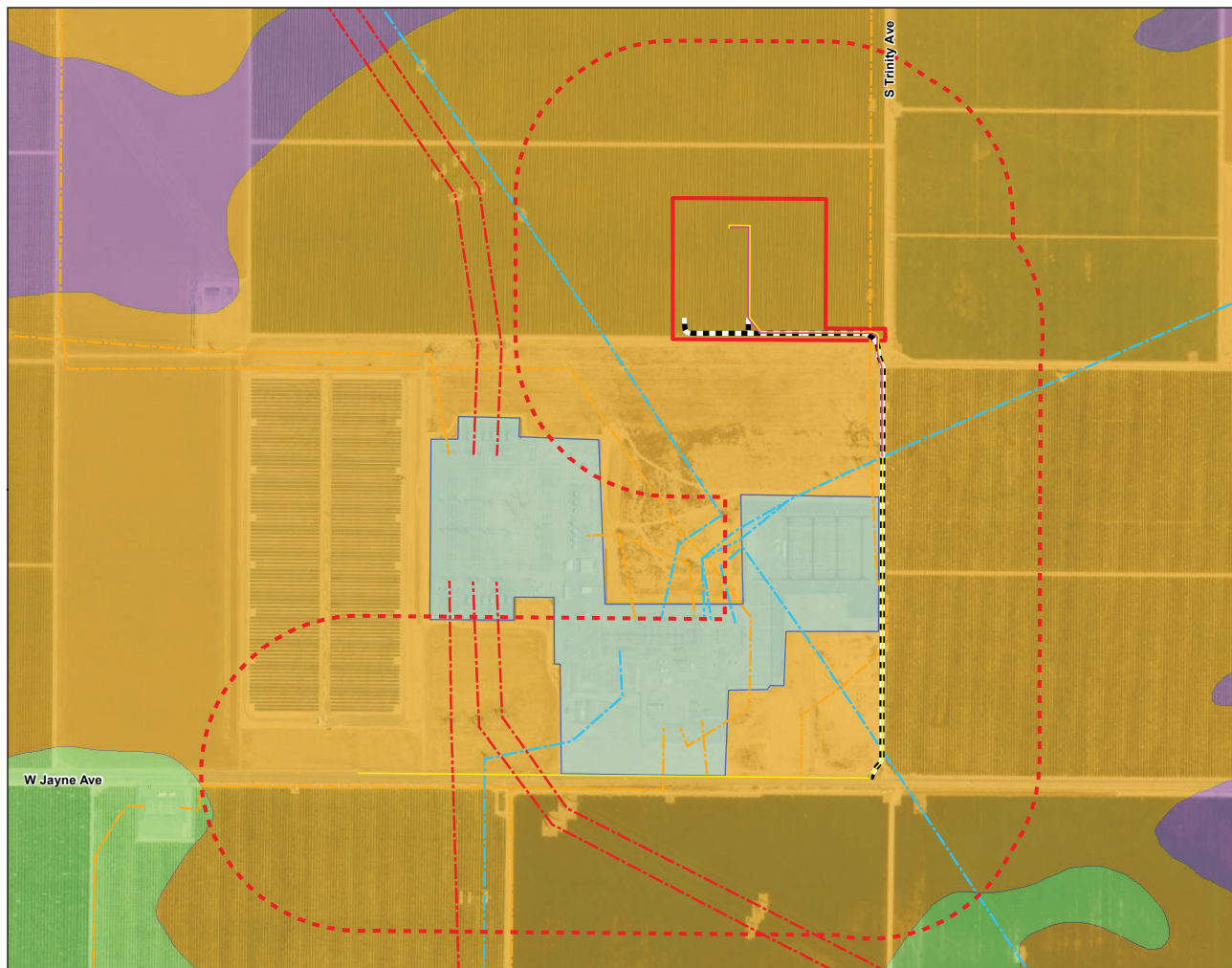
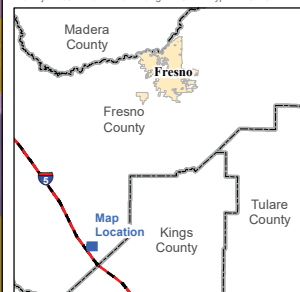
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

Soil Types

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA
E:\Projects\Gates\MXDs\PEA\Fig 4.4-5 Soil Types 110420



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.4-6 Swainson's Hawk Survey
with Raptor Nest Locations**

Fresno County, CA

LEGEND

Project Components

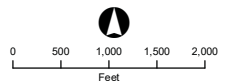
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

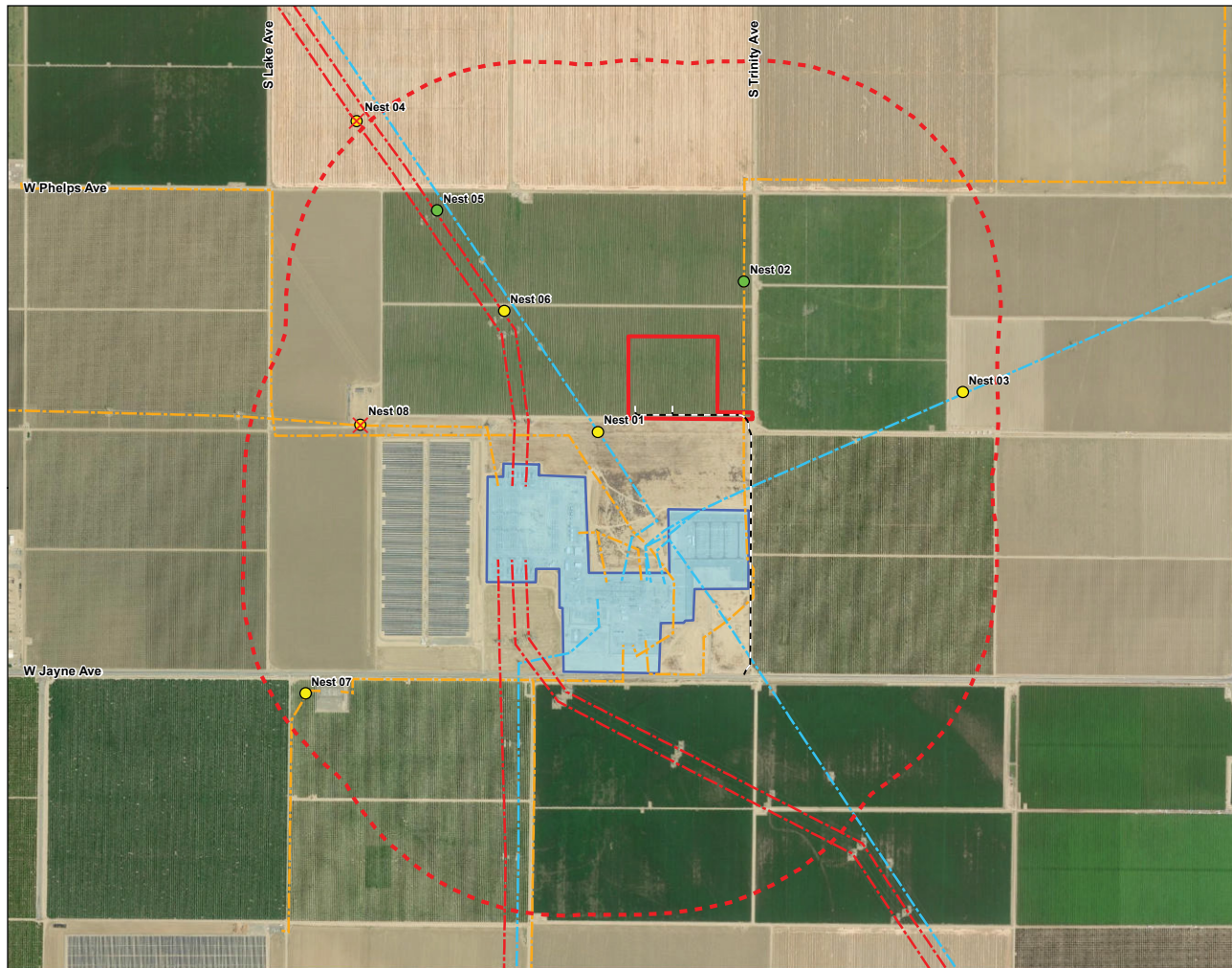
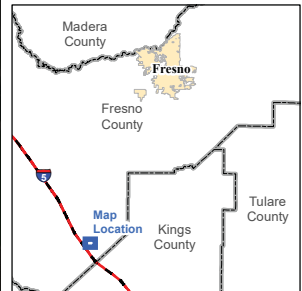
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

Biological Survey

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA
E:\Projects\Gates\MXDs\PEA\Fig 4.4-6 Swainson's Hawk Survey
Area with Raptor Nest Locations 110520.mxd



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.5-1 Cultural Resources
Survey Boundaries**

Fresno County, CA

LEGEND

Project Components

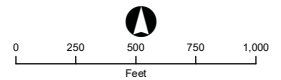
- - - Access Road
- [Red Outline] Site Boundary - Approx. 20 Acres
- [Pink Outline] LSPGC Controlled Property - Approx. 75 Acres

General Features

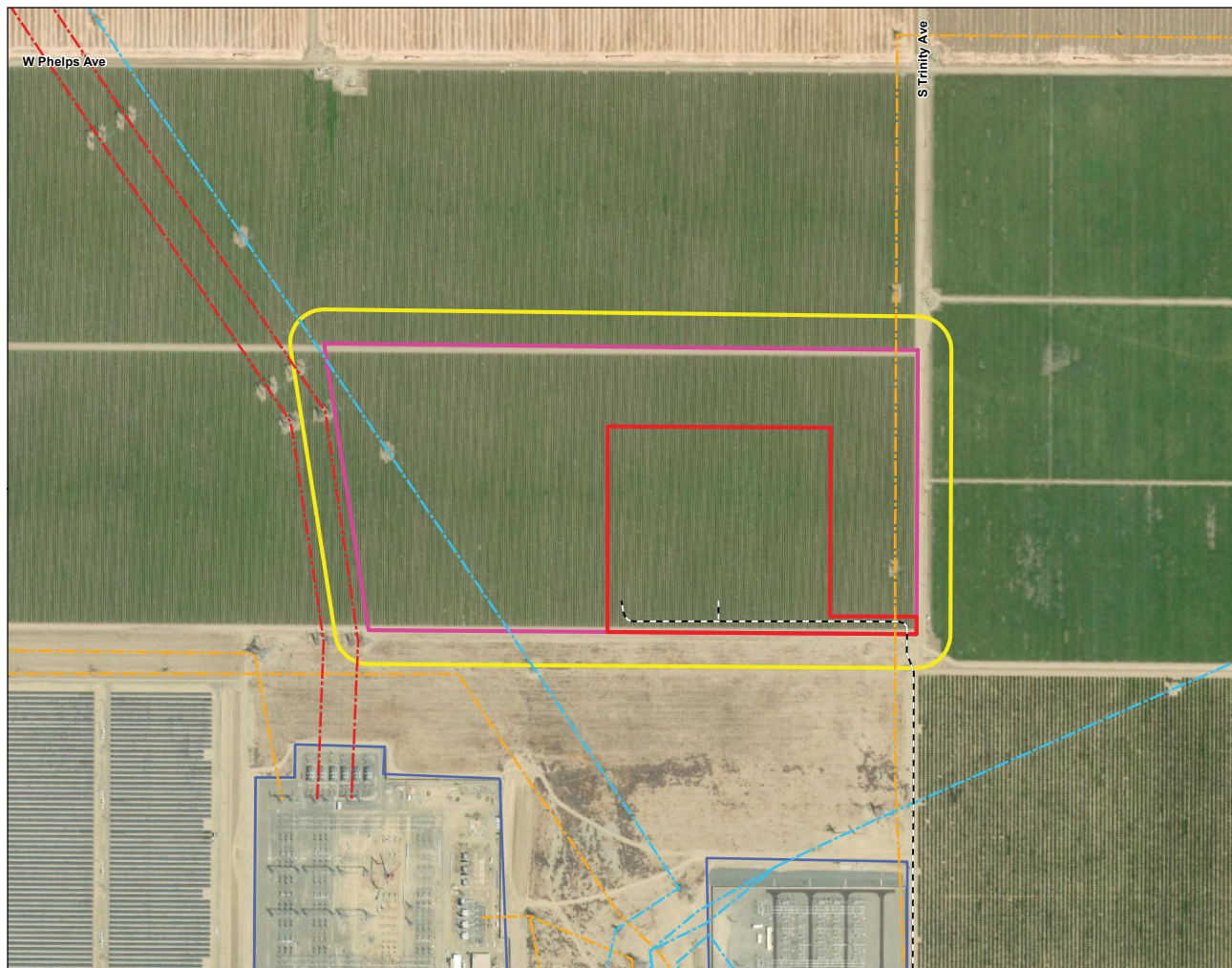
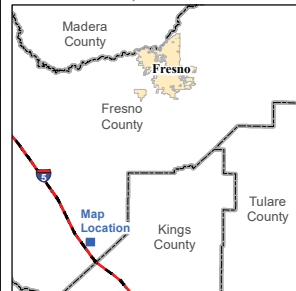
- [Red Dashed Line] Existing 500kV Transmission Line
- [Blue Dashed Line] Existing 230kV Transmission Line
- [Orange Dashed Line] Existing <100kV Transmission Line
- [Thick Red Line] Interstate
- [Blue Outline] Gates Substation
- [Grey Outline] County Boundary
- [Yellow Outline] Municipality

Cultural Resources

- [Yellow Outline] Cultural Survey Area



SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXDs\Cultural\Cultural Survey Area
101520.mxd 10/15/20 gjw



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.7-1 Known Active Faults
Within the Proposed Project
Area / Regional Area**

Fresno County, CA

LEGEND

Project Components

- ★ Project Site
- 10-Mile Buffer of Site Boundary and Access Road

General Features

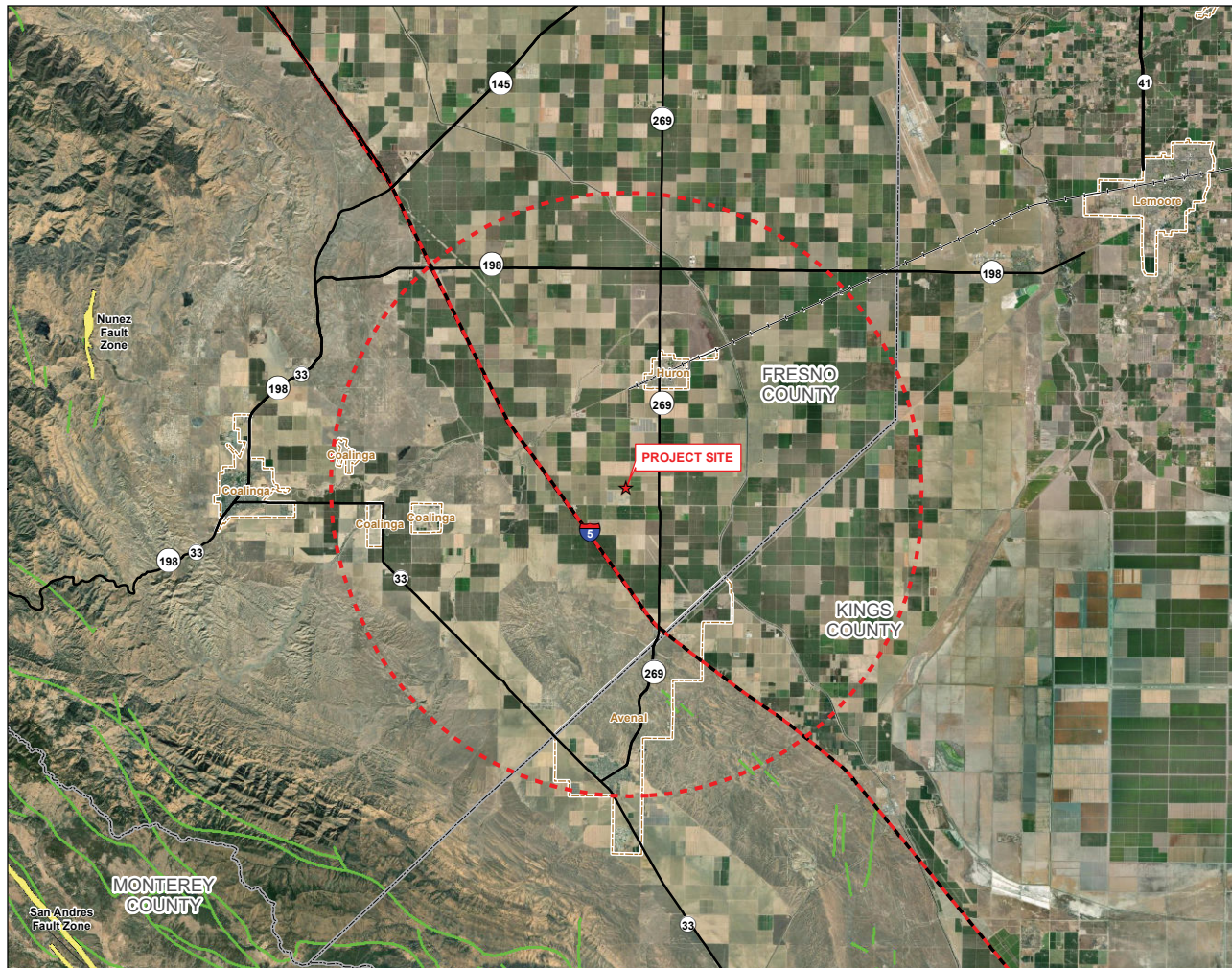
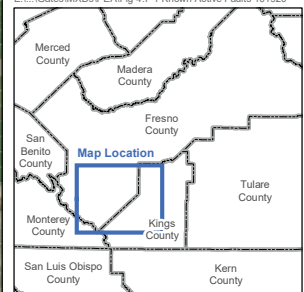
- Interstate
- Highway
- Railroad
- Municipal Boundary
- County Boundary

Known Active Faults

- Active Fault
- Fault Zones



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA, USGS
E:_IGates\MXDs\PEAFig 4.7-1 Known Active Faults 101100



Data Sources: ESRI, Fresno Co., USDA, USGS SPCS NAD83 CA Zone IV Feet 2 100000000 2000 5.14.10

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.7-2 Geologic Units
at Proposed Project Area**

Fresno County, CA

LEGEND

Project Components

- - - Access Road
- Site Boundary - Approx. 20 Acres
- 1-Mile Buffer of Site Boundary and Access Road

General Features

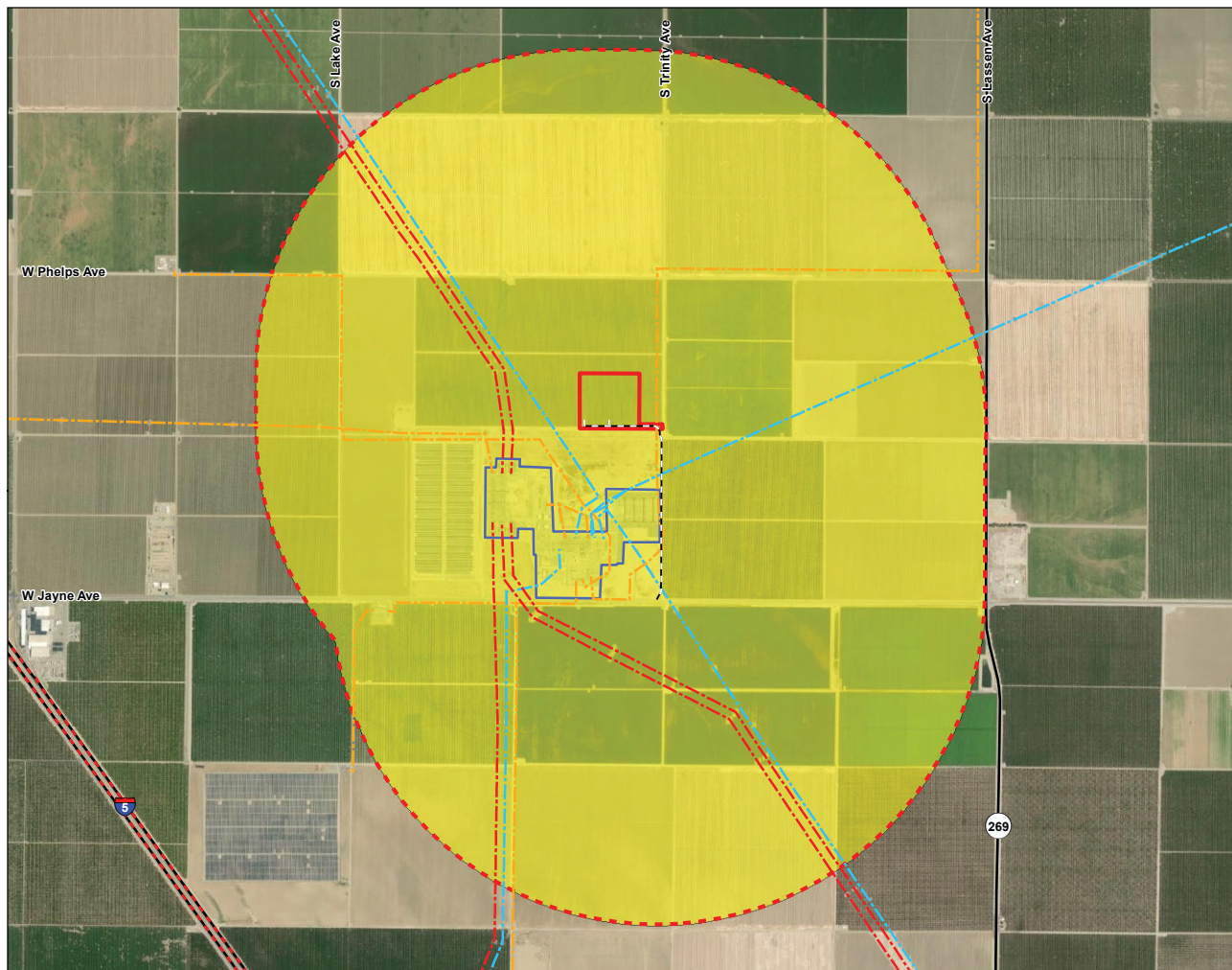
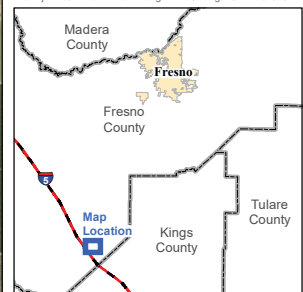
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality

Geologic Units

- Alluvial Terrace



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA, USGS,
E:\Projects\Gates\MXD\PEA\Fig 4.7-2 Geologic Units 101920



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.7-3 Soil Types
in the Proposed Project Area**

Fresno County, CA

LEGEND

Project Components

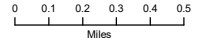
- Project Tie Line
- Access Road
- Site Boundary - Approx. 20 Acres
- 1-Mile Buffer of Site Boundary and Access Road

General Features

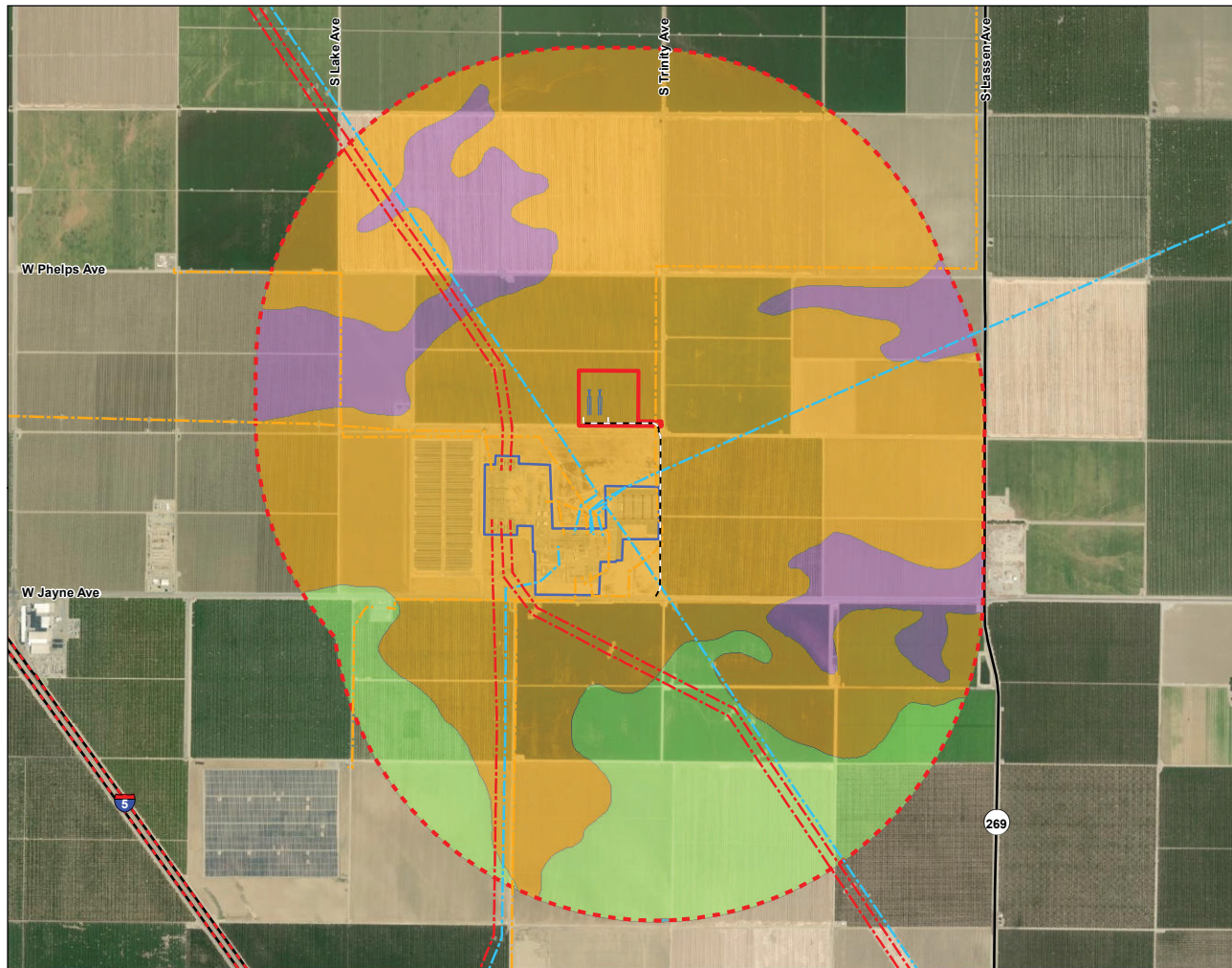
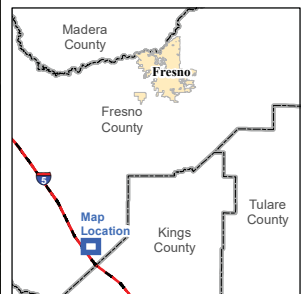
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality

Soil Types

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA.
E:\Projects\Gates\MXD\PE\Fig 4.7-3 Soil Types 101920.mxd



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**
Figure 4.11-1 Land Use and Zoning
Fresno County, CA

LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres
- 1-Mile Buffer of Site Boundary and Access Road

General Features

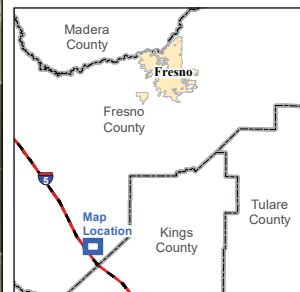
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- State Highway
- Gates Substation
- County Boundary
- Municipality

Land Use

- Agriculture
- Industrial
- Transportation

Zoning

- AE20 - Exclusive Agriculture - 20 Acre Minimum
- AE40 - Exclusive Agriculture - 40 Acre Minimum



SPCS NAD 83, CA Zone IV, US Ft. Data Sources: BLM, CalTrans, ESRI, Fresno County, USDA. E:\Projects\Gates\MapDocs\PEA\Fig 4.11-1 Land Use and Zoning 101920.mxd 10/19/20 - slr

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.13-1 Noise Sources
and Receiver Locations**

Fresno County, CA

LEGEND

Project Components

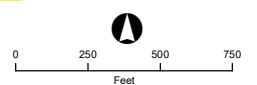
- - - Access Road
- Site Boundary - Approx. 20 Acres

Noise Sources and Receiver Locations

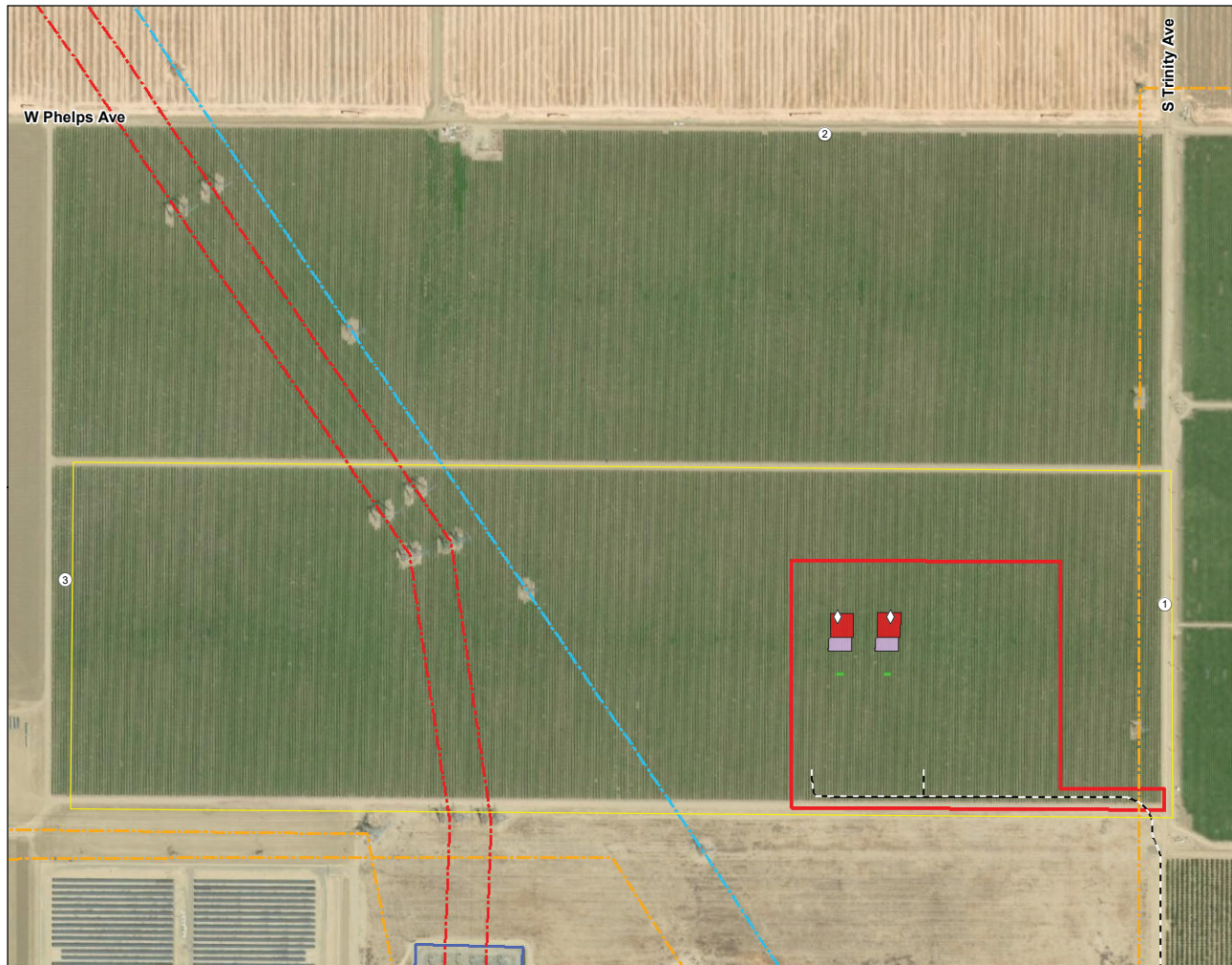
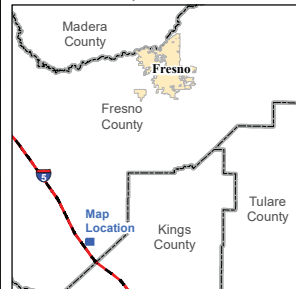
- Receiver Location
- HVAC Location
- Transformer
- Reactor
- Converter & Control Enclosure

General Features

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



SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CalTrans, ESRI, Fresno County, USDA.
F:\Gates\MXD\Noise Sources and Receiver Locations
102320.mxd 102720 g/w



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.13-2 Operational Noise
Level Contours**

Fresno County, CA

LEGEND

Project Components

- Access Road
- Site Boundary - Approx. 20 Acres

Noise Sources and Receiver Locations

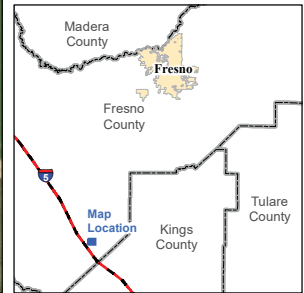
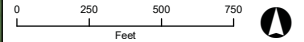
- Receiver Location
- HVAC Location
- Transformer
- Reactor
- Converter & Control Enclosure

Operational Noise Level Contours (dBA L₉₀)

- 40
- 45
- 50
- 55
- 60
- 65
- 70

General Features

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



SPCS NAD 83, CA Zone IV, US F1 Data Sources: CalTrans, ESRI, Fresno County, USDA F:\Gates\MXDs\PEA\Fig 4.13-2 Operational Noise Level Contours 102720.mxd 102720 sjw

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

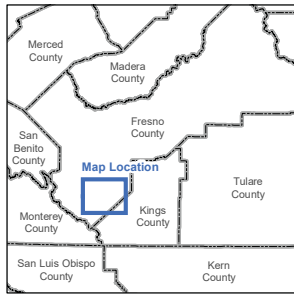
Figure 4.15-1 Public Service Facilities

Fresno County, CA

- LEGEND**
- Project Components**
- ★ Project Site
- General Features**
- Interstate
 - Highway
 - Railroad
 - Municipal Boundary
 - County Boundary
- Public Service Facilities**
- Fire Station
 - Police Station
 - ▲ Hospital
 - School
 - ▭ School District Boundary
 - Park or Open Space



SPCS NAD 83, CA Zone IV, US Ft.
Data Sources: CA.gov, CalFire, CalTrans, ESRI, Fresno Co.,
USDA
E:\Gates\MXD\PEA\Fig 4.15-1 Public Service Facilities 101920



Data Sources: ESRI, Fresno Co., USDA, USGS, SPCS NAD83 CA Zone IV Feet, 10/2020/10.mxd, 2020, 5/14/20

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.17-1
Regional Transportation-Related
Infrastructure**

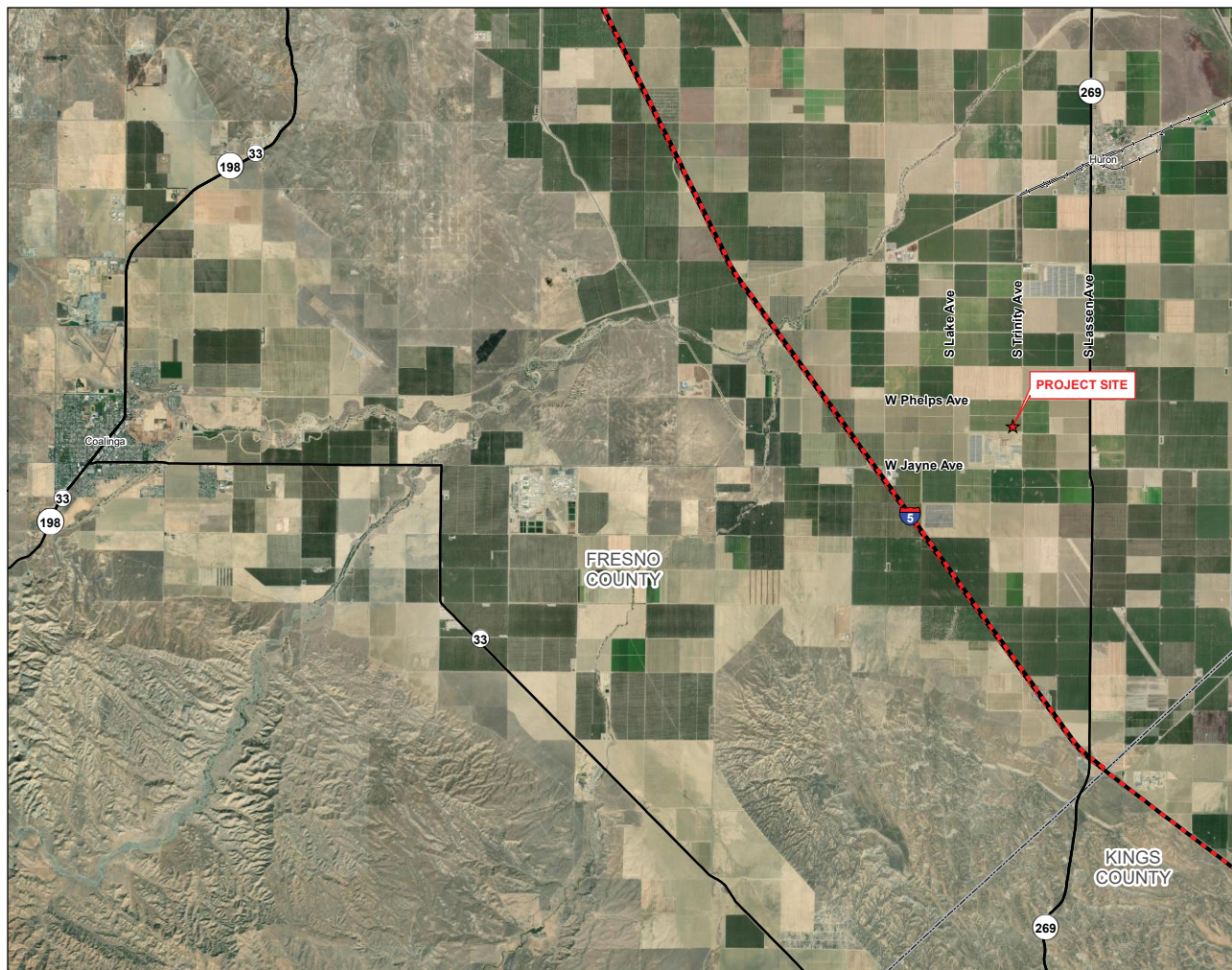
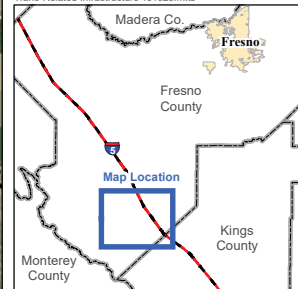
Fresno County, CA

LEGEND

- Project Components**
- ★ Project Site
- General Features**
- Interstate
 - State Highway
 - Railroad
 - County Boundary
 - Municipality



SPCS NAD 83, CA Zone IV, US F1
Data Sources: CalTrans, ESRI, Fresno County, USDA,
E:\Projects\Gates\MXD\PEA\Figure 4.17-1 Regional
Trans-Related Infrastructure 101920.mxd



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.17-2
Local Transportation-Related
Infrastructure**

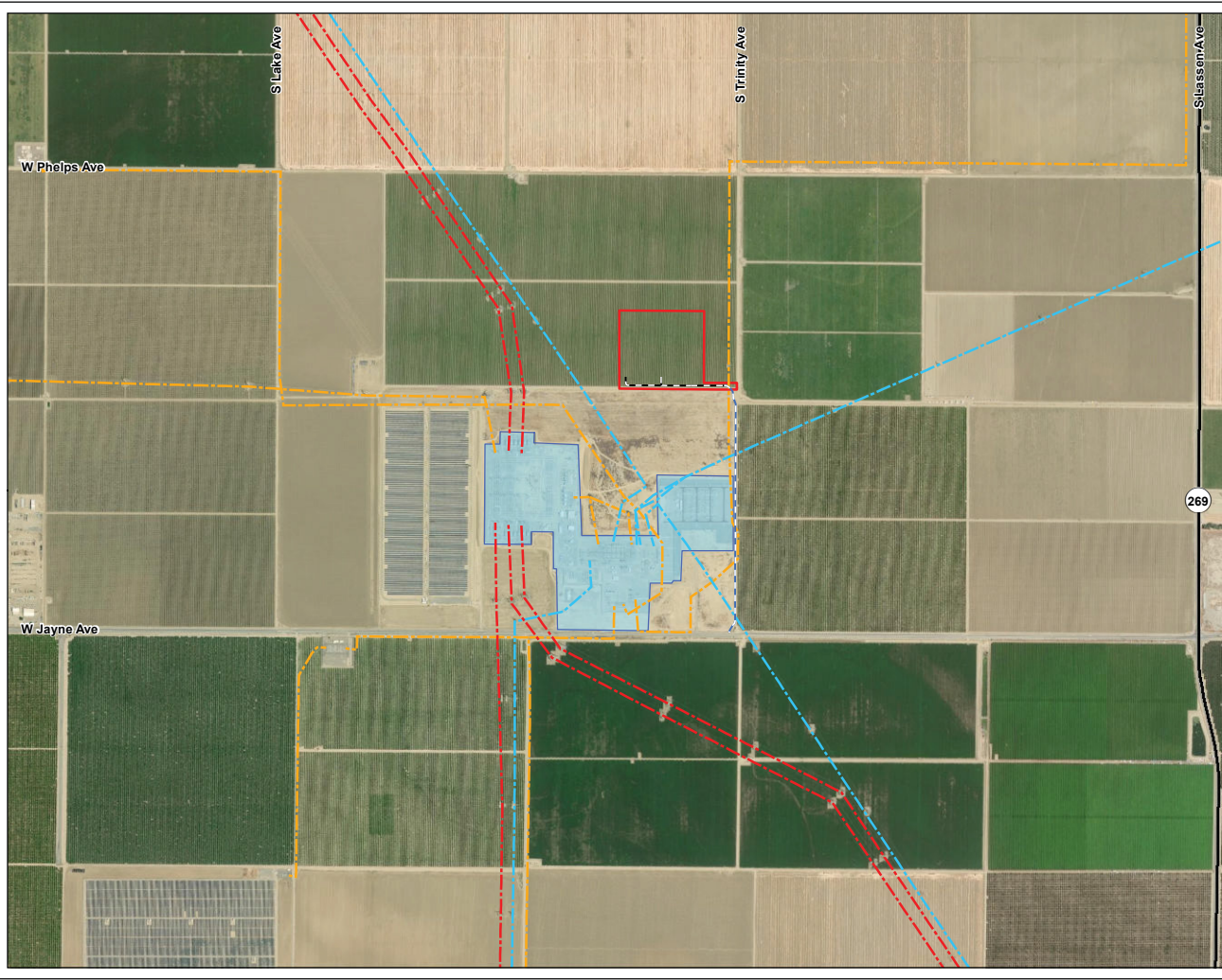
Fresno County, CA

LEGEND

- Project Components**
- East-West Access Road
 - North-South 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



SPCS NAD 83, CA Zone IV, US F1
Data Sources: CalTrans, ESRI, Fresno County, USDA
E:\Projects\Gates\MXD\PEA\Figure 4.17-2 Local Trans-Related
Infrastructure 101920.mxd



LSPGC - Gates 500 kV
Dynamic Reactive Support Project

Figure 4.20-1
Fire Hazard Severity Zones

Fresno County, CA

LEGEND

Project Components

- ★ Project Site

Fire Hazard Severity Zones (SRA)

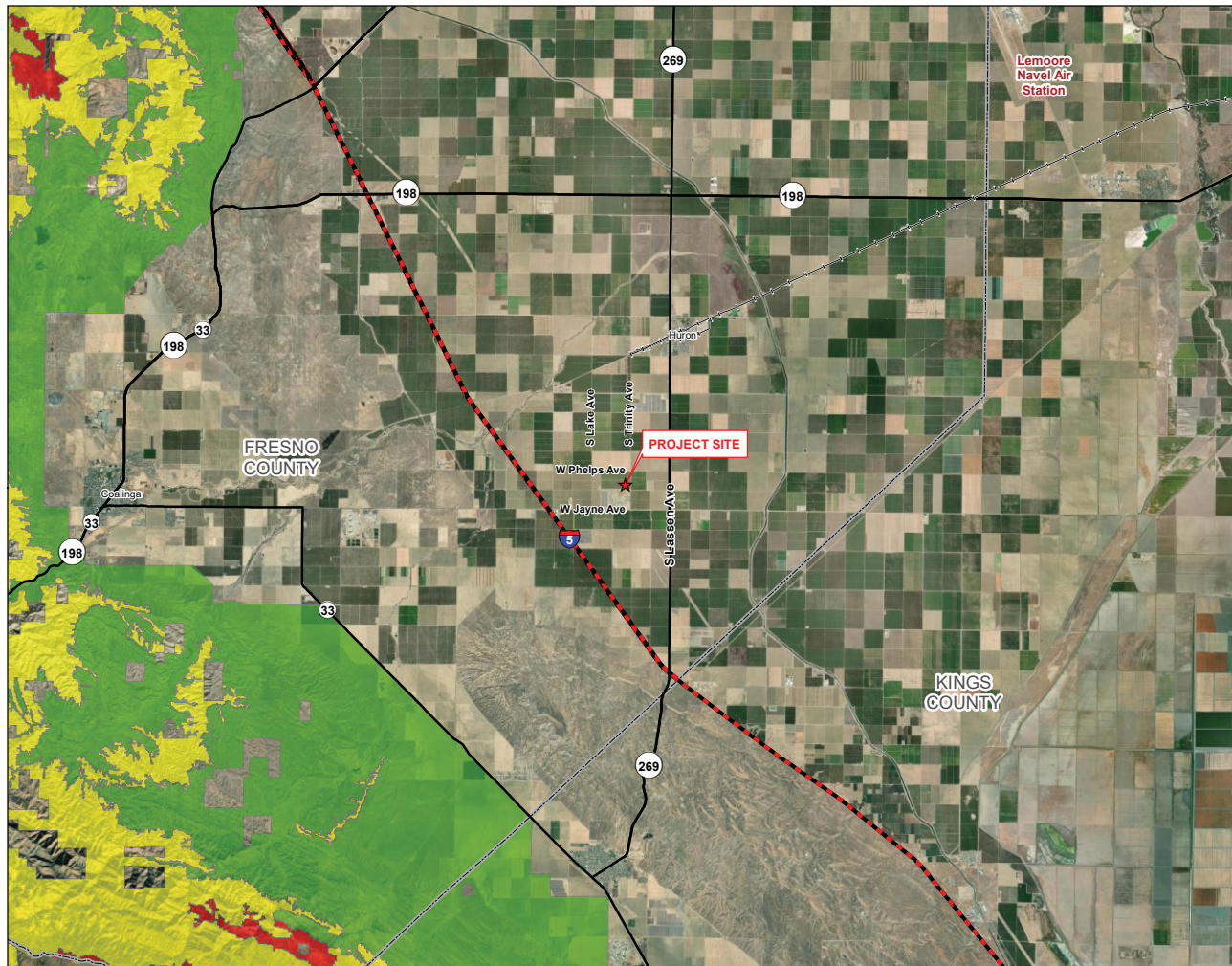
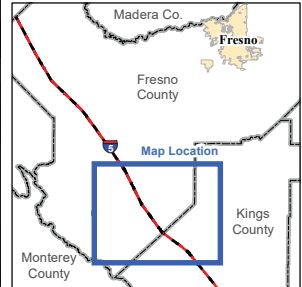
- Moderate
- High
- Very High

General Features

- Interstate
- State Highway
- Railroad
- County Boundary
- Municipality



SPCS NAD 83, CA Zone IV, US FT.
Data Sources: CalFire, CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXDs\PEA\Figure 4.20-1 Fire Hazard Severity
Zones 101920.mxd



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

**Figure 4.20-2
CPUC Fire Threat Districts**

Fresno County, CA

LEGEND

Project Components

- ★ Project Site

CPUC Fire Threat District

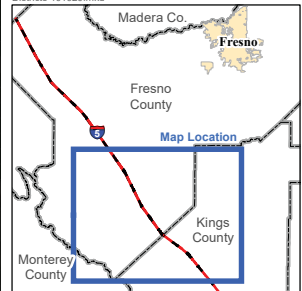
- Tier 2

General Features

- Interstate
- State Highway
- Railroad
- County Boundary
- Municipality



SPCS NAD 83, CA Zone IV, US FT.
Data Sources: CPUC, CalTrans, ESRI, Fresno County, USDA.
E:\Projects\Gates\MXDs\PEA\Figure 4.20-2 CPUC Fire Threat
Districts 101920.mxd







**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 5-1 Cumulative Projects








Fresno County, CA

LEGEND









Project Components

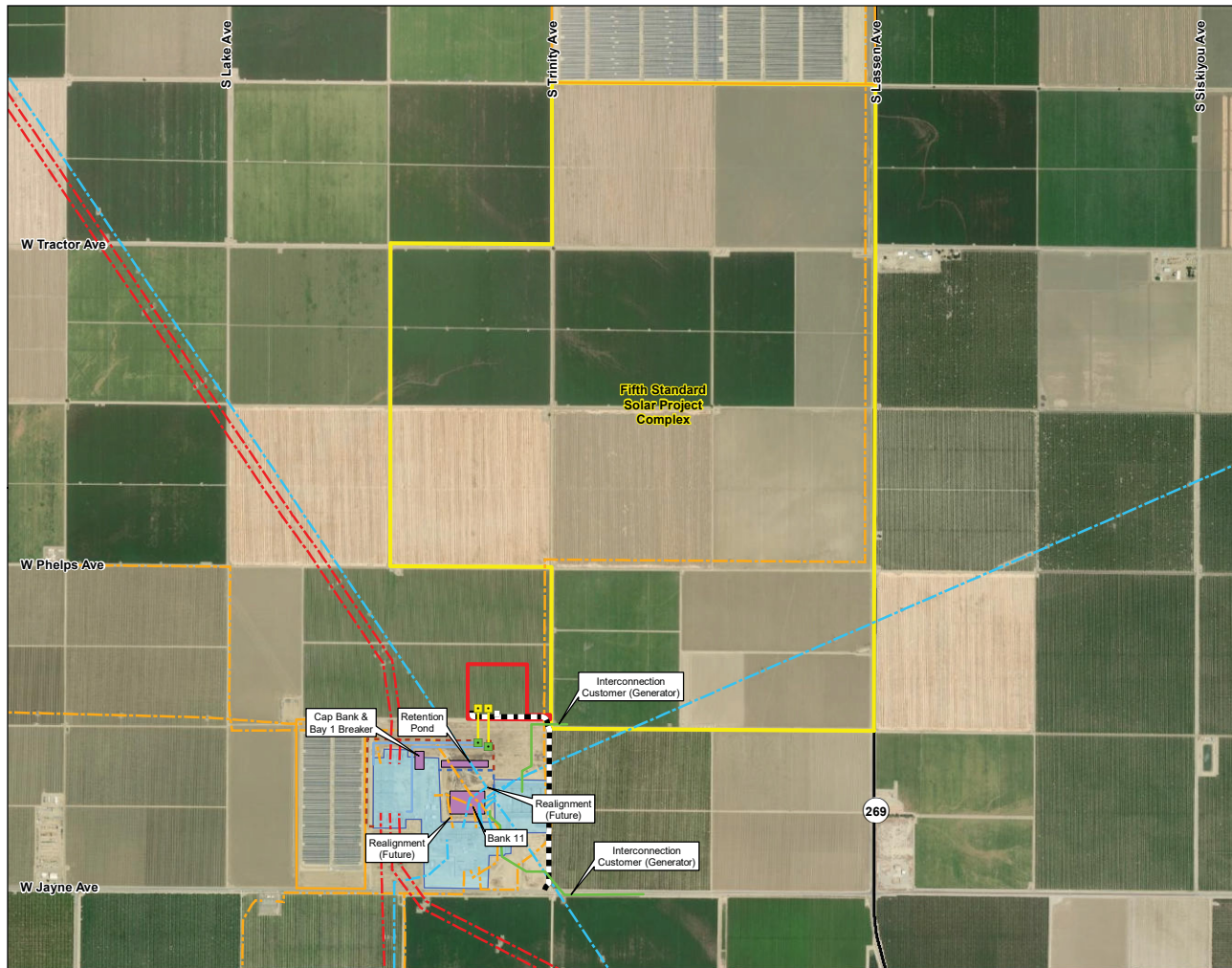
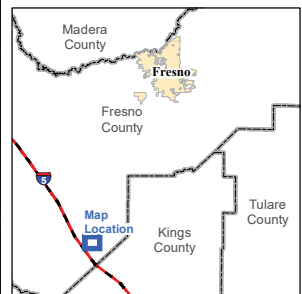
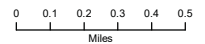
-  Project Take-Off Structure
-  500kV Transmission Line
-  Access Road
-  Site Boundary - Approx. 20 Acres

Cumulative Projects

-  Dead-End Structure
-  New 500kV Transmission Line
-  Interconnection Customer (Generator)
-  Relocated New Security Wall - 500kV Dynamic Voltage Support
-  Relocated New Security Wall - 230kV Bus E Conversion Project
-  Future Gates Components
-  Fifth Standard Solar Project Complex

General Features

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



SPCS NAD 83, CA Zone IV, US F1. Data Sources: CalTrans, ESRI, Fresno County, USDA. E:\Gates\MXDs\PEA\Fig 5-1 Cumulative Projects 111220.mxd

Appendix 4.3-A – Air Quality Assessment

AIR QUALITY ASSESSMENT

**Gates 500 kV Dynamic Reactive Support
Fresno County, CA**

Prepared By:

Ldn Consulting, Inc.

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Murrieta, California 92562
760-473-1253**

Prepared for:

**Heritage Environmental Consultants, LLC
8071 E 33rd Ave
Denver, CO 80238**

February 13, 2021

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LIST OF COMMON ACRONYMS

California Air Resource Board (CARB)
California Ambient Air Quality Standards (CAAQS)
California Environmental Quality Act (CEQA)
Carbon Monoxide (CO)
Carbon Dioxide (CO₂)
Diesel Particulate Matter (DPM)
Environmental Protection Agency (EPA)
Hydrogen Sulfide (H₂S)
Level of Service (LOS)
National ambient air quality standards (NAAQS)
Nitrogen Dioxide (NO₂)
Ozone (O₃)
Reactive Organic Gas (ROG)
Regional Air Quality Strategy (RAQS)
San Joaquin Valley Air Pollution Control District (SJVAPCD)
State Implementation Plan (SIP)
Volatile Organic Compounds (VOC)

1.0 INTRODUCTION

1.1 Purpose of this Assessment

The purpose of this Air Quality Assessment is to determine potential air quality impacts (if any) that may be created during construction or operation of the proposed Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Project), located in the unincorporated area of Fresno County near Huron Ca. Should the potential for air quality impacts be identified, the intent of this assessment would be to recommend mitigation measures, which would reduce those impacts to a level of insignificance.

1.2 Project Location

The 15 acre Project site is located within a 72 acre parcel which is currently being used for agricultural uses and is located immediately west of South Trinity Avenue between Phelps Avenue to the north and W Jayne Avenue to the south and is located within the northeast quarter of Public Land Survey System (PLSS) Section 33 of Township 20 South and 17 East. The primary access to the Proposed Project for both construction and operations will be along Jayne Avenue. The site is located approximately 3.5 miles southwest of the City of Huron. Figure 1-A shows the project vicinity.

1.3 Project Description

The proposed project which would be constructed and operated by LS Power Grid California (LSPGC). The project seeks to construct two new STATCOM facilities and two new single circuit 500kV transmission lines that will connect to the existing PG&E Gates Substation. The STATCOM facility will support the regional transmission system by providing voltage support and grid stability at the Gates 500kV bus. This will facilitate the reliable operation of the extra high voltage transmission system buses in the electrical proximity of the Gates 500kV substation after the retirement of the Diablo Canyon nuclear generating units. The transmission system in the vicinity of the Proposed Project includes the existing PG&E Gates Substation which currently serves the electrical needs of PG&E customers and operates various 500kV transmission lines, 230kV transmission lines, and 70kV transmission lines. The Gates Substation will need to be expanded to provide two new 500kV bus positions, one for each STATCOM unit.

The Proposed Project will include the following main components:

- Construction of two new STATCOM facilities with a rated real power output of 0 MW, and a nominal terminal voltage of 500 kV;

- Improvement of existing public and private dirt roads to facilitate construction, operation, and maintenance of the STATCOM units;
- Installation of two new approximately 550-feet 500 kV single-circuit overhead electrical transmission lines between the STATCOM units and the Gates Substation;
- Expansion of the Gates Substation to provide two new bus positions, one for each STATCOM unit. This will require the addition of two new 500kV breakers, 500kV disconnect switches, PT's & CT's, protection and control, take-off structures, and associated equipment.
- A 4,000 square-foot (SF) control building for each STATCOM facility.
- 3,200 lineal feet (LF) of 20 foot wide gravel covered access roads.

The Gates 500 kV Dynamic Reactive Support Project (Proposed Project or Project) was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of a major portion of the CAISO controlled grid and accommodate maintenance and contingencies of the reactive device. This would be accomplished through the construction of a dynamic reactive device between two equally sized blocks. The general project area is shown in Figure 1-B.

The Project will be operated, monitored and dispatched remotely on a day-to-day basis. Crews of two to four person's will periodically visit the site (approximately twice per month) for routine inspection and maintenance of the facilities and site. The Developer will own and maintain the facility up to the point where the system enters PG&E property.

1.4 Project Construction

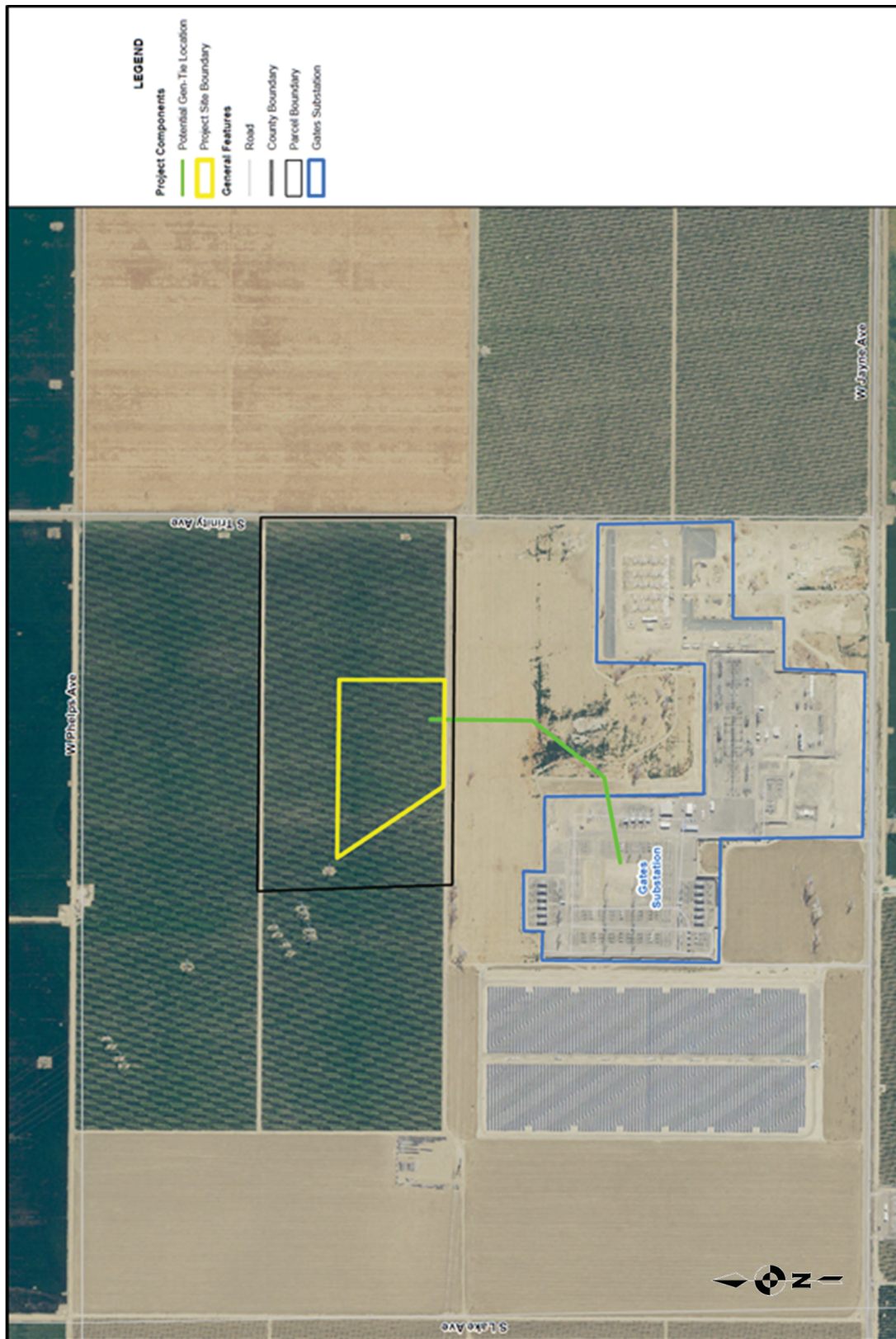
Project construction includes site preparation and grading, installation of drainage and retention basins, foundations/supports, setting of equipment, wiring and electrical system installation, and assembly of the accessory components. The Project would require the grading of approximately 9.2 acres and will require an import of roughly 17,000 CY of suitable site materials and export of roughly 2,000 CY of excess material. The Project plans to start grading and construction in the second quarter of 2022 and be completed in the fourth quarter of 2023. Additionally, the project will require 740,000 gallons of water which would be trucked to the site daily. Also, it should be noted that the peak construction activities will be during the earthwork phase of the project between March and May of 2022. The site grading plan is shown in Figure 1-C.

Figure 1-A: Project Vicinity Map



Source: (Google, 2017)

Figure 1-B: Project Site and Preliminary Gen-tie Alignment Options



[illegible]

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2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The subject property is generally level and has been previously disturbed for mostly agricultural uses. The site is generally flat, and onsite elevations are at or around 400 feet above mean sea level. The Project is located in an area utilized for agricultural and Utility infrastructure uses with industrial uses nearby. Residential receptors near the Project site are identified in Figure 3.A.

2.2 Climate and Meteorology

Climate within the San Joaquin Valley Air Basin (SJVAB) is a large air district within the state and encompasses Fresno, Kern (western and central), Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. Weather is typically warm and dry in the summer and during the winter months, the high-pressure system drops to the south and brings cooler, moister weather from the north. It is common for inversion layers to develop within high-pressure areas over parts of the basin. These inversions are caused when a thin layer of the atmosphere increases in temperature with height. An inversion acts like a lid preventing vertical mixing of air through convective overturning.

Meteorological trends within the project area has average daytime highs ranging between 55°F in the winter to approximately 97°F in the summer with July usually being the hottest month. Precipitation is generally about 8.4 inches per year (WRCC, 2020). Prevailing wind patterns for the area vary during any given month during the year and also vary depending on the time of day or night. The predominant pattern though throughout the year is usually from the west or westerly (WRCC, 2018).

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of National Ambient Air Quality Standards (NAAQS) for major air pollutants.

The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. ***Primary Standards*** set limits for the intention of protecting public

health, which includes sensitive populations such as asthmatics, children and elderly. **Secondary Standards** set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards has set NAAQS for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

1. **Carbon Monoxide (CO):** *is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.*
2. **Lead (Pb):** *is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.*
3. **Nitrogen Dioxide (NO₂):** *is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO₂ is usually visible as a reddish-brown air layer over urban areas. NO₂ along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO₂ above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO₂ exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.*
4. **Particulate Matter (PM₁₀ or PM_{2.5}):** *is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM₁₀ particles are 10 microns (µm) or less and PM_{2.5} particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.*
5. **Ozone (O₃):** *is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics.*
6. **Sulfur Dioxide (SO₂):** *is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO₂ exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity.*

Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO₂ results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

2.3.2 State Standards and Definitions

California Air Resource Board (CARB) sets the laws and regulations for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) is similar to the NAAQS and also restricts four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. **Visibility Reducing Particles:** *Particles in the Air that obstruct the visibility.*
2. **Sulfates:** *are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.*
3. **Hydrogen Sulfide (H₂S):** *is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H₂S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H₂S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 Parts per Million (ppm)) can cause a loss of consciousness and possibly death.*
4. **Vinyl Chloride:** *also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).*

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Average Time	California Standards ¹		Federal Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM10) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		-		
Fine Particulate Matter (PM2.5) ⁹	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12 µg/m ³		
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	-	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		-		
Nitrogen Dioxide (NO ₂) ¹⁰	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³) ⁸	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm ⁸ (188/ µg/m ³)		
Sulfur Dioxide (SO ₂) ¹¹	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm ¹⁰ (for Certain Areas)	-	Ultraviolet Fluorescence; Spectrophotometry (Pararoosaniline Method) ⁹
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm ¹⁰ (for Certain Areas) (See Footnote 9)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m ³)	
	1 Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³)	-	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	-	Same as Primary Standard	-
	Calendar Quarter	-		1.5 µg/m ³		
	Rolling 3-Month Average	-		0.15 µg/m ³		
Visibility Reducing Particles	8 Hour	See footnote 14				
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			
<div>1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.</div> <div>2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.</div> <div>3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.</div> <div>4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.</div> <div>5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.</div> <div>6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</div> <div>7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.</div> <div>8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.</div> <div>9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3 . The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3 , as was the annual secondary standard of 15 µg/m3 . The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.</div> <div>10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.</div> <div>11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.</div> <div>12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.</div> <div>13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.</div> <div>14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.</div>						

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as “non-attainment areas” for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the PM_{2.5} standard and many areas are in non-attainment for PM₁₀ as well. California therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed to attain ambient air quality standards.

The San Joaquin Valley Air Control District (SJVAPCD) is the government agency which regulates sources of air pollution within County of Fresno and it is the jurisdictional entity that is responsible for implementing the SIP. The SJVAPCD developed a Regional Air Quality Management plan to provide control measures to try to achieve attainment status for state ozone standards. An attainment plan is available for O₃ Particulate Matter and Carbon Monoxide (SJVAPCD, 2020).

Table 2.2: San Joaquin Valley Attainment Status by Pollutant

Criteria Pollutant	Federal Designation	State Designation
Ozone (1-Hour)	No Federal Standard*	Nonattainment/Severe
Ozone (8-Hour)	Nonattainment/Extreme**	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Non-Attainment***	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
<p>* Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.</p> <p>** Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).</p> <p>*** The Valley is designated nonattainment for the 1997 PM_{2.5} NAAQS. EPA designated the Valley as nonattainment for the 2006 PM_{2.5} NAAQS on November 13, 2009 (effective December 14, 2009).</p> <p>(SJVAPCD, 2020)</p>		

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA guidelines and are as follows:

AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

- A: Conflict with or obstruct implementation of the applicable air quality plan?
- B: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
- C: Expose sensitive receptors to substantial pollutant concentrations?
- D: Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

2.5 SJVAPCD Air Quality Impact Assessment Significance Thresholds

The SJVAPCD has established thresholds for Criteria Pollutants for use in all County related Air Quality Impact Assessments and for determining CEQA air quality impacts (SJVAPCD, 2015). These significance thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that a project's total air quality impacts are below the state and federal ambient air quality standards. The significance thresholds for construction and daily operations are shown in Table 2.3.

Non-Criteria pollutants such as Hazardous Air Pollutants or Toxic Air Contaminants (TACs) are also regulated by the SJVAPCD. These are broken out into Carcinogens and Non-Carcinogens (Acute and Chronic). A project that cannot increase the cancer risk to greater than 20 for the Maximally Exposed Individual (MEI). For both Acute and Chronic Non-Carcinogens, A project can not increase the Hazard Index to greater than 1 for the MEI. (SJVAPCD, 2015)

Table 2.3: SJVAPCD Significance Thresholds for Criteria Pollutants

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (Tons/Yr)	Emissions (Tons/Yr)	Emissions (Tons/Yr)
Carbon Monoxide (CO)	100	100	100
Nitrogen Oxide (NO _x)	10	10	10
Reactive Organic Gases (ROG)	10	10	10
Sulfur Oxide (SO _x)	27	27	27
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	15	15	15

2.6 District Rule 9510 Indirect Source Review (ISR)

District Rule 9510 Indirect Source Review (ISR), was adopted by the District's Governing Board in 2005 to reduce the impacts of growth in emissions resulting from new land development in the San Joaquin Valley (SJVAPCD, 2005). District Rule 9510 applies to new development projects that would equal or exceed specific size limits called "applicability thresholds." The applicability thresholds were established at levels intended to capture projects that emit at least two tons of NO_x or two tons of PM₁₀ per year (SJVAPCD, 2012). Projects which exceed these levels are required to reduce emissions for the exceeded emission by 20 percent NO_x or 45 percent PM₁₀ when compared to unmitigated project baseline emissions (SJVAPCD, 2020).

2.7 Local Air Quality

Criteria pollutants are measured continuously throughout the San Joaquin Valley Air Basin. This data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The SJVAPCB is responsible for monitoring and reporting monitoring data and CARBs data is updated yearly (CARB, 2020). Table 2.4 on the following page identifies the criteria pollutants monitored at the stations. It should be noted: that within the Valley, none of SJVAPCDs air quality monitors measure Carbon Monoxide (CO).

Table 2.4: Three-Year Ambient Air Quality Summary San Joaquin Air Basin

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2016	2017	2018	Days Exceeded over 3 years
O ₃ (ppm)	San Joaquin Valley Air Basin Average	1 Hour	0.09 ppm	No Standard	0.131	0.143	0.129	3
		8 Hour	0.070 ppm	0.070 ppm	0.101	0.112	0.101	345
PM ₁₀ (µg/m ³)		24 Hour	50 µg/m ³	150 µg/m ³	132.5	210	250.4	435
		Annual Arithmetic Mean	20 µg/m ³	No Standard	47.3	48.4	53.0	¹ Not Reported
PM _{2.5} (µg/m ³)		24 Hour	No Standard	35 µg/m ³	66.4	113.4	189.8	142
		Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	16	16.8	18.7	¹ Not Reported
NO ₂ (ppm)		Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.012	0.020	0.013	¹ Not Reported
		1 Hour	0.18 ppm	0.100 ppm	0.072	0.066	0.076	No exceedances identified
1. Not Reported data is data that does not exist. The annual emissions are over the year and therefore do not have daily exceedance (CARB, 2020)								

3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Potential air quality impacts related to Project construction and operations were calculated using the latest CalEEMod 2016.3.2 air quality model, which was developed by BREEZE Software for SCAQMD in 2017. The construction module in CalEEMod is used to calculate the emissions associated with Project construction and uses methodologies presented in the U.S. EPA AP-42 document with emphasis on Chapter 11.9. The CalEEMod input/output model is shown in **Attachment A** to this Assessment.

The AERMOD dispersion model will be used to determine the concentration for air pollutants at any location near the pollutant generator. Additionally, the model will predict the maximum exposure distance and concentrations. The notable toxic air contaminant from construction is diesel exhaust, since exposure to diesel exhaust is known to cause cancer and acute and chronic health effects. Diesel exhaust emissions can be estimated using the annual PM₁₀ exhaust emissions from onsite construction operations obtained from the annual CalEEMod model output by summing each onsite source for the construction duration. The AERMOD files for the Project are provided in **Attachments B** for the unmitigated scenario.

Once the dispersed concentrations of diesel particulates are estimated in the surrounding air, they are used to evaluate estimated exposure to people. Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/d). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose-air) is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. The following algorithms calculate this dose for exposure through the inhalation pathways. The worst-case cancer risk dose calculation is defined in Equation 1 below (OEHHA, February 2015)

Equation 1
$$Dose_{air} = C_{air} * (BR/BW) * A * EF * (1 \times 10^{-6})$$

Dose _{air}	=	Dose through inhalation (mg/kg/d)
C _{air}	=	Concentration in air (µg/m ³) Annual average DPM concentration in µg/m ³ - AERMOD predicts annual averages.
BR/BW	=	Daily breathing rate normalized to body weight (L/kg BW-day). See Table I.2 for the daily breathing rate for each age range.
A	=	Inhalation absorption factor (assumed to be 1)
EF	=	Exposure frequency (unitless, days/365 days)
1x10 ⁻⁶	=	Milligrams to micrograms conversion (10 ⁻³ mg/ µg), cubic meters to liters conversion (10 ⁻³ m ³ /l)

Cancer risk is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure

duration divided by averaging time, to yield the excess cancer risk. As described below, the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. Specific factors as modeled are shown within the Project models attached to this Assessment. The worst-case cancer risk calculation is defined in Equation 2 below (OEHHA, February 2015):

$$\text{Equation 2} \quad \text{RISK}_{\text{inh-res}} = \text{DOSE}_{\text{air}} \times \text{CPF} \times \text{ASF} \times \text{ED/AT} \times \text{FAH}$$

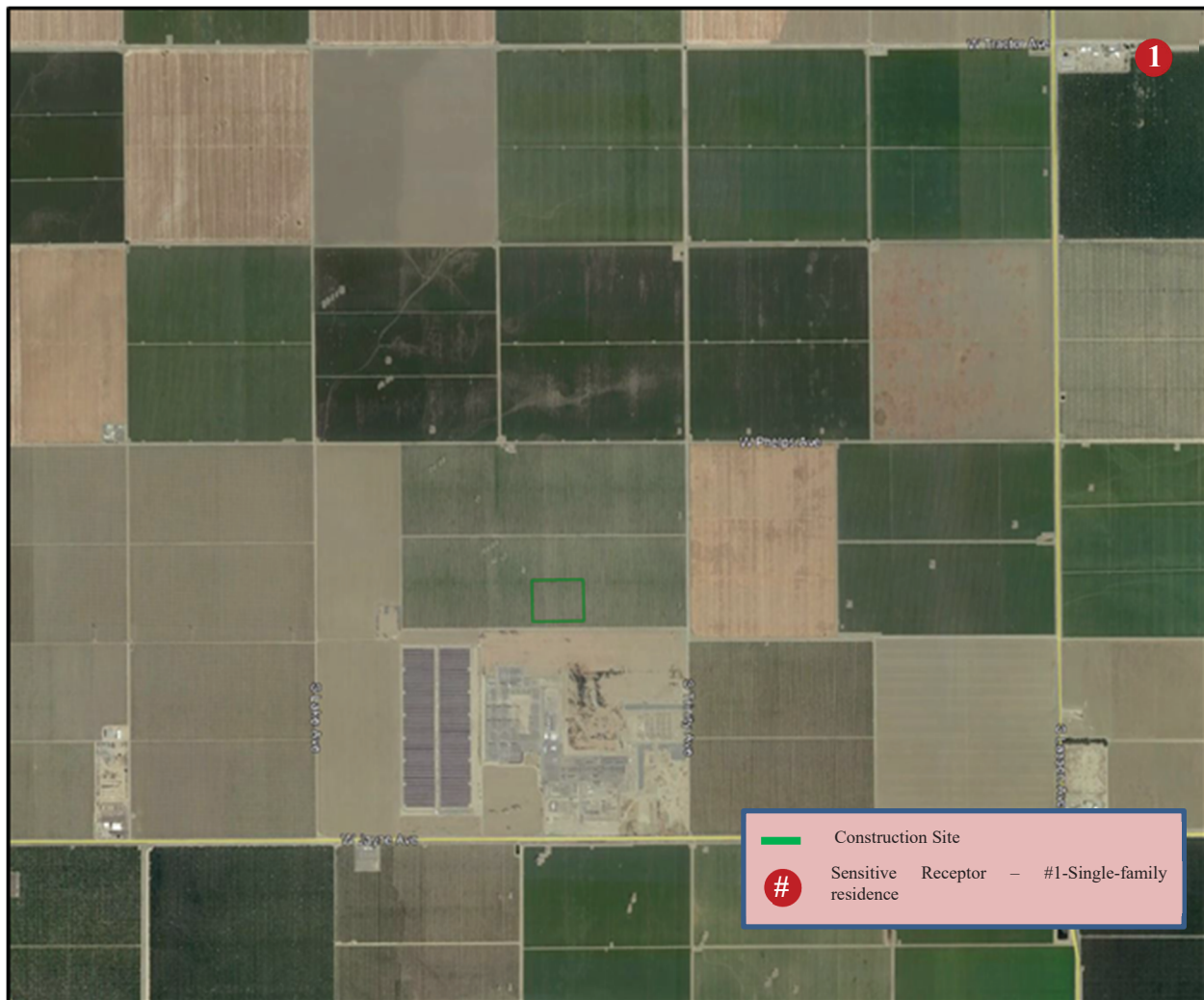
RISK _{inh-res}	=	Residential inhalation cancer risk
DOSE _{air}	=	Daily inhalation dose (mg/kg-day)
CPF	=	Inhalation cancer potency factor (mg/kg-day ⁻¹)
ASF	=	Age sensitivity factor for a specified age group (unitless)
ED	=	Exposure duration (in years) for a specified age group
AT	=	Averaging time for lifetime cancer risk (years)
FAH	=	Fraction of time spent at home (unitless)

The California Office of Environmental Health Hazard Assessment (OEHHA) recommends that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). OEHHA also recommends that the 30-year exposure duration be used as the basis for public notification and risk reduction audits and plans. Exposure durations of 9-years and 70-years are also recommended to be evaluated for the MEIR to show the range of cancer risk based on residency periods. If a facility is notifying the public regarding cancer risk, the 9-and 70-year cancer risk estimates are useful for people who have resided in their current residence for periods shorter and longer than 30 years. Health risk calculations are shown in **Attachment C** to this Assessment.

Non-Cancer risks or risks defined as chronic or acute are also known with respect to Diesel Particulate Matter (DPM) and are determined by the hazard index. To calculate hazard index, DPM concentration is divided by its chronic Reference Exposure Levels (REL). Where the total equals or exceeds one, a health hazard is presumed to exist. RELs are published by the Office of Environmental Health Hazard Assessment (OEHHA, February 2015). Diesel Exhaust has a REL of 5 µg/m³ and targets the respiratory system.

A graphical representation of the modeling locations for the Project is shown on an aerial of the Project site and vicinity below in Figure 3-A. The red point (#1) represent the closest and only sensitive residential receptor location near the project site and is approximately 1.8 miles from the project. AERMOD was prepared to calculate emissions at this location.

Figure 3-A: Construction Health Risk Model Setup



Source: (Google Earth Pro, 2020)

The California Air Resources Board (CARB) regulations require that – starting in 2020 – all off-road equipment needs to be Tier 4 with over one third of the total equipment in the state being Tier 4 Final (California Air Resources Board, 2009). The project will be under construction in 2022 and 2023.

3.2 Construction Assumptions

Project construction includes site preparation and grading, installation of drainage and retention basins, foundations/supports, setting of equipment, wiring and electrical system installation, and assembly of the accessory components. The Project would require the grading of approximately 9.2 acres and will require an import of roughly 17,000 CY of suitable base material and export of roughly 2,000 CY. The Project plans to start grading and

construction in the second quarter of 2022 and be completed in the fourth quarter of 2023 and was assumed to have a six-day working week. Material hauling/truck details along with worker trips were provided within the project description (See Table 3-6) and was manually updated within the CalEEMod software. Table 3.1 shows the expected equipment and durations as provided by the Project Engineer/Applicant.

Table 3.1: Anticipated Construction Equipment and Durations

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Site Prep/roadway work	03/15/2022	5/28/2022		
Graders			1	250
Off-Highway Trucks (Dump Truck)			4	415
Off-Highway Trucks (Water Truck)			4	300
Rollers			1	405
Rubber Tired Loaders (4-5 yard)			1	275
Below Grade Construction	06/1/2022	8/30/2022		
Excavators			1	108
Off-Highway Trucks (Water Truck)			4	300
Forklifts			1	100
Tractors/Loaders/Backhoes			1	68
Excavators			1	70
Rubber Tired Loaders (4-5 yard)			1	275
Drill Rig			1	125
Off-Highway Trucks (Dump Truck)			1	415
Skid Steer Loaders			1	74
Trenchers			1	75
Above Grade Construction	09/1/2022	8/15/2023		
Aerial Lifts			1	49
Aerial Lifts			1	74
Cranes (17 Ton)			1	250
Cranes (30 ton)			1	130
Forklifts			2	130
Welders			1	395
¹Commissioning and Testing	8/16/23	12/15/23		
Forklifts			2	130
Aerial Lifts			1	49
1. Commissioning and Testing estimated between 6/15/23 – 12/15/23. For purposes of modeling and to avoid double counting, Forklifts and Aerial Lifts are the same units as Above Grade Construction. For this purpose, commissioning and testing was modeled with a start date of 8/16/23.				

3.3 Operational Assumptions

Once operational, the Project would generate very few air quality emissions from daily operations. Operational emissions sources would include the consumption of little energy onsite from Project auxiliary equipment, such as control room HVAC units, communications equipment and lighting. It's assumed that the total demand onsite would be 6 kw continuous per building or roughly 105,120 kWh per year and was modeled as such within CalEEMod.

Mobile vehicle visits to the Project site associated with periodic operations and maintenance would also generate air emissions. Monthly operations staff operations and maintenance visits, with crews of two to four persons are expected to generate 2 to 4 trips twice per month. For purposes of preparing an overly conservative analysis, it was assumed that the Project would generate 4 trips per day using a rural setting. CalEEMod has been updated to reflect Project-related operational conditions.

3.4 Odor (Onsite)

The Project may create temporary construction odors from combustion engine equipment but would not be considered significant due to the highly dispersive nature of diesel exhaust. Therefore, less than significant impacts are expected.

4.0 FINDINGS

4.1 Construction Emission Findings

Construction emissions in tons per year from the construction activities and equipment identified in Section 3.2 above is shown in Table 4.1. Based on the modeling, the Project would not exceed SJVAPCD standards though would exceed SJVAPCD Rule 9510 for NO_x. Based on this exceedance, the project would need to incorporate mitigation to comply.

Reducing NO_x within construction equipment can generally be achieved by providing a mixture of standard equipment and Tier 4 construction equipment. Tier 4 construction equipment has been a requirement for all diesel construction equipment since 2014. Equipment newer than 2014 would meet these requirements. Based on Table 3.1 above, the horsepower of all the equipment identified sums up to 7,767 HP. It was found that a mix of equipment identified in CalEEMod having a total combined horsepower of 2,543 HP or roughly 32% by total HP of the fleet would be required to Meet Tier 4 standards or would need a manufacture date after 2014.

Additionally, as noted above, the Developer would decommission the Project once its lifecycle has been reached and would include demolition and removal of the equipment. This phase would be accomplished within a few months and would involve minimal equipment. Demolition intensity would be significantly less than Project construction and would therefore have a less than significant impact.

Table 4.1: Expected Construction Emissions Summary – Tons per Year

Year	ROG	NO _x	CO	SO ₂	PM ₁₀ (Dust)	PM ₁₀ (Exhaust)	PM ₁₀ (Total)	PM _{2.5} (Dust)	PM _{2.5} (Exhaust)	PM _{2.5} (Total)
2022 (Unmitigated)	0.41	3.69	2.96	0.01	0.10	0.13	0.23	0.02	0.12	0.15
2023 (Unmitigated)	0.13	1.17	1.02	0.00	0.08	0.04	0.12	0.02	0.04	0.06
SJVAPCD Significance Threshold (Tons/Year)	10	10	100	27	-	-	15	-	-	15
Rule 9510 Significance Threshold (Tons/Year)		2					2			
Impact?	No	Yes	No	No	-	-	No	-	-	No
2022 (Mitigated)	-	2.89	-	-	-	-	-	-	-	-
2023 (Mitigated)	-	1.14	-	-	-	-	-	-	-	-
Mitigated Reduction	-	0.80	-	-	-	-	-	-	-	-
Mitigation Reduction Percent	-	21.7%	-	-	-	-	-	-	-	-
Rule 9510 reduction threshold (Percent)	-	20%	-	-	-	-	-	-	-	-
Mitigated Impact?	-	No	-	-	-	-	-	-	-	-

4.2 Construction Health Risks

The nearest sensitive receptors to the Project site are identified in Figure 2-A above and are greater than one mile from the Project site. Based upon the annual air quality modeling results attached to this report, worst-case unmitigated PM₁₀ from exhaust emissions would cumulatively produce 0.143 tons over 547 workdays under a 6 day work week and an elapsed duration of 640-days. Over the construction duration, the project would emit an average of 0.00235 grams/second. The average emission rate over the grading area is 5.85x10⁻⁸ g/m²/s, which was calculated as follows:

$$\frac{0.00235 \frac{\text{grams}}{\text{second}}}{9.2 \text{ acres} * 4,046 \frac{\text{meters}^2}{\text{acre}}} = 6.32 * 10^{-8} \frac{\text{grams}}{\text{meters}^2 \text{ second}}$$

Utilizing the AERMOD dispersion model, the worst-case annual concentration of DPM from Project construction is estimated at 0.00006 µg/m³. Utilizing the risk equation identified above

in Section 3.1, the inhalation cancer risk for the closest residential receptor was found to be less than one in one million exposed which is less than the allowable 20 per one million exposed. Finally, there are known acute and chronic health risks associated with diesel exhaust which are considered non-cancer risks. These risks are calculated based on methods identified in Section 3.1 of this report. The annual concentration of $0.00006 \mu\text{g}/\text{m}^3$ divided by the REL of $5 \mu\text{g}/\text{m}^3$ yields a Health Hazard Index less than one. Therefore, no acute or chronic health risks are expected and all health risks are considered less than significant.

4.3 Operational Findings

Project operations are expected to begin in 2023. To reflect potential worst-case trip generation, it was assumed that the Project would generate four daily trips. The expected daily pollutant generation from mobile sources is estimated in CalEEMod using emission factors from EMFAC2014. The daily pollutants calculated for summer and winter are shown in Table 4.2 below. Based upon these calculations, the Project would produce less than significant air quality impacts during operations.

Table 4.2: Expected Pollutant Generation (Tons/Year)

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	0.04	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.01	0.01	0.00	0.00	0.00
Total (Unmitigated)	0.04	0.01	0.01	0.00	0.00	0.00
SJVAPCD Significance Threshold (Tons/Year)	10	10	100	27	15	15
Significant?	No	No	No	No	No	No

4.4 Odor Findings

The Project may create temporary construction odors from combustion engine equipment but would not be considered significant due to the highly dispersive nature of diesel exhaust. These odors would be generated only during a short period and would not occur following the completion of construction activities. Operational odors would not be expected.

4.5 Cumulative Construction Impacts

Cumulative construction impacts could exist if a project was to produce air quality emissions simultaneous to a nearby construction project such that the addition of both project emissions could exceed significance thresholds. For this Project, the construction emissions are well

below significance as shown in Table 4.2 above. If a nearby project was to be under construction at the same time, that project would need to produce significantly more emissions and be relatively close to the Project site. Also, all other future projects developed in the project vicinity would be required to meet the same SJVAPCD rules and requirements to limit the generation of pollutant emissions from construction activities. Given this, the cumulative air quality emissions impacts would be less than significant.

4.6 Cumulative Operations Impacts

The Project will have no significant sources of air emissions during operations. Based on this, the Project does not conflict with or prevent the implementation of SJVAPCD air quality management plans and would be consistent with the SIP.

4.7 Conclusion of Findings

Construction of the Project is anticipated to start in 2022 and be completed in 2023. The Project was found to generate less than significant health risk impacts from diesel exhaust during construction and would also generate less than significant criteria pollutant air quality emissions. The project would not require mitigation requirements beyond standard best management practices during construction.

Project operational activities would generate emissions from vehicle trips and ongoing maintenance activities. Based on the analysis provided, emissions generated during operations would be less than significant.

The Project may generate short-term odors from use of temporary construction equipment. Since odors from this equipment would be short-term, no significant odor impacts would be expected. Also, the Project would not produce long-term odors and would therefore result in less than significant odor impacts.

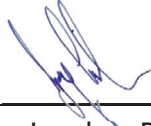
The project was found to generate less than significant construction and operational cumulative impacts and the project would not impede SJVAPCD's ability to implement the districts Long Term Air Quality Management plan and would therefore conform to the SIP.

5.0 REFERENCES

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6.0 CERTIFICATIONS

The contents of this Assessment represent an accurate depiction of the air quality environment and impacts within and surrounding the proposed development.



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Date February 13, 2021

ATTACHMENT A

CALEEMOD 2016.3.2

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Gates 500 kV Dynamic Reactive Support Project (Operational 2023)
Fresno County, Annual**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	9.20	8,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	335.11	CH4 Intensity (lb/MW hr)	0.015	N2O Intensity (lb/MW hr)	0.003

1.3 User Entered Comments & Non-Default Data

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Project Characteristics - 2019 RPS Annual Report...PGE achieved 39% RPS in 2018. 2030 will achieve 60% or 1.75% per year. By 2023 47.8% achieved.

Land Use - Site area is 9.2 Acre; 2 small control buildings will be installed (Estimated to be 8,000 SF)

Construction Phase - LSPGC Gates Schedule and includes Construction List provided by applicant.

Off-road Equipment - construction sched per PD

Off-road Equipment - Above Grade... 16 week duration equipment set

Off-road Equipment - Per revised construction sched. Added three additional 300 HP Water Truck

Off-road Equipment - Dates were modified to reflect the fact that aerial lifts in this phase and forklifts are identical to above ground work.

Off-road Equipment - Per revised construction sched. Added one additional 415 HP Dump Truck

Trips and VMT - Daily vehicle trips identified in Table 3-6 of PD. Hauling trips incorporated in average ADT for Trucks and worker trips. Vehicle Class for Vender modified to HHDT only to be conservative

Grading -

Architectural Coating -

Vehicle Trips - 4 trips per weekday

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Energy Use - 6kw per building average demand $6 \times 24 \times 365 = 52,560$ kWh per building... 2 buildings (105,120kWh) or 13.14 kWh per SF (8000 SF * 13.14 kwh/sf) =105,120 kWh

Construction Off-road Equipment Mitigation - t4 30%

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblGrading	AcresOfGrading	40.63	33.75
tblGrading	MaterialExported	0.00	2,000.00
tblGrading	MaterialImported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	0.00	8,000.00
tblLandUse	LotAcreage	0.00	9.20
tblOffRoadEquipment	HorsePower	187.00	250.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
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Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

tblOffRoadEquipment	HorsePower	65.00	74.00
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Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

tblTripsAndVMT	VendorTripLength	6.60	20.00
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tblTripsAndVMT	WorkerTripLength	16.80	50.00
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tblTripsAndVMT	WorkerTripNumber	3.00	15.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
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tblVehicleTrips	PR_TP	0.00	100.00
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2.0 Emissions Summary

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

2.1 Overall Construction**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4126	3.6929	2.9611	9.9700e-003	0.0988	0.1349	0.2338	0.0235	0.1243	0.1478	0.0000	886.7201	886.7201	0.2461	0.0000	892.8730
2023	0.1304	1.1714	1.0186	3.0500e-003	0.0763	0.0441	0.1204	0.0204	0.0409	0.0612	0.0000	279.5258	279.5258	0.0503	0.0000	280.7822
Maximum	0.4126	3.6929	2.9611	9.9700e-003	0.0988	0.1349	0.2338	0.0235	0.1243	0.1478	0.0000	886.7201	886.7201	0.2461	0.0000	892.8730

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3271	2.8894	3.4906	9.9700e-003	0.0988	0.1028	0.2016	0.0235	0.0951	0.1186	0.0000	886.7192	886.7192	0.2461	0.0000	892.8721
2023	0.1273	1.1396	1.0275	3.0500e-003	0.0763	0.0424	0.1187	0.0204	0.0392	0.0596	0.0000	279.5256	279.5256	0.0503	0.0000	280.7820
Maximum	0.3271	2.8894	3.4906	9.9700e-003	0.0988	0.1028	0.2016	0.0235	0.0951	0.1186	0.0000	886.7192	886.7192	0.2461	0.0000	892.8721

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	16.34	17.17	-13.53	0.00	0.00	18.93	9.57	0.00	18.66	14.73	0.00	0.00	0.00	0.00	0.00	0.00

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	1-1-2022	3-31-2022	0.4106	0.3161
6	4-1-2022	6-30-2022	1.9143	1.4426
7	7-1-2022	9-30-2022	1.2220	0.9148
8	10-1-2022	12-31-2022	0.5329	0.5219
9	1-1-2023	3-31-2023	0.4630	0.4540
10	4-1-2023	6-30-2023	0.4661	0.4570
11	7-1-2023	9-30-2023	0.2883	0.2791
		Highest	1.9143	1.4426

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	15.9786	15.9786	7.2000e-004	1.4000e-004	16.0391
Mobile	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0376	9.0600e-003	7.7000e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	20.1657	20.1657	1.0600e-003	1.4000e-004	20.2347

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	15.9786	15.9786	7.2000e-004	1.4000e-004	16.0391
Mobile	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0376	9.0600e-003	7.7000e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	20.1657	20.1657	1.0600e-003	1.4000e-004	20.2347

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Prep/roadway work	Grading	3/15/2022	5/28/2022	6	65	
2	Below Grade Construction	Trenching	6/1/2022	8/30/2022	6	78	
3	Above Grade Construction	Building Construction	9/1/2022	8/15/2023	6	299	
4	Commisioning and Testing	Building Construction	8/16/2023	12/15/2023	6	105	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Prep/roadway work	Graders	1	10.00	250	0.41
Site Prep/roadway work	Off-Highway Trucks	4	10.00	300	0.38
Site Prep/roadway work	Off-Highway Trucks	4	5.00	415	0.38
Site Prep/roadway work	Rollers	1	10.00	405	0.38
Site Prep/roadway work	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Construction	Bore/Drill Rigs	1	10.00	125	0.50
Below Grade Construction	Excavators	1	10.00	108	0.38
Below Grade Construction	Excavators	1	5.00	70	0.38
Below Grade Construction	Forklifts	1	4.00	100	0.20
Below Grade Construction	Off-Highway Trucks	4	10.00	300	0.38
Below Grade Construction	Off-Highway Trucks	1	8.00	415	0.38
Below Grade Construction	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Construction	Skid Steer Loaders	1	10.00	74	0.37
Below Grade Construction	Tractors/Loaders/Backhoes	1	5.00	68	0.37
Below Grade Construction	Trenchers	1	5.00	75	0.50
Above Grade Construction	Aerial Lifts	1	4.00	74	0.31
Above Grade Construction	Aerial Lifts	1	4.00	49	0.31
Above Grade Construction	Cranes	1	10.00	250	0.29
Above Grade Construction	Cranes	1	5.00	130	0.29
Above Grade Construction	Forklifts	2	5.00	130	0.20
Above Grade Construction	Welders	1	2.00	395	0.45
Commissioning and Testing	Aerial Lifts	1	4.00	49	0.31
Commissioning and Testing	Forklifts	2	5.00	130	0.20

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Prep/roadway work	11	8.00	15.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Below Grade Construction	13	15.00	10.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Above Grade Construction	7	15.00	5.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Commissioning and Testing	3	5.00	5.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Prep/roadway work - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0190	0.0000	0.0190	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1718	1.5349	1.1003	3.9600e-003		0.0555	0.0555		0.0511	0.0511	0.0000	347.6613	347.6613	0.1124	0.0000	350.4724
Total	0.1718	1.5349	1.1003	3.9600e-003	0.0190	0.0555	0.0745	2.1000e-003	0.0511	0.0532	0.0000	347.6613	347.6613	0.1124	0.0000	350.4724

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3.2 Site Prep/roadway work - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.1150	0.0171	3.8000e-004	8.3400e-003	3.5000e-004	8.6800e-003	2.2900e-003	3.3000e-004	2.6200e-003	0.0000	36.2010	36.2010	3.0800e-003	0.0000	36.2781
Worker	3.4300e-003	2.3400e-003	0.0234	8.0000e-005	9.6100e-003	5.0000e-005	9.6700e-003	2.5500e-003	5.0000e-005	2.6000e-003	0.0000	7.5731	7.5731	1.6000e-004	0.0000	7.5770
Total	6.8700e-003	0.1173	0.0405	4.6000e-004	0.0180	4.0000e-004	0.0184	4.8400e-003	3.8000e-004	5.2200e-003	0.0000	43.7740	43.7740	3.2400e-003	0.0000	43.8551

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0190	0.0000	0.0190	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1309	1.1543	1.3696	3.9600e-003		0.0412	0.0412		0.0381	0.0381	0.0000	347.6609	347.6609	0.1124	0.0000	350.4719
Total	0.1309	1.1543	1.3696	3.9600e-003	0.0190	0.0412	0.0601	2.1000e-003	0.0381	0.0402	0.0000	347.6609	347.6609	0.1124	0.0000	350.4719

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3.2 Site Prep/roadway work - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.1150	0.0171	3.8000e-004	8.3400e-003	3.5000e-004	8.6800e-003	2.2900e-003	3.3000e-004	2.6200e-003	0.0000	36.2010	36.2010	3.0800e-003	0.0000	36.2781
Worker	3.4300e-003	2.3400e-003	0.0234	8.0000e-005	9.6100e-003	5.0000e-005	9.6700e-003	2.5500e-003	5.0000e-005	2.6000e-003	0.0000	7.5731	7.5731	1.6000e-004	0.0000	7.5770
Total	6.8700e-003	0.1173	0.0405	4.6000e-004	0.0180	4.0000e-004	0.0184	4.8400e-003	3.8000e-004	5.2200e-003	0.0000	43.7740	43.7740	3.2400e-003	0.0000	43.8551

3.3 Below Grade Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1551	1.3043	1.2691	3.6400e-003		0.0541	0.0541		0.0498	0.0498	0.0000	319.4545	319.4545	0.1033	0.0000	322.0375
Total	0.1551	1.3043	1.2691	3.6400e-003		0.0541	0.0541		0.0498	0.0498	0.0000	319.4545	319.4545	0.1033	0.0000	322.0375

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3.3 Below Grade Construction - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7500e-003	0.0920	0.0137	3.0000e-004	6.6700e-003	2.8000e-004	6.9500e-003	1.8300e-003	2.7000e-004	2.1000e-003	0.0000	28.9608	28.9608	2.4700e-003	0.0000	29.0225
Worker	7.7300e-003	5.2700e-003	0.0527	1.9000e-004	0.0216	1.2000e-004	0.0218	5.7500e-003	1.1000e-004	5.8500e-003	0.0000	17.0394	17.0394	3.5000e-004	0.0000	17.0483
Total	0.0105	0.0973	0.0663	4.9000e-004	0.0283	4.0000e-004	0.0287	7.5800e-003	3.8000e-004	7.9500e-003	0.0000	46.0002	46.0002	2.8200e-003	0.0000	46.0708

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1117	0.8948	1.5263	3.6400e-003		0.0370	0.0370		0.0343	0.0343	0.0000	319.4542	319.4542	0.1033	0.0000	322.0371
Total	0.1117	0.8948	1.5263	3.6400e-003		0.0370	0.0370		0.0343	0.0343	0.0000	319.4542	319.4542	0.1033	0.0000	322.0371

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3.3 Below Grade Construction - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7500e-003	0.0920	0.0137	3.0000e-004	6.6700e-003	2.8000e-004	6.9500e-003	1.8300e-003	2.7000e-004	2.1000e-003	0.0000	28.9608	28.9608	2.4700e-003	0.0000	29.0225
Worker	7.7300e-003	5.2700e-003	0.0527	1.9000e-004	0.0216	1.2000e-004	0.0218	5.7500e-003	1.1000e-004	5.8500e-003	0.0000	17.0394	17.0394	3.5000e-004	0.0000	17.0483
Total	0.0105	0.0973	0.0663	4.9000e-004	0.0283	4.0000e-004	0.0287	7.5800e-003	3.8000e-004	7.9500e-003	0.0000	46.0002	46.0002	2.8200e-003	0.0000	46.0708

3.4 Above Grade Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0562	0.5701	0.4048	9.6000e-004		0.0242	0.0242		0.0224	0.0224	0.0000	87.3995	87.3995	0.0222	0.0000	87.9533
Total	0.0562	0.5701	0.4048	9.6000e-004		0.0242	0.0242		0.0224	0.0224	0.0000	87.3995	87.3995	0.0222	0.0000	87.9533

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3.4 Above Grade Construction - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8500e-003	0.0619	9.2000e-003	2.0000e-004	4.4900e-003	1.9000e-004	4.6800e-003	1.2300e-003	1.8000e-004	1.4100e-003	0.0000	19.4928	19.4928	1.6600e-003	0.0000	19.5344
Worker	0.0104	7.0900e-003	0.0709	2.5000e-004	0.0291	1.6000e-004	0.0293	7.7400e-003	1.5000e-004	7.8800e-003	0.0000	22.9377	22.9377	4.8000e-004	0.0000	22.9496
Total	0.0123	0.0690	0.0801	4.5000e-004	0.0336	3.5000e-004	0.0340	8.9700e-003	3.3000e-004	9.2900e-003	0.0000	42.4305	42.4305	2.1400e-003	0.0000	42.4840

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0549	0.5567	0.4078	9.6000e-004		0.0235	0.0235		0.0217	0.0217	0.0000	87.3994	87.3994	0.0222	0.0000	87.9532
Total	0.0549	0.5567	0.4078	9.6000e-004		0.0235	0.0235		0.0217	0.0217	0.0000	87.3994	87.3994	0.0222	0.0000	87.9532

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3.4 Above Grade Construction - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8500e-003	0.0619	9.2000e-003	2.0000e-004	4.4900e-003	1.9000e-004	4.6800e-003	1.2300e-003	1.8000e-004	1.4100e-003	0.0000	19.4928	19.4928	1.6600e-003	0.0000	19.5344
Worker	0.0104	7.0900e-003	0.0709	2.5000e-004	0.0291	1.6000e-004	0.0293	7.7400e-003	1.5000e-004	7.8800e-003	0.0000	22.9377	22.9377	4.8000e-004	0.0000	22.9496
Total	0.0123	0.0690	0.0801	4.5000e-004	0.0336	3.5000e-004	0.0340	8.9700e-003	3.3000e-004	9.2900e-003	0.0000	42.4305	42.4305	2.1400e-003	0.0000	42.4840

3.4 Above Grade Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0972	0.9543	0.7377	1.7700e-003		0.0401	0.0401		0.0371	0.0371	0.0000	161.4798	161.4798	0.0409	0.0000	162.5013
Total	0.0972	0.9543	0.7377	1.7700e-003		0.0401	0.0401		0.0371	0.0371	0.0000	161.4798	161.4798	0.0409	0.0000	162.5013

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3.4 Above Grade Construction - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0774	0.0141	3.7000e-004	8.2900e-003	1.3000e-004	8.4300e-003	2.2800e-003	1.3000e-004	2.4100e-003	0.0000	34.8171	34.8171	2.0800e-003	0.0000	34.8692
Worker	0.0180	0.0117	0.1200	4.5000e-004	0.0538	2.8000e-004	0.0541	0.0143	2.6000e-004	0.0146	0.0000	40.7877	40.7877	7.9000e-004	0.0000	40.8074
Total	0.0203	0.0891	0.1340	8.2000e-004	0.0621	4.1000e-004	0.0625	0.0166	3.9000e-004	0.0170	0.0000	75.6048	75.6048	2.8700e-003	0.0000	75.6766

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0951	0.9337	0.7435	1.7700e-003		0.0390	0.0390		0.0361	0.0361	0.0000	161.4796	161.4796	0.0409	0.0000	162.5011
Total	0.0951	0.9337	0.7435	1.7700e-003		0.0390	0.0390		0.0361	0.0361	0.0000	161.4796	161.4796	0.0409	0.0000	162.5011

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3.4 Above Grade Construction - 2023**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0774	0.0141	3.7000e-004	8.2900e-003	1.3000e-004	8.4300e-003	2.2800e-003	1.3000e-004	2.4100e-003	0.0000	34.8171	34.8171	2.0800e-003	0.0000	34.8692
Worker	0.0180	0.0117	0.1200	4.5000e-004	0.0538	2.8000e-004	0.0541	0.0143	2.6000e-004	0.0146	0.0000	40.7877	40.7877	7.9000e-004	0.0000	40.8074
Total	0.0203	0.0891	0.1340	8.2000e-004	0.0621	4.1000e-004	0.0625	0.0166	3.9000e-004	0.0170	0.0000	75.6048	75.6048	2.8700e-003	0.0000	75.6766

3.5 Commissioning and Testing - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4700e-003	0.0839	0.1177	1.8000e-004		3.4900e-003	3.4900e-003		3.2100e-003	3.2100e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697
Total	8.4700e-003	0.0839	0.1177	1.8000e-004		3.4900e-003	3.4900e-003		3.2100e-003	3.2100e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697

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3.5 Commissioning and Testing - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2600e-003	0.0419	7.6200e-003	2.0000e-004	4.4900e-003	7.0000e-005	4.5600e-003	1.2300e-003	7.0000e-005	1.3000e-003	0.0000	18.8443	18.8443	1.1300e-003	0.0000	18.8725
Worker	3.2500e-003	2.1200e-003	0.0216	8.0000e-005	9.7100e-003	5.0000e-005	9.7600e-003	2.5800e-003	5.0000e-005	2.6300e-003	0.0000	7.3586	7.3586	1.4000e-004	0.0000	7.3622
Total	4.5100e-003	0.0440	0.0293	2.8000e-004	0.0142	1.2000e-004	0.0143	3.8100e-003	1.2000e-004	3.9300e-003	0.0000	26.2029	26.2029	1.2700e-003	0.0000	26.2347

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.3700e-003	0.0728	0.1208	1.8000e-004		2.8700e-003	2.8700e-003		2.6500e-003	2.6500e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697
Total	7.3700e-003	0.0728	0.1208	1.8000e-004		2.8700e-003	2.8700e-003		2.6500e-003	2.6500e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697

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3.5 Commissioning and Testing - 2023**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2600e-003	0.0419	7.6200e-003	2.0000e-004	4.4900e-003	7.0000e-005	4.5600e-003	1.2300e-003	7.0000e-005	1.3000e-003	0.0000	18.8443	18.8443	1.1300e-003	0.0000	18.8725
Worker	3.2500e-003	2.1200e-003	0.0216	8.0000e-005	9.7100e-003	5.0000e-005	9.7600e-003	2.5800e-003	5.0000e-005	2.6300e-003	0.0000	7.3586	7.3586	1.4000e-004	0.0000	7.3622
Total	4.5100e-003	0.0440	0.0293	2.8000e-004	0.0142	1.2000e-004	0.0143	3.8100e-003	1.2000e-004	3.9300e-003	0.0000	26.2029	26.2029	1.2700e-003	0.0000	26.2347

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956
Unmitigated	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	4.00	0.00	0.00	6,864	6,864
Total	4.00	0.00	0.00	6,864	6,864

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.496766	0.030510	0.170483	0.111467	0.014688	0.004287	0.033704	0.127678	0.002360	0.001460	0.004966	0.001070	0.000562

5.0 Energy Detail

Historical Energy Use: N

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

5.2 Energy by Land Use - Natural Gas**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	105120	15.9786	7.2000e-004	1.4000e-004	16.0391
Total		15.9786	7.2000e-004	1.4000e-004	16.0391

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	105120	15.9786	7.2000e-004	1.4000e-004	16.0391
Total		15.9786	7.2000e-004	1.4000e-004	16.0391

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

ATTACHMENT B

AERMOD - Mitigated

```

1                AERMOD PRIME - (DATED 19191)

                AERMODPrMSPx VERSION
(C) COPYRIGHT 1998-2017, Trinity Consultants

Run Began on 2/03/2021 at 14:03:06

** BREEZE AERMOD
** Trinity Consultants
** VERSION 9.0

CO STARTING
CO TITLEONE Gates 500KV Construction DPM
CO MODELOPT DFAULT CONC NODRYDPLT NOWETDPLT
CO RUNORNOT RUN
CO AVERTIME ANNUAL
CO POLLUTID PM10
CO FINISHED

SO STARTING
SO ELEVUNIT METERS
SO LOCATION KNTN800B AREA 758390.4 4004113.5 0
** SRCDESCR construction area
SO SRCPARAM KNTN800B 6.32E-08 3 173 215 88.8 1
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE ELEVUNIT METERS
RE DISCCART 760969 4006325.7 0 0
** SENSITIV
** RCPDESCR D1
RE FINISHED

ME STARTING
ME SURFFILE "C:\Users\RYAN~1.DES\OneDrive\LDNONE~1\METDAT~1\FRESNO~1\FRESNO~1\93193_2017.SFC"
** SURFFILE "C:\Users\RYAN~1.DES\OneDrive\LDNONE~1\METDAT~1\FRESNO~1\FRESNO~1\93193_2017.SFC"
ME PROFFILE "C:\Users\RYAN~1.DES\OneDrive\LDNONE~1\METDAT~1\FRESNO~1\FRESNO~1\93193_2017.PFL"
** PROFFILE "C:\Users\RYAN~1.DES\OneDrive\LDNONE~1\METDAT~1\FRESNO~1\FRESNO~1\93193_2017.PFL"
ME SURFDATA 93193 2017
ME UAIRDATA 23230 2017
ME PROFBASE 0 METERS
ME FINISHED

OU STARTING
OU FILEFORM FIX
OU PLOTFILE ANNUAL ALL ALL`ANNUAL.plt 10000
OU FINISHED

** *****
** It is recommended that the user not edit any data below this line
** *****

** AMPTYPE
** AMPDATUM -1
** AMPZONE -1
** AMPHEMISPHERE

** PROJECTIONWKT
PROJCS["UTM_6326_Zone11",GEOGCS["WGS_84",DATUM["World_Geodetic_System_1984",SPHEROID["WGS_1984",6378137,298.2572235
63],TOWGS84[0,0,0,0,0,0,0]],PRIMEM["Greenwich",0],UNIT["Degree",0.0174532925199433]],PROJECTION["Universal_Transver
se_Mercator"],PARAMETER["Zone",11],UNIT["Meter",1,AUTHORITY["EPSG","9001"]]]]
** PROJECTION UTM
** DATUM WGE
** UNITS METER
** ZONE 11
** HEMISPHERE N
** ORIGINLON 0

```

```
** ORIGINLAT 0
** PARALLEL1 0
** PARALLEL2 0
** AZIMUTH 0
** SCALEFACT 0
** FALSEEAST 0
** FALSENORTH 0

** POSTFMT UNFORM
** TEMPLATE UserDefined
** AERMODEXE AERMOD_BREEZE_19191_64.EXE
** AERMAPEXE AERMAP_EPA_18081_64.EXE
```

*** Message Summary For AERMOD Model Setup ***

----- Summary of Total Messages -----

```
A Total of      0 Fatal Error Message(s)
A Total of      2 Warning Message(s)
A Total of      0 Informational Message(s)
```

***** FATAL ERROR MESSAGES *****
*** NONE ***

```
***** WARNING MESSAGES *****
ME W186      43      MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used      0.50
ME W187      43      MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
```

```
*****
*** SETUP Finishes Successfully ***
*****
```

```
▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
02/03/21
*** AERMET - VERSION 18081 *** ***
14:03:06 ***
```

```
PAGE 1
*** MODELOPTs: RegDEFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*
```

*** MODEL SETUP OPTIONS SUMMARY ***

Model Is Setup For Calculation of Average CONCentration Values.

```
-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
```

```
**Other Options Specified:
ADJ_U* - Use ADJ_U* option for SBL in AERMET
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions
```

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM10

**Model Calculates ANNUAL Averages Only

**This Run Includes: 1 Source(s); 1 Source Group(s); and 1 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNNING After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 18081

**Output Options Selected:

Model Outputs Tables of ANNUAL Averages by Receptor
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 0.00 ; Decay Coef. = 0.000 ; Rot. Angle
= 0.0

Emission Units = GRAMS/SEC ; Emission Rate Unit Factor =
0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
02/03/21
*** AERMET - VERSION 18081 *** ***
14:03:06

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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** AREA SOURCE DATA ***

URBAN	EMISSION	NUMBER	EMISSION	COORD (SW CORNER)	BASE	RELEASE	X-DIM	Y-DIM	ORIENT.	INIT.
SOURCE	RATE	PART.	(GRAMS/SEC	X	Y	ELEV.	HEIGHT	OF AREA	OF AREA	SZ
SOURCE	SCALAR	VARY	/METER**2)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	(DEG.)	(METERS)
ID	CATS.									
BY										

KNTN800B 0 0.63200E-07 758390.4 4004113.5 0.0 3.00 173.00 215.00 88.80 1.00
NO

▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
02/03/21
*** AERMET - VERSION 18081 *** ***

14:03:06

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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID

SOURCE IDs

ALL KNTN800B ,
▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
02/03/21
*** AERMET - VERSION 18081 *** ***
14:03:06

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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,
▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
02/03/21
*** AERMET - VERSION 18081 *** ***
14:03:06

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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\RYAN~1.DES\OneDrive\LDNONE~1\METDAT~1\FRESNO~1\FRESNO~1\93193_2017.SFC Met Version:
18081
Profile file: C:\Users\RYAN~1.DES\OneDrive\LDNONE~1\METDAT~1\FRESNO~1\FRESNO~1\93193_2017.PFL
Surface format: FREE
Profile format: FREE

Surface station no.:	93193	Upper air station no.:	23230
Name:	UNKNOWN	Name:	UNKNOWN
Year:	2017	Year:	2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS	WD	HT	REF	TA
17	01	01	1	01	-17.1	0.179	-9.000	-9.000	-999.	182.	35.4	0.07	1.00	1.00	2.36	171.	10.0	279.2			
2.0																					
17	01	01	1	02	-8.5	0.123	-9.000	-9.000	-999.	105.	19.7	0.06	1.00	1.00	1.76	128.	10.0	279.2			
2.0																					
17	01	01	1	03	-16.3	0.173	-9.000	-9.000	-999.	172.	32.8	0.06	1.00	1.00	2.40	124.	10.0	278.8			
2.0																					
17	01	01	1	04	-20.3	0.201	-9.000	-9.000	-999.	217.	44.6	0.07	1.00	1.00	2.64	108.	10.0	278.8			
2.0																					
17	01	01	1	05	-25.3	0.251	-9.000	-9.000	-999.	301.	69.2	0.06	1.00	1.00	3.42	128.	10.0	278.8			
2.0																					
17	01	01	1	06	-25.4	0.252	-9.000	-9.000	-999.	304.	70.1	0.06	1.00	1.00	3.44	134.	10.0	278.8			
2.0																					
17	01	01	1	07	-24.4	0.242	-9.000	-9.000	-999.	285.	64.2	0.06	1.00	1.00	3.30	141.	10.0	277.5			
2.0																					
17	01	01	1	08	-17.9	0.190	-9.000	-9.000	-999.	199.	39.7	0.06	1.00	0.65	2.62	135.	10.0	277.5			
2.0																					
17	01	01	1	09	14.0	0.191	0.589	0.005	520.	200.	-44.2	0.06	1.00	0.36	2.23	127.	10.0	278.8			
2.0																					
17	01	01	1	10	50.8	0.261	1.066	0.018	854.	320.	-31.4	0.06	1.00	0.26	2.98	130.	10.0	279.9			
2.0																					
17	01	01	1	11	77.8	0.331	1.330	0.020	1083.	458.	-41.8	0.06	1.00	0.22	3.86	128.	10.0	281.4			
2.0																					
17	01	01	1	12	91.7	0.283	1.407	0.019	1087.	362.	-22.0	0.06	1.00	0.21	3.13	131.	10.0	281.4			
2.0																					
17	01	01	1	13	92.5	0.206	1.413	0.019	1091.	226.	-8.4	0.07	1.00	0.21	1.93	100.	10.0	282.5			
2.0																					
17	01	01	1	14	79.7	0.214	1.346	0.018	1095.	238.	-11.0	0.07	1.00	0.22	2.08	101.	10.0	283.1			
2.0																					
17	01	01	1	15	54.0	0.331	1.183	0.018	1097.	458.	-60.2	0.08	1.00	0.26	3.68	85.	10.0	283.1			
2.0																					
17	01	01	1	16	14.0	0.292	0.755	0.018	1098.	379.	-158.4	0.08	1.00	0.35	3.39	89.	10.0	282.5			
2.0																					
17	01	01	1	17	-16.5	0.191	-9.000	-9.000	-999.	205.	40.1	0.07	1.00	0.62	2.50	94.	10.0	282.5			
2.0																					
17	01	01	1	18	-14.0	0.162	-9.000	-9.000	-999.	156.	28.8	0.07	1.00	1.00	2.15	91.	10.0	282.0			
2.0																					
17	01	01	1	19	-14.0	0.162	-9.000	-9.000	-999.	156.	28.8	0.07	1.00	1.00	2.15	119.	10.0	281.4			
2.0																					
17	01	01	1	20	-10.6	0.139	-9.000	-9.000	-999.	124.	22.5	0.06	1.00	1.00	1.96	131.	10.0	281.4			
2.0																					
17	01	01	1	21	-7.2	0.120	-9.000	-9.000	-999.	99.	21.2	0.21	1.00	1.00	1.25	207.	10.0	281.4			
2.0																					
17	01	01	1	22	-8.9	0.130	-9.000	-9.000	-999.	113.	22.4	0.13	1.00	1.00	1.55	340.	10.0	282.0			
2.0																					
17	01	01	1	23	-5.6	0.099	-9.000	-9.000	-999.	75.	15.7	0.06	1.00	1.00	1.43	133.	10.0	280.4			
2.0																					
17	01	01	1	24	-8.7	0.129	-9.000	-9.000	-999.	111.	21.9	0.12	1.00	1.00	1.57	317.	10.0	280.9			
2.0																					

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
17	01	01	01	10.0	1	171.	2.36	279.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM

02/03/21

*** AERMET - VERSION 18081 *** ***

14:03:06

PAGE 6

*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 1 YEARS FOR SOURCE GROUP: ALL
 *** INCLUDING SOURCE(S): KNTN800B ,

*** SENSITIVE DISCRETE RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3			**		
X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
760969.00	4006325.70	0.00006			

▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
 02/03/21
 *** AERMET - VERSION 18081 *** ***
 14:03:06 ***

PAGE 7

*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE
------------------	--------------	--	---------

ALL	1ST HIGHEST VALUE IS	0.00006 AT (760969.00, 4006325.70, 0.00, 0.00, 0.00)	SR
	2ND HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	3RD HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	4TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	5TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	6TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	7TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	8TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	9TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	
	10TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)	

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

▲ *** AERMOD - VERSION 19191 *** *** Gates 500KV Construction DPM ***
 02/03/21
 *** AERMET - VERSION 18081 *** ***
 14:03:06 ***

PAGE 8

*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT RURAL ADJ_U*

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
 A Total of 2 Warning Message(s)
 A Total of 173 Informational Message(s)
 A Total of 8760 Hours Were Processed
 A Total of 33 Calm Hours Identified

A Total of 140 Missing Hours Identified (1.60 Percent)

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
ME W186 43 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 43 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

*** AERMOD Finishes Successfully ***

ATTACHMENT C

Health Risk Calculations - Construction

Air Quality Health Risk Calculations (Worst-Case) Gates 500KV Mitigated						
From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	0.14357				
	Construction Start	3/15/2022				
	Construction Complete	12/15/2023				
	Days	640				
	Construction Emission per day (lb/day)	0.44865625				
	Annual Duration (Days)	365				
	Annualized Emission Rate (Grams/Second)	0.00235233				
	Project Site Size (Acres)	9.2				
	Project Site Size (meters^2)	37231.07909				
	Length of Smalles Side (meters)	192.9535672				
Used as an input to AERMOD	Emission Rate over Grading Area(g/s-m^2)	6.32E-08				
From AERMOD	Concentration Annual (Ug/M^3)	0.00006				
Duration	Days	640	Days to years			
			1.753424658			
Age (Years)	3rd Trimester (0.25)	0-2	2-9	2-16	16-30	16-70
Cair (annual) - From F15	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Breathing Rate per agegroup BR/BW (Page 5-25)	361	1090	861	745	335	290
A (Default is 1)	1	1	1	1	1	1
Exposure Frequency = EF (days/365days)	0.96	0.96	0.96	0.96	0.96	0.96
10^-6 Microgram to Milligram / liters to m3	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001
Dose-inh	0.00000002	0.00000006	0.00000005	0.00000004	0.00000002	0.00000002
Construction Days	640	1.753424658				
potency factor for Diesel	1.1	1.1	1.1	1.1	1.1	1.1
Age Sensitivity Factor	10	10	3	3	1	1
ED	0.25	1.753424658	1.753424658	1.753424658	1.753424658	1.753424658
AT	70	70	70	70	70	70
FAH	0.85	0.85	0.72	0.72	0.73	0.73
Risk for Each Age Group	6.94358E-10	1.47045E-08	2.95162E-09	2.55396E-09	3.88125E-10	3.35989E-10
Risk per million Exposed	0.000694358	0.01470448	0.002951625	0.002553961	0.000388125	0.000335989
Cancer Risk Per Million 9-years	0.02					
Cancer Risk Per Million 30-years	0.02					
Cancer Risk Per Million 70-years	0.02					

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



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Appendix B – IpaC Record Search Results

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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 550-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

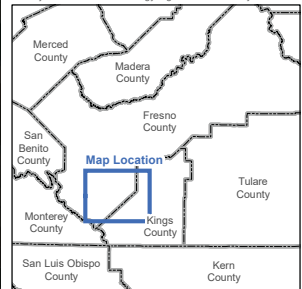
- ★ Project Site

General Features

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



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, USFS
SPCS NAD83 CA Zone IV Feet
E:\Projects\Gates\Biology\Fig 1 General Vicinity 072120

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 2 Project Location
Fresno County, CA

LEGEND

Project Components

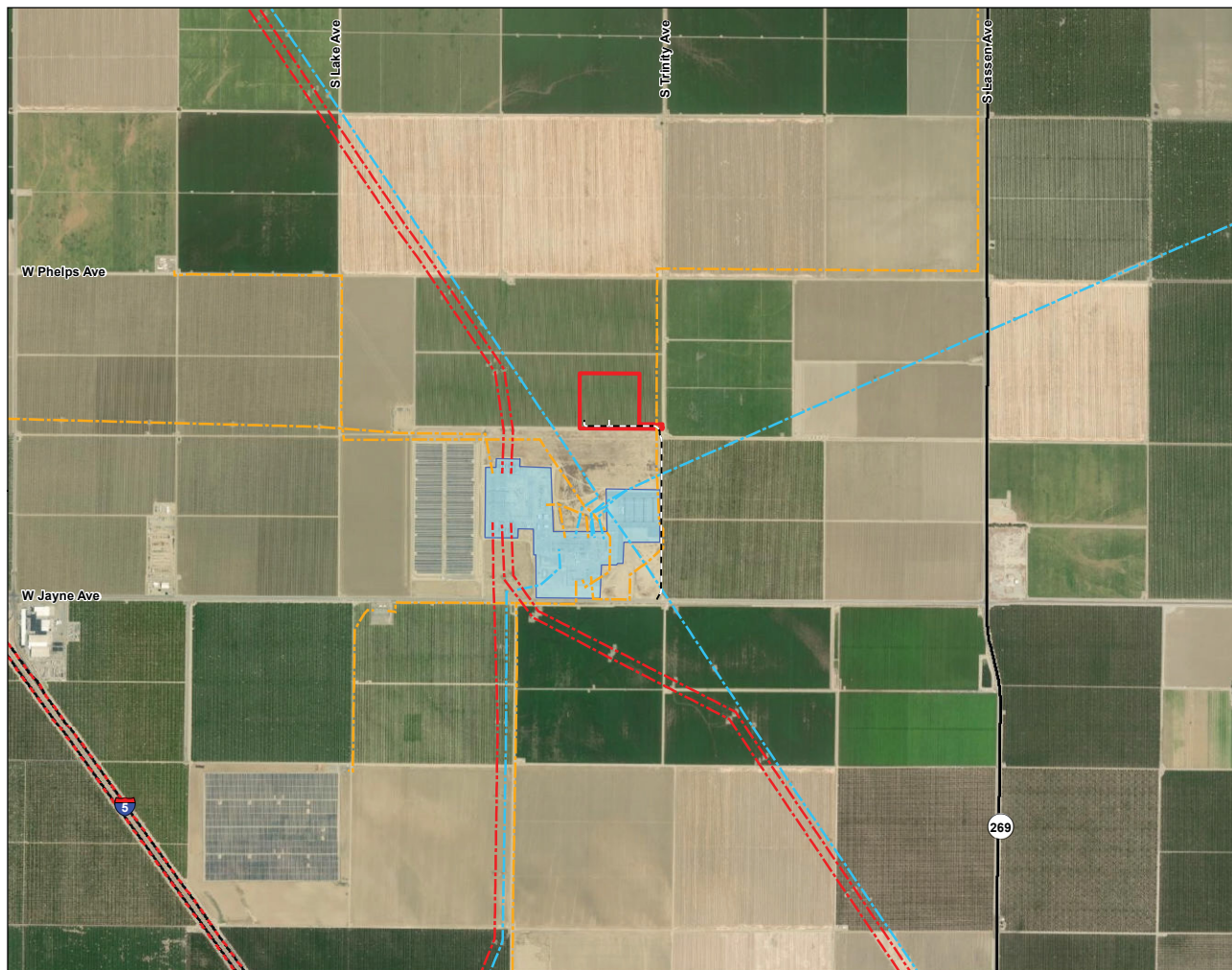
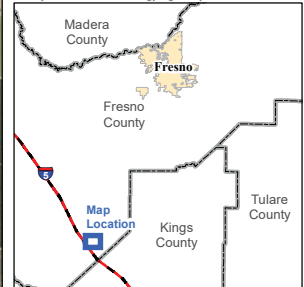
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

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



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 Gujarral 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

LEGEND

Project Components

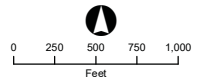
- Primary Telecommunications Line
- Secondary Telecommunications Line
- Access Road
- Site Boundary - Approx. 20 Acres
- Biological Resources Survey Area

General Features

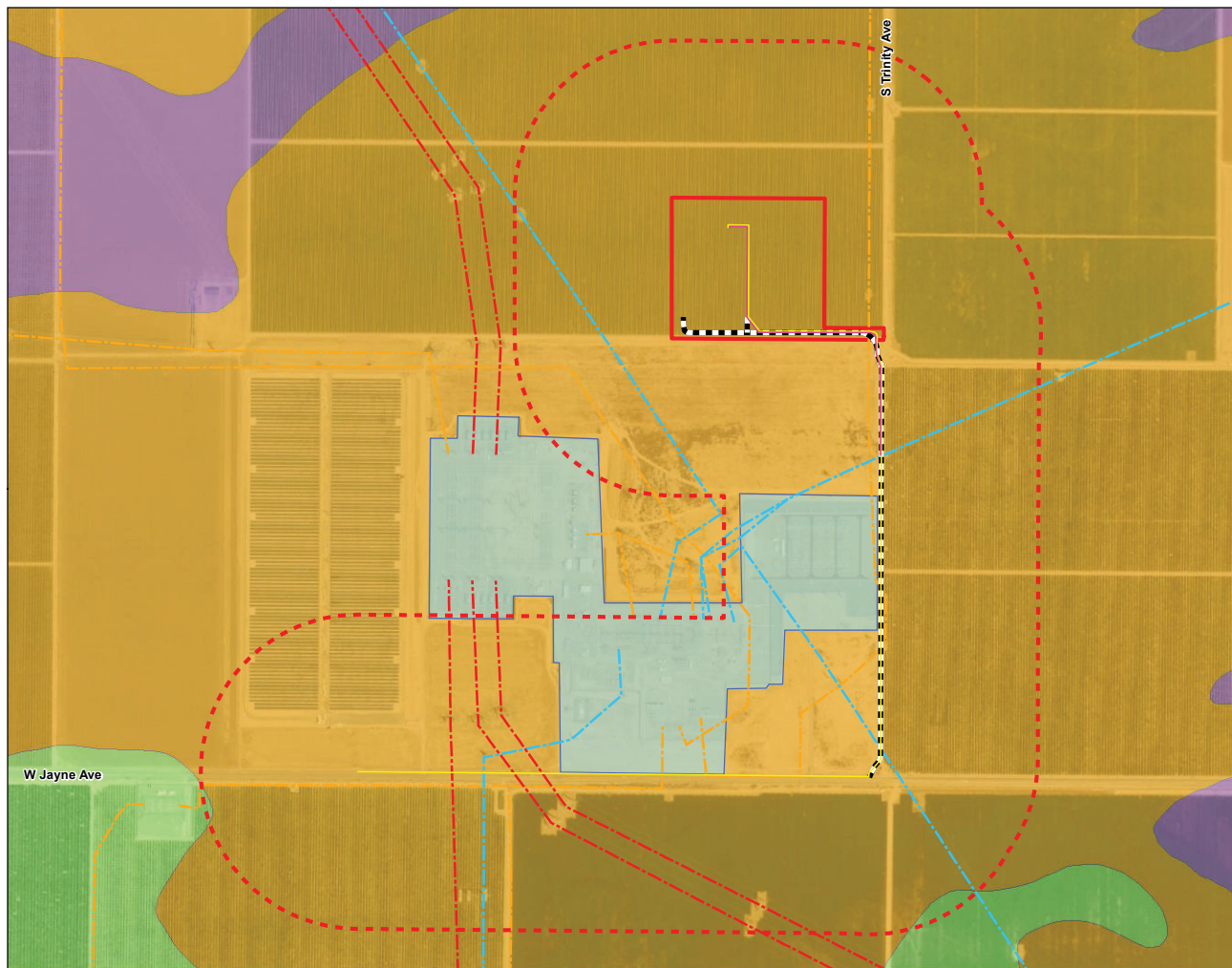
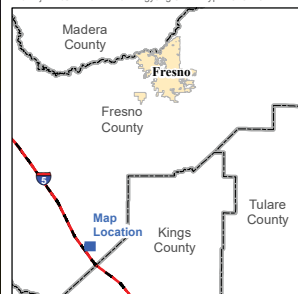
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

Soil Types

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA
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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

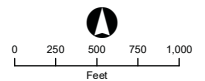
Vineyards (21 percent of the Survey Area) are comprised entirely of grape vines. The Proposed Project is located entirely within the vineyard cover type.

**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

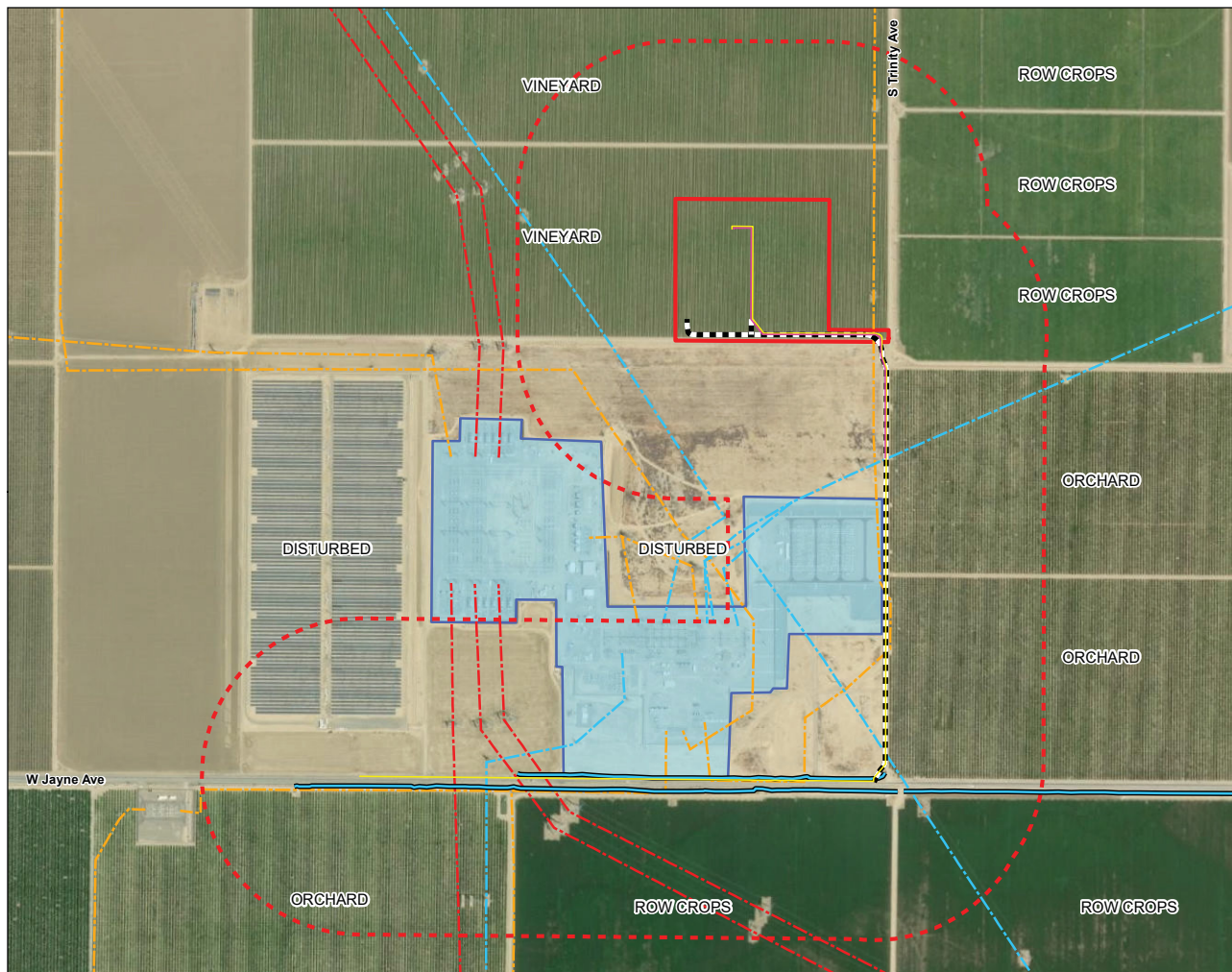
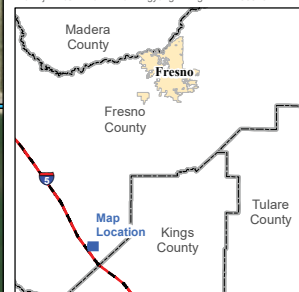
Figure 4 Vegetation Communities

Fresno County, CA

- 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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA,
E:\Projects\Gates\MXD\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 CNDDDB (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**; CNDDDB 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), CNDDDB (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**; CNDDDB 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

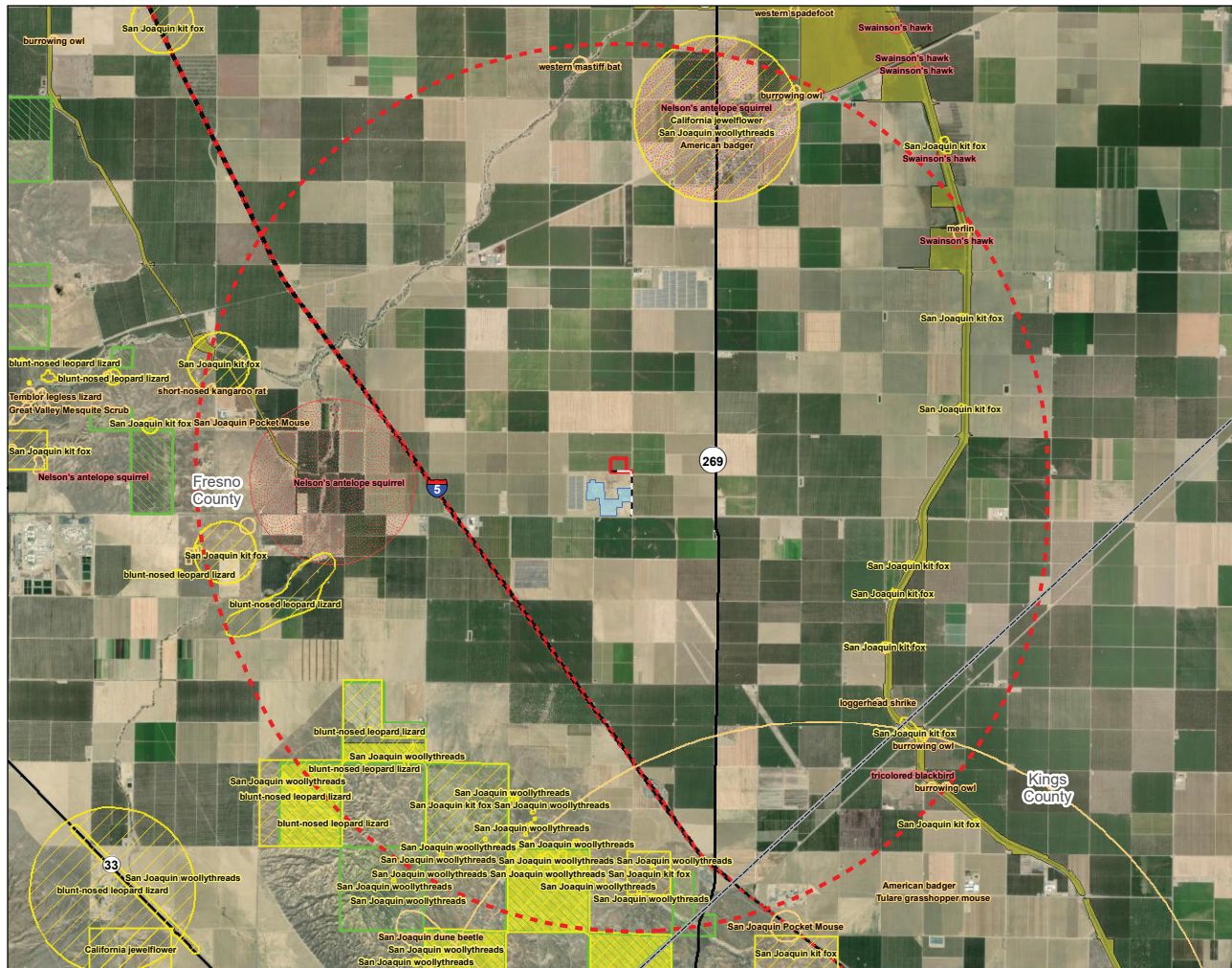
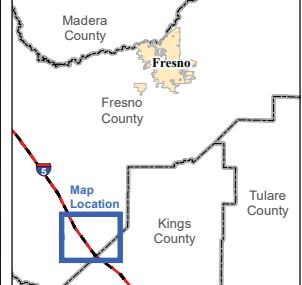
- Bureau of Land Management Land
- Bureau of Reclamation Land
- Private Land (No Shading)

CNDDB

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: BLM, CalTrans, CDFW, ESRI, Fresno Co., USDA
E:\Projects\Gates\MXDs\Biology\Fig 5 CNDDB 070320



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	<i>Atriplex coronata</i> <i>var. coronata</i>	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	<i>Atriplex depressa</i>	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	<i>Caulanthus californicus</i>	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	<i>Caulanthus lemmonii</i>	1B.2	Occurs in grasslands, chaparral 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 CNDDDB records (CDFW 2020b).
Recurved Larkspur	<i>Delphinium recurvatum</i>	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 CNDDDB records (CDFW 2020b).
Kern Mallow	<i>Eremalche parryi</i> ssp. <i>Kernensis</i>	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 CNDDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Hoover's Eriastrum	<i>Eriastrum hooveri</i>	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 CNDDDB records (CDFW 2020b).
San Joaquin Woollythreads	<i>Monolopia congdonii</i>	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 CNDDDB 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	<i>Dipodomys ingens</i>	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 CNDDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	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	<i>Dipodomys nitratoides nitratoides</i>	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	<i>Dipodomys nitratoides brevinasus</i>	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 CNDDDB occurrence was recorded approximately 5 miles west of the Proposed Project in the Gujarral Hills (CDFW 2020b).
American Badger	<i>Taxidea taxus</i>	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 CNDDDB occurrences were recorded approximately 4.5 miles north and 5 miles south of the Proposed Project (CDFW 2020b).
Nelson's Antelope Squirrel	<i>Ammospermophilus nelsoni</i>	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 CNDDDB 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	<i>Onychomys torridus tularensis</i>	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 CNDDDB occurrence was recorded approximately 5 miles south of the Project area (CDFW 2020b).
Western Mastiff Bat	<i>Eumops perotis californicus</i>	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 CNDDDB occurrence was recorded approximately 4.5 miles north of the Project area (CDFW 2020b).
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	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 CNDDDB records (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
Pallid Bat	<i>Antrozous pallidus</i>	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	<i>Euderma maculatum</i>	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	<i>Lasiurus blossevillei</i>	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	<i>Lasiurus cinereus</i>	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	<i>Myotis evotis</i>	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	<i>Myotis lucifugus</i>	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	<i>Myotis thysanodes</i>	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	<i>Myotis volans</i>	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	<i>Buteo swainsoni</i>	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 CNDDDB occurrence was recorded approximately 5 miles northeast of the Project area (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
California Condor	<i>Gymnogyps californianus</i>	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 (<i>Sequoia sempervirens</i>) and giant sequoia (<i>Sequoiadendron giganteum</i>). 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 CNDDDB records (CDFW 2020b).
Western Burrowing Owl	<i>Athene cunicularia</i>	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 CNDDDB 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	<i>Lanius ludovicianus</i>	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 CNDDDB occurrence was recorded approximately 3.75 miles southeast of the Project (CDFW 2020b).
Tricolored Blackbird	<i>Agelaius tricolor</i>	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 CNDDDB occurrence was recorded approximately 5 miles southeast of the Project (CDFW 2020b).

Common Name	Scientific Name	Status *	Habitat	Potential for Occurrence
White-tailed Kite	<i>Elanus leucurus</i>	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	<i>Gambelia sila</i>	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 (USFWS 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	<i>Thamnophis gigas</i>	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	<i>Rana draytonii</i>	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	<i>Ambostoma californiense</i>	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	<i>Hypomesus transpacificus</i>	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	<i>Branchinecta lynchi</i>	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 CNDDDB 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

LEGEND

Project Components

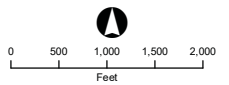
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

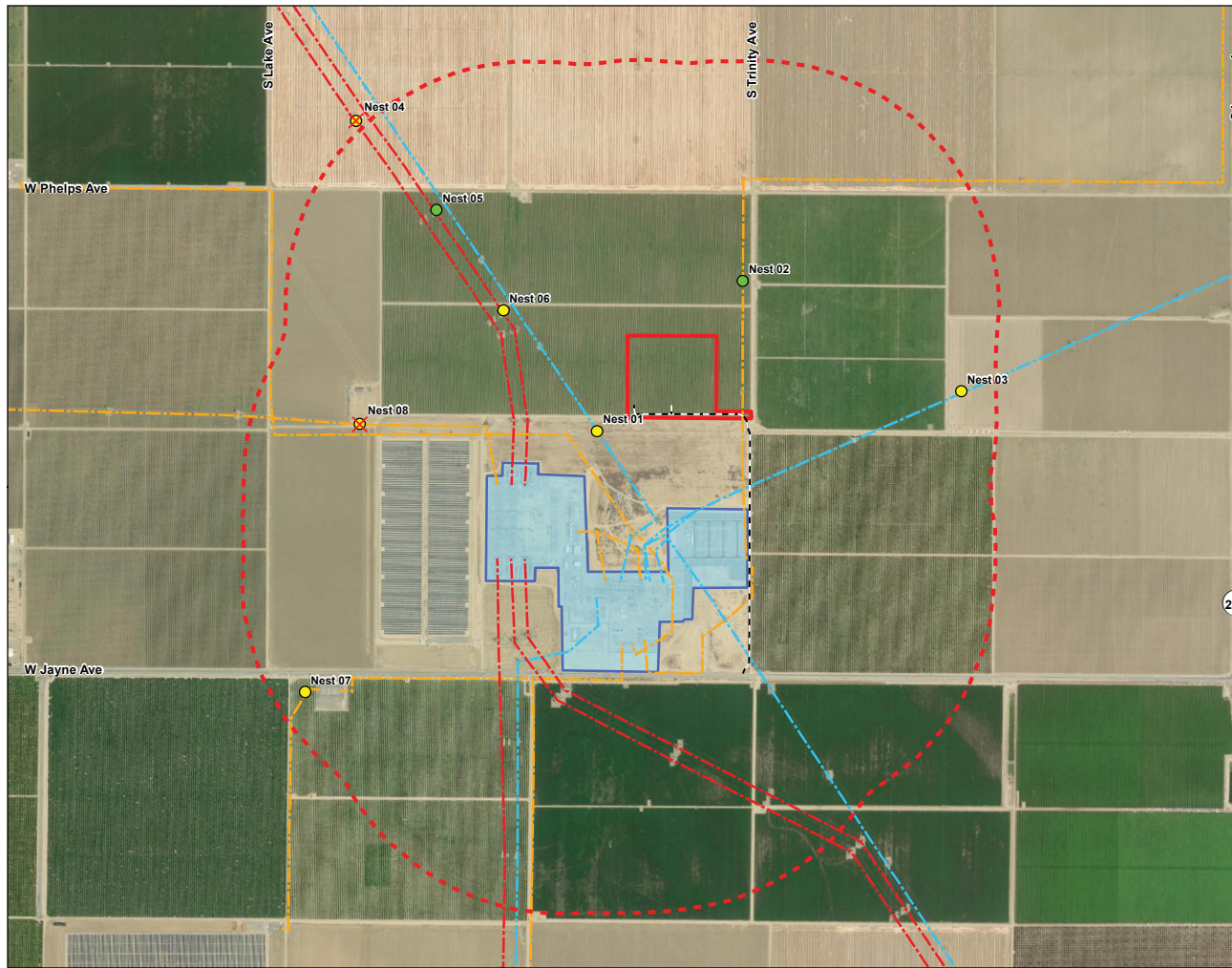
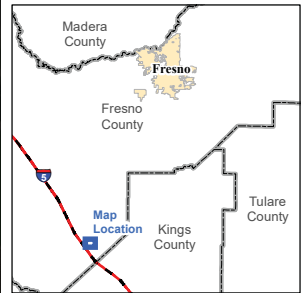
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

Biological Survey

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



SPCS NAD 83, CA Zone IV, US FL
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

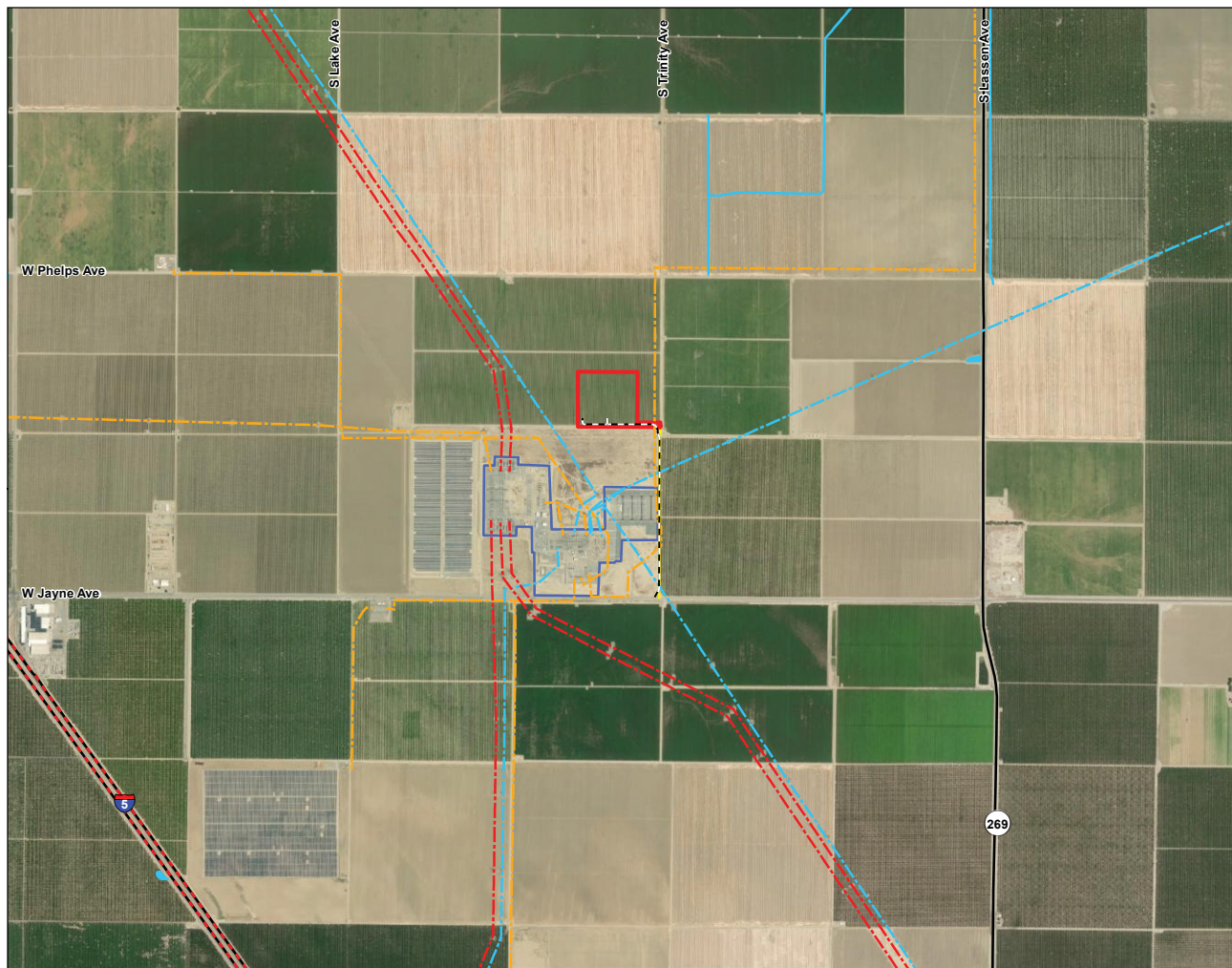
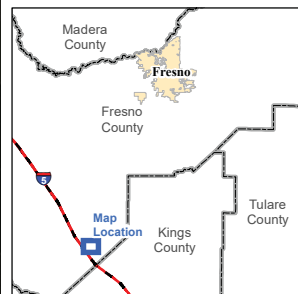
-  Existing 500kV Transmission Line
-  Existing 230kV Transmission Line
-  Existing <100kV Transmission Line
-  Interstate
-  State Highway
-  Gates Substation
-  County Boundary
-  Municipality

Hydrology

-  NWI Wetlands



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, NRCS, USDA.
E:\Projects\Gates\MXD\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 Gujarral 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.
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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 indirectly 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.

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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.

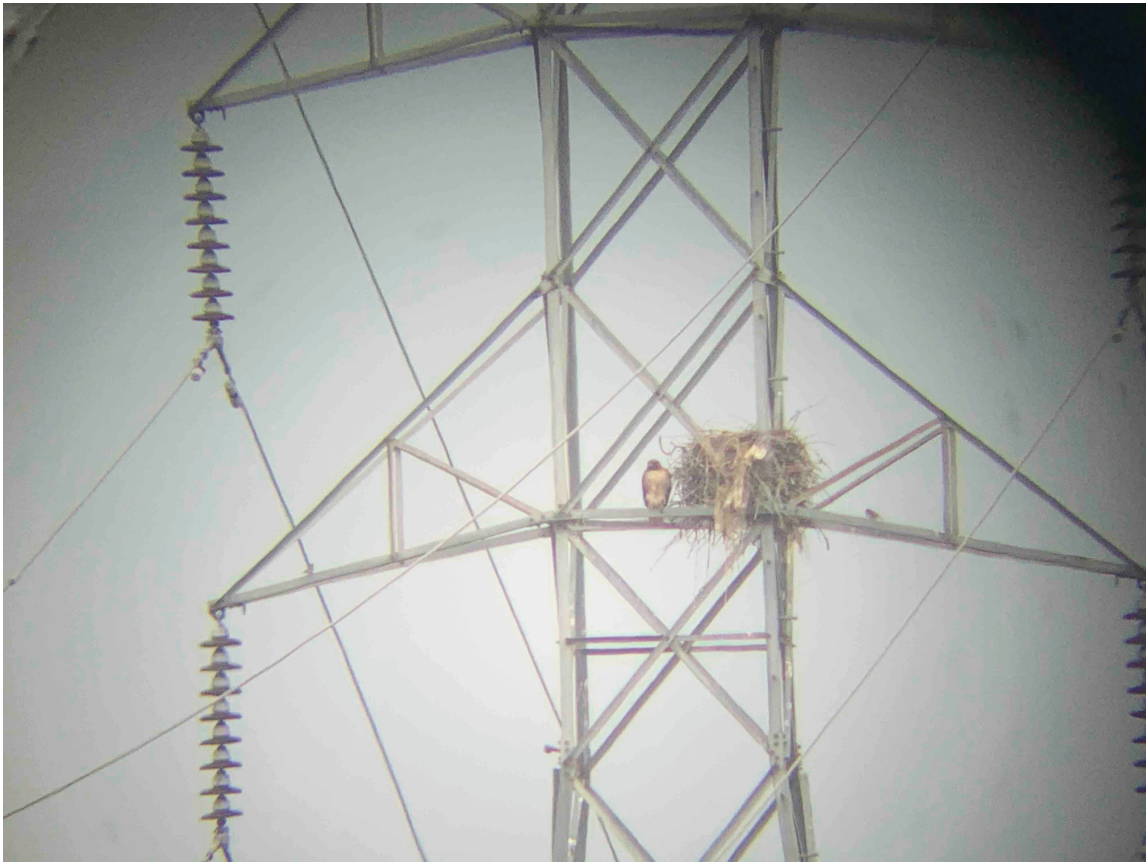


Photo 7. Approximately 700 feet north-northeast of the Proposed Project along Trinity Avenue. Nest 02. Adult red-tailed hawk perched next to an active nest on a transmission structure.



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 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 species¹ 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 Fisheries²).

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 <i>Dipodomys ingens</i>	Endangered
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6051	
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i>	Endangered
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	
Tipton Kangaroo Rat <i>Dipodomys nitratoide nitratoide</i>	Endangered
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7247	

Birds

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

Reptiles

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

Amphibians

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

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> 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 <i>Branchinecta lynchi</i> 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 <i>Caulanthus californicus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4599	Endangered
San Joaquin Woolly-threads <i>Monolopia (=Lembertia) congdonii</i> 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 Act¹ and the Bald and Golden Eagle Protection Act².

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 tubercid 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. LSPGC 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

Nest Number	Survey 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.

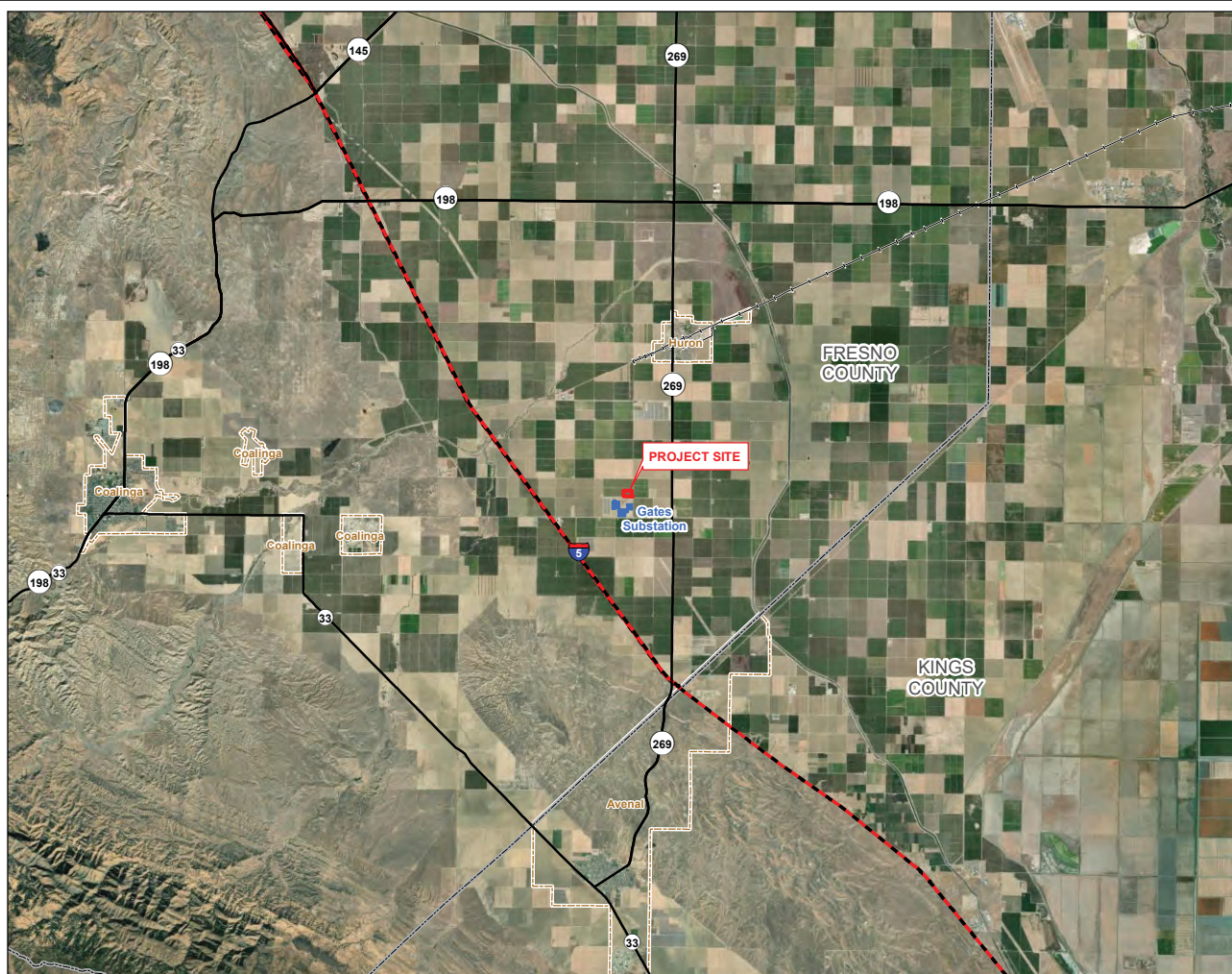
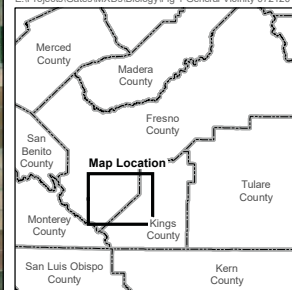


Project Components

-  Project Site Boundary
- General Features**
-  Interstate
-  Highway
-  Railroad
-  Municipal Boundary
-  Existing Gates Substation
-  County Boundary



E:\Projects\Gates\MXD\Biology\Fig 1 General Vicinity 072120



**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**

Figure 2 - Project Location

Fresno County, CA

LEGEND

Project Components

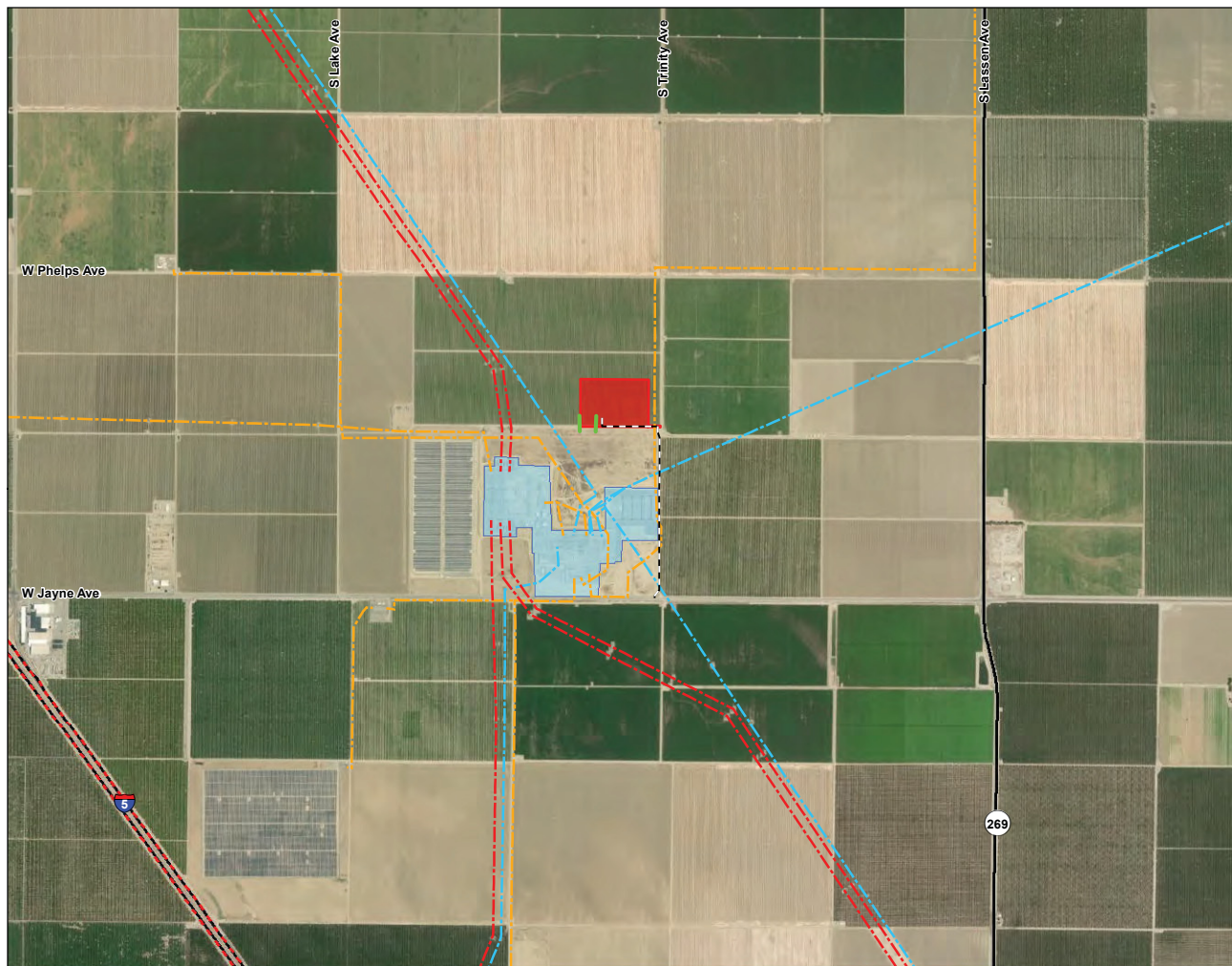
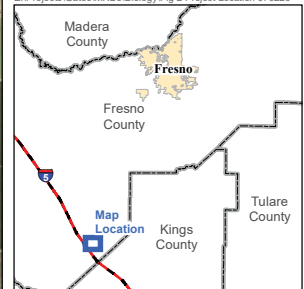
- Project Tie Line
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

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



SPCS NAD 83, CA Zone IV, US FL
Data Sources: CalTrans, ESRI, Fresno County, USDA
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**LSPGC - Gates 500 kV
Dynamic Reactive Support Project**
**Figure 3 - Swainson's Hawk Survey
with Raptor Nest Locations**
Fresno County, CA

LEGEND

Project Components

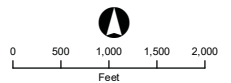
- Project Tie Line
- Access Road
- Site Boundary - Approx. 20 Acres

General Features

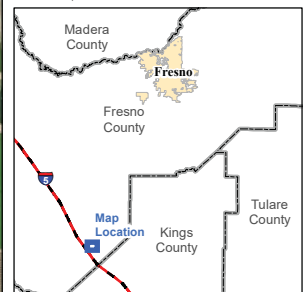
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing <100kV Transmission Line
- Interstate
- Gates Substation
- County Boundary
- Municipality

Biological Survey

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



SPCS NAD 83, CA Zone IV, US FL
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.

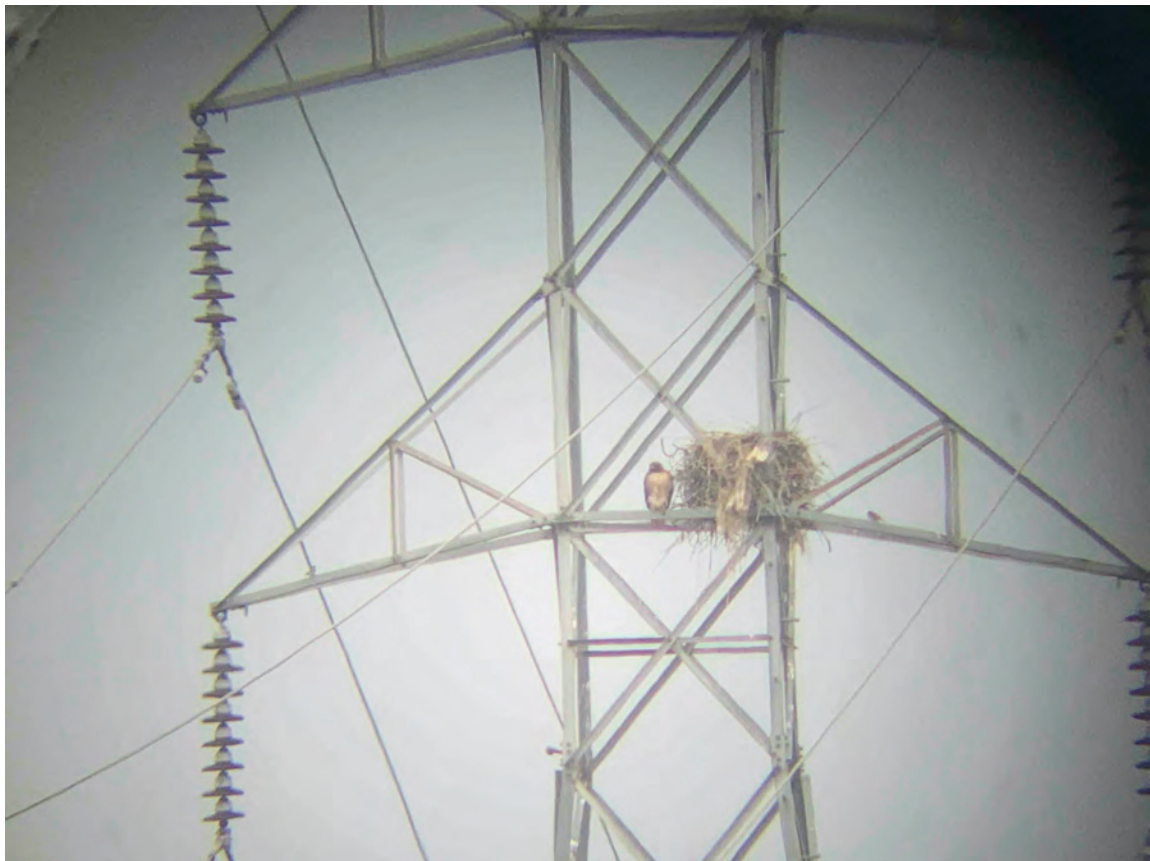


Photo 6. Approximately 700 feet north-northeast of the Proposed Project along Trinity Avenue. Nest 02. Adult red-tailed hawk perched next to an active nest on a transmission structure.



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.

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Appendix 4.5-A – Cultural Resources Technical Report

**CULTURAL RESOURCES TECHNICAL REPORT
for the
Gates 500 kV Dynamic Reactive Support Project
Fresno County, California**

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California Public Utilities Commission
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Signature

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July 2020

**NON-CONFIDENTIAL VERSION:
CONFIDENTIAL APPENDIX NOT INCLUDED**

National Archaeological Data Base Information

Author:	Douglas Mengers, M.A., RPA, DPPH
Firm:	PanGIS, Inc.
Client/Project Proponent:	LS Power Grid California (LSPGC)
Lead Agency:	California Public Utilities Commission (CPUC)
Report Date:	July 2020
Report Title:	Cultural Resource Technical Report for the Gates 500 kV Dynamic Reactive Support Project, Fresno County, California
Type of Study:	Cultural resource survey
New Sites:	None
Updated Sites:	None
USGS Quad:	Huron
Acreage:	98
Key Words:	Negative survey report, Huron 7.5-minute quadrangle, Fresno County, Gates Substation, Phelps Avenue, Trinity Avenue, 10-006610, 10-006640

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Management Summary

This Cultural Resources Technical Report documents the methods and results of background research and a surface survey conducted to comply with California Environmental Quality Act (CEQA) Guidelines in association with the Gates 500 kV Dynamic Reactive Support Project (Project) in Fresno County, California.

Background research included a record search review, historic map review, geoarchaeological assessment, Sacred Lands File (SLF) search, and Native American tribal outreach. The record search and SLF search were negative for resources within the Project Area of Potential Effect (APE). The geoarchaeological assessment indicates a moderate likelihood of prehistoric subsurface resources. Tribal outreach indicates a likelihood of ethnohistoric subsurface resources.

No archaeological resources were located during the surface survey, conducted on May 18, 2019. The entirety of the survey area is an old-vine vineyard or adjacent dirt roads. Ground visibility throughout the survey area was excellent. As there are no known cultural resources in the APE, the Project will have no effect on cultural resources.

Due to the moderate likelihood of encountering subsurface prehistoric resources and the potential for encountering subsurface ethnohistoric resources during Project construction, archaeological and Native American monitoring is recommended during all ground-disturbing activity associated with the Project.

No cultural materials were collected during the surface survey. Photographs and field notes are held by Digtech, the cultural resource management firm that conducted the survey. Confidential details of tribal information are on file with PanGIS. This report and supporting documentation are on file with PanGIS and KP Environmental.

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 includes an approximately +/-848 (million volt-amperes, reactive) (MVAR) dynamic reactive support facility to include a minimum of two equally sized Static Synchronous Compensator (STATCOM) units, independently connected via two single circuit 500 kV interconnection transmission lines, to the existing Pacific Gas and Electric (PG&E) owned Gates Substation 500 kV bus. The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of a major portion 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 buses in the electrical proximity 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.

The Project site is approximately 20 acres situated within a 72-acre parcel located directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates Substation in Fresno County, California as shown on *Figure 1: Project Vicinity Map* (Appendix E). The site is located southwest of the intersection of Phelps Avenue and Trinity Avenue within the northeast quarter of Public Land Survey System (PLSS) Section 33 of Township 20 South and 17 East, as shown on *Figure 2: USGS Topographical Map* (Appendix E) and *Figure 3: Aerial Location Map* (Appendix E). The site is located approximately 3.5 miles southwest of the City of Huron. The site land-use is currently agricultural and is surrounded by active agriculture.

The California Public Utilities Commission (CPUC) General Order (GO) 131-D governs the construction of all electric facilities by investor-owned utilities. Substation and electric line projects greater than 50 kilovolts (kV) are subject to CPUC review and approval unless they qualify for exemptions. The expansion of the Gates Substation would require CPUC licensing and accompanying California Environmental Quality Act (CEQA) compliance.

No federal regulations related to cultural or resources are applicable to the Project; Section 106 of the National Historic Preservation Act (NHPA) does not apply because no federal agency discretionary action is required for the project and no federal lands or monies are involved. Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, the project is not subject to local discretionary land use regulations. No local regulations related to cultural resources apply to the project or provide information to assist with CEQA review.

A Critical Issues Analysis (CIA) was conducted for the property by Heritage Environmental Consultants, LLC, in May 2019 (Heritage 2019). The CIA assessed the potential risks associated with the Project and provided recommendations for its permitting and site development. A variety of risk categories were evaluated for the CIA. In addition, because the Project will be subject to CEQA, the resource areas identified in the environmental checklist provided in Appendix G of the CEQA Guidelines were addressed, including Aesthetics, Agricultural and Forestry Resources, Air Quality, Biological Resources, Cultural and Paleontological Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, and Wildfire.

The Area of Potential Effect (APE) consists the Project site of approximately 20 acres, as well as the remainder of the 72-acre parcel surrounding the Project site. The study area consists of the APE and a buffer around it which totals approximately 98 acres.

The record search and surface survey were conducted by Digital Technologies in Archaeological Consulting, LLC (Digtech) Principal Investigator Chris Webster, M.S., RPA. The sacred lands file search was conducted by PanGIS, Inc. (PanGIS) staff archaeologists. PanGIS Senior Archaeologist/Historian Douglas Mengers, M.A., RPA, DPPH, conducted tribal outreach and prepared this report. Mr. Mengers' resume is included in Appendix A. Tribal history and ethnographic information was provided by Chairman Robert G. Ledger, Sr., of the Dumna Wo-Wah Tribal Government.

Setting

The following Natural Setting and Cultural Setting sections are drawn from Wallace (1978), Silverstein (1978), Rosenthal et al. (2010), and the US Environmental Protection Agency (EPA 2020). The Prehistory section is summarized from Rosenthal et al. (2010). The ethnography section is drawn from Wallace (1978), Latta (1977) as quoted in Breschini and Haversat (1987), and information received during tribal outreach for the Project (Ledger 2020). The History section is taken from Latta (1977) as quoted in Breschini and Haversat (1987) and Orsi (2005).

Natural Setting

The Project is located at the western edge of the San Joaquin Valley at the base of the eastern foothills of the Diablo Range. It is located in the Tulare Lake Basin watershed, a component of the San Francisco Bay Delta watershed. Major rivers in the watershed, including the Kings, Tule, and Kern Rivers, come out of the Sierra Nevada Mountains. Drainages on the west side of the San Joaquin Valley are small and widely dispersed compared to those on the Sierra slopes.

Prior to 19th century settlement and 20th century water development, the Tulare Lake Basin was characterized by large lakes and associated wetlands that periodically drained into the San Joaquin River watershed to the north. Along with the riparian zone surrounding the lakes and rivers, native vegetation was dominated by tule marsh and alkali-tolerant forbs and grasses. Today, irrigated agriculture, rural, and urban development have replaced the lakes and wetlands.

Rainfall in the region is low (15-25 cm annually), fed by a rain-flood season from January to March. Sierra Nevada snowmelt feeds the region in early summer, followed by long hot summers and mild winters. Vegetation in the marshes is dominated by tule, with cottonwood, sycamore, and willow making up the riparian zone. Sage, greasewood, and bunchgrass occupy the dry land. Wildlife includes year-round aquatic birds; migratory ducks and geese in the winter; fish, turtles, and freshwater mussels; pronghorn antelope, tule elk, and mule deer; and small mammals and birds including rabbits, squirrels, and quail.

The Project site and surrounding parcel are currently in use for agricultural production, including mature vineyards and row crops surrounded by dirt roads. Two steel transmission line towers are on the surrounding parcel. There is no portion of the Project site or surrounding parcel that is not plowed or graded. Historic aerials and topographic maps show large commercial agriculture on the property dating back to at least the 1950s (NETROnline 2020). Topographic maps from the 1930s and 1940s show different road alignments, likely indicating smaller farms.

Cultural Setting

Prehistory

Most Late Pleistocene landscapes in the San Joaquin Valley have been destroyed or buried by Holocene-epoch erosion and deposition, while most surface sites, including village mounds, have been obliterated by erosion and agricultural development. Thus, very few archaeological sites exist throughout the Central Valley prior to 2,500 BCE and the cultural-historical framework, especially in the southern San Joaquin Valley, is poorly defined (Rosenthal et al. 2010).

Paleo-Indian Period (11,550-8,550 BCE)

Investigation within remaining Pleistocene deposits in the southern San Joaquin Valley indicates occupation dates between 11,550 BCE-9,550 BCE, based on a large cache of Clovis-like concave base projectile points in the Tulare Lake basin (Rosenthal et al. 2010).

Lower Archaic Period (8,550-5,550 BCE)

Archaeological sites in the San Joaquin Valley are extremely limited in this period due to significant alluvial depositions circa 9050 BCE and 5550 BCE; however, stone tool assemblages from the Tulare Lake basin resemble those from the Great Basin area (Rosenthal et al. 2010).

Middle Archaic Period (5,550-550 BCE)

A warmer and drier climate during this period led to lake desiccation in the San Joaquin Valley while rising sea levels created the Sacramento-San Joaquin delta to the north. Distinct foothill and valley settlement-subsistence patterns are evidenced, as is stable, year-round residence along rivers and well-established trade networks. The Windmiller Pattern of oriented and extended burials likely developed in this period, possibly in the San Joaquin Valley (Rosenthal et al. 2010). Intensification of subsistence practices is indicated by new fishing technologies, increased groundstone use, and expansion of manufacturing industries.

Upper Archaic Period (550 BCE-AD 1100)

A cooler, wetter, and more stable environment during this period led to the return of lakes in the San Joaquin Valley. Village mounds appear in the Delta region after 700 BCE, while Windmiller descendants are evident in the San Joaquin Valley through the end of the period. A sharp population increase throughout the Central Valley after 500 BCE was accompanied by more reliance on fishing, acorn processing, and soft technology. Southern San Joaquin Valley sites are rare, although they indicate year-round villages and aquatic and terrestrial resource exploitation (Rosenthal et al. 2010).

Emergent Period (AD 1100-Historic)

Evidence exists for continued increase of population and social complexity across the Central Valley during this period, including a transition to cremation, decentralization of production, and development of a monetized system of exchange. Villages expanded along foothill streams, valleys, rivers, and sloughs. While there is little direct evidence of plant use in the San Joaquin Valley, mortars and pestles were common elsewhere in the Central Valley after 1000 AD, and fish- and plant-based subsistence strategies dominate. This period saw the introduction of bows and arrows and pottery to the region,

especially in the eastern foothills. At the time of European contact, 15 tribal groups, collectively referred to as Yokuts, occupied the southern San Joaquin Valley (Wallace 1978).

Ethnography

The southern San Joaquin Valley and lower foothills were inhabited by Yokuts tribes that were linguistically related to the California Penutian language family of central and coastal California (Silverstein 1978). The Southern Valley Yokuts homeland stretched from present-day Fresno to south of Bakersfield and encompassed Tulare, Buena Vista, and Kern lakes and the surrounding sloughs and marshes. Southern Valley Yokut lifeways were closely linked to the lake/slough/marsh environmental setting.

Subsistence was centered on fish, primarily lake trout and anadromous fish. Nets strung between tule rafts and shore poles were employed, as well as hand nets, basket traps, and spears. Fish were generally broiled on hot coals or sun dried. Reliance on game was low, although roasted turtles were favored, and snares and nets were used to catch waterfowl. Plant foods included ground tule roots and seeds, as well as grassnut roots and clover. Acorns were acquired by trading fish with tribes farther east. Single-family huts, granaries, and sweathouses were constructed of tule mats over wood frames. Tule was also used for baskets and other crafts, including watercraft (Silverstein 1978).

Social organization was based on the biological family, patrilineal totemic lineages, and exogamous totemic lineage, and was divided into moieties for rituals and games. Significant life-cycle rituals included birth, puberty, marriage, and death; group rituals included an annual six-day festival honoring the dead, first-fruit rites, and a springtime Datura rite. No political unity existed between tribes; instead, they were organized into self-governing miniature tribes of about 350 people, each with a different dialect. Tribal land, covering on average about 250 square miles, was owned collectively; any member could use its resources. Population of the Southern Valley Yokuts at European contact is estimated at 15,000. Most tribes were spread across several settlements, with one dominant larger village (Wallace 1978).

The plains and foothills of the west side of the San Joaquin Valley were occupied by several Southern Valley Yokuts tribes, the largest of which was the Tache. The Tache wintered at the village of Poza Chaná, five miles southwest of present-day Huron (3.5 miles northwest of the Project site). Poza Chaná functioned as a trading village, where tribes from the coast would come inland to trade shell beads and other ocean resources for obsidian, soapstone beads, and seeds (Breschini and Haversat 1987). According to present-day tribal knowledge, the Project area was used by the Dumna Tribe during their residence on the Fresno Indian Reservation in the 19th century. The Dumna had encampments on or near the Project site where ash trees were used in longevity ceremonies, for medicinal use, and for crafting bows and arrows (Ledger 2020).

History

Spanish Period (1772–1822)

The earliest recorded European entry into the southern San Joaquin Valley was the Pedro Fages expedition of 1772. The Francisco Garcés expedition of 1776 terminated approximately 20 miles north of present-day Bakersfield. The 1806 Gabriel Moraga-Fr. Pedro Muñoz expedition reached the Tule River and the Koyeti village of Chokowesho, near present-day Porterville. Records of contact with and impact on Native Americans are minimal from this period; no ranchos were established in the San Joaquin

Valley. However, almost all the Yokuts along the plains and foothills of the west side of the San Joaquin Valley had been taken to the Spanish missions on the Pacific coast (Breschini and Haversat 1987). The region was used a rendezvous point for neophytes fleeing the Mission system, which resulted in the transmission of some foreign native and European culture and physiological threats to the area.

Mexican Period (1822–1848)

Most European activity in the region during the Mexican period consisted of punitive expeditions to recover or acquire livestock, thieves, or slaves. Expeditions by fur trappers, traders, and explorers during this period included those led by Jedidiah Smith (1827), Kit Carson (1830) and John Fremont (1844). European influence during this period increased, as evidenced by the 1833 malaria epidemic, which exterminated most remaining Yokuts west of the San Joaquin River (Breschini and Haversat 1987).

American Period (1848–Present)

The San Joaquin Valley was on the primary wagon route from the eastern United States to the California gold fields farther north in the Sierra Nevada foothills. Settlement in the region during the early American period primarily consisted of removal by force of Native Americans and the construction of trading posts and ferries at river crossings along the Los Angeles-Stockton road, most of which were established by 1850. Remaining Native Americans were removed to reservations, including the Sebastian (Tejon) Indian Reservation (1853-1864) and the Fresno River Farm (1854-1860).

Many towns through the San Joaquin Valley were established by the Southern Pacific Railroad (SPRR) in the 1870s and 1880s as the southern trans-continental railroad was constructed down the valley from San Francisco to Tehachapi Pass. For larger towns, such as Merced, Modesto, and Fresno, the SPRR constructed the rail infrastructure and their holding company built civic improvements and sold lots. Small towns, including Coalinga and Huron closer to the Project site, began as coaling or watering stations along the SPRR line (Orsi 2005). By the early 20th century, some of these towns developed economies distinct from the railroad, including oil extraction at Coalinga and wool production at Huron.

Agriculture in the San Joaquin Valley began early in the American period, encouraged by an 1857 drainage and reclamation law. By 1900, much of the surface-water flow in the Valley had been diverted for agricultural use. SPRR land grant and settlement policies favored the development of small family farms (Orsi 2005). Large tracts of land were also used for cattle ranching, especially by the Miller and Lux company, an early corporate farming entity. The Central Valley Project, begun in the 1930s, constructed an immense system of dams, canals, and aqueducts throughout the San Joaquin Valley. It pushed out many small farmers, which were replaced by large-scale corporate farms employing massive numbers of agricultural laborers, including many immigrants and refugees from the Dust Bowl. Large-scale commercial agriculture remained the main industry in the San Joaquin Valley through the 20th century, producing most of the agricultural production in California.

Methods

Background Research

A record search was conducted to determine if any historic properties or archaeological resources listed or potentially eligible for listing on the NRHP or CRHR were present within or immediately adjacent to

the APE. The record search request was submitted by Digtech to the Southern San Joaquin Valley Information Center (SSJVIC) in April 2019 and was fulfilled on May 13, 2019.

Materials consulted by the SSJVIC included prehistoric and historic archaeological resource and report databases, California Office of Historic Preservation (OHP) Historic Properties Directory, National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmark, California Historical Points of Interest, California Inventory of Historic Resources, and Archaeological Determinations of Eligibility. The record search area included a 1.0-mile buffer of the APE.

PanGIS consulted historical maps of the record search area including the original survey plat map of 1855 (BLM 2020), historical topographic maps (USGS 1:125,000 Coalinga 1912; USGS 1:62,500 Gujarral Hills 1933, 1936, and 1937, Huron 1933 and 1937, and Polvadero Gap 1942; USGS 1:24,000 Gujarral Hills 1956 and 1971 and Huron 1956 and 1971) (USGS 2020), and historic aerial photographs (1963, 1969, 1994, 2005, 2009, 2010, and 2012) (NETROnline 2020).

A Sacred Lands File (SLF) Search request of the Project area was submitted to the Native American Heritage Commission (NAHC) on June 30, 2020.

Geoarchaeological assessments for nearby projects were consulted. These included surface soil assessments and rated the *archaeological sensitivity*, or potential to support the presence of buried prehistoric archaeological deposits, of the area based on geologic unit and environmental parameters such as distance to water and landform slope.

Surface Survey

The survey area includes all of Project site (20 acres), plus the remainder of the surrounding parcel (72 acres), plus a buffer for a total of approximately 98 acres. The survey plan entails 5-10 meter transects depending on ground visibility and accessibility. For areas not accessible due to steep or unsafe terrain or dense vegetation, directed survey will attempt to survey any accessible portions.

Previously unrecorded resources encountered are to be recorded on digital DPR 523 site forms, and their locations will be recorded using a handheld device running ESRI Arc Collector software. Wildnote software is used for recording field notes, and digital photographs are taken with an iPhone X 12-megapixel camera.

No cultural materials are to be collected during the surface survey. Photographs and field notes are to be held by the cultural resource management firm conducting the survey.

Resource types

Based on the prehistoric, ethnohistoric, and historic context of the Project area, certain types of resources are more likely to be encountered in the Project area. Most surface prehistoric archaeological sites in the San Joaquin Valley, including once-ubiquitous earthen mounds, have been destroyed by agricultural development, levee construction, and river erosion (Rosenthal et al. 2010).

Prehistoric resources are the surface manifestations of human activity generally associated with early Native American activity into the ethnohistoric period. These resource types include lithic scatters (flaked stone artifacts such as cores, bifaces, and debitage created from lithic reduction), diversified artifacts scatters (containing a mix of lithic artifacts, pottery, bone, and/or shell), and habitation sites (a

variety of artifacts types, features such as hearths, and midden). Ethnohistoric period sites are defined as Native American settlements occupied after the arrival of European settlers in California and may contain a mix of prehistoric and historic-era artifacts.

Historic-era resources are those with structures or other remains of historic activities greater than 50 years old. Historically, land use in the area has focused on agriculture; therefore, the resources most likely to be encountered will include irrigation and water conveyance features (pipe, pumping equipment), structural foundations, remains of abandoned roads, historical electrical infrastructure, historic-era refuse deposits (glass bottles and cans), and possibly ranching-related features (fence lines, water troughs).

Isolated artifacts refer to one or two distinct artifacts or a few fragments of the same artifact that are too far away (typically more than 30-50 meters) from other artifacts or features to be considered part of a site. These may be prehistoric or historic and are frequently displaced from their original context and disassociated from their provenience.

Findings

Background Research

The SSJVIC record search indicated that no portion of the APE has been subjected to an intensive pedestrian survey within the past five years. Earlier surveys of the APE were conducted in 1977 (FR-00433, ~10% coverage) and 2001 (FR-02015, ~10% coverage). An additional nine reports were identified outside of the APE but within the one-mile search buffer (Appendix B).

The record search identified one resource (P-10-006610) within the APE, a historic-era built environment resource detailed below. One additional resource is located outside of the APE but within the one-mile search buffer (Appendix F – Confidential). This resource (P-10-006640), a historic-era electrical transmission line, is approximately 200 meters southeast of the APE.

Previously Recorded Resources Within the APE

P-10-006610 – Originally recorded in 2015 by Applied EarthWorks as part of the Central Valley Power Connect Project, this resource is the Pacific Gas & Electric Company's Gates-Panoche transmission line, constructed in the late 1940s (Appendix G – Confidential). It consists of two sets of 230kV three-phase conductors (No. 1 & No. 2) supported by 100-foot-high double circuit steel lattice towers and runs from the Gates Substation 43.5 miles northwest to the Panoche Substation. The resource was evaluated in 2015 and was determined not eligible for listing on the NRHP or CRHR (Asselin et al. 2015).

The review of historic maps agrees with the development history of the West Side of Fresno County. The 1855 survey map, nothing is shown in the project area. The nearest feature is a wagon road segment approximately 3.5 miles to the northeast. The 1912 map shows no roads or structures in the Project area. Maps from the 1930s show paved Jayne Avenue south of the APE, as well as dirt roads running diagonally across the parcel surrounding the APE, though no structures. The 1942 map shows four structures approximately 0.5 miles to the east of the Project area. The 1950s maps show these same structures, now labelled Sommerville Farms, with adjacent grain tanks and nearby wells and oil tanks; the Gates Substation to the south of the APE; and transmission lines crossing the Project APE, including the Gates-Panoche line and a line running north along Trinity Avenue. The 1970s maps show

an expanded Gates Substation and additional transmission lines. At no point are any structures shown within the APE.

The SLF Search was returned by the NAHC with negative results on July 1, 2020 (Appendix C1). The NAHC provided PanGIS with a list of Native American Contacts who may be able to supply information pertinent to the project area (Appendix C2). Each of the 13 individuals listed were contacted by mail or email sent July 2, 2020. A sample letter is attached (Attachment C3). To date, three contacts have responded to outreach efforts. On July 2, 2020 Big Sandy Rancheria Tribal Chairperson Elizabeth D. Kipp wrote that they have no comment on the Project but would like to be notified of any cultural discoveries. On July 8, 2020 Dumna Wo-Wah Tribal Government Chairman Robert G. Ledger, Sr., wrote that the Dumna had encampments on or near the Project site in the 19th century, there is a high likelihood of buried artifacts in the Project area, they would like a monitor on site during ground disturbing activities, and they would like to participate in official consultation regarding the Project. The details of Chairman Ledger's confidential tribal information are on file with PanGIS. On July 29, 2020, Tribal Liaison Dirk Charley said that the Proposed Project is outside the area of interest of the Dunlap Band of Mono Indians and they defer to a closer tribe.

The *archaeological sensitivity* assessment was conducted in 2010 and found that the Project area lies on the middle part of the Coalinga fan, one of the largest alluvial fans emitting from the western foothills in this portion of the San Joaquin Valley (Kaijankoski 2010). Los Gatos Creek, a seasonal creek, is the principal drainage for the fan and is located 3.5 miles northwest of the Project area. While surface soils in the Project area are young enough to overlie older prehistoric archaeological sites, the report concluded that without a nearby source of fresh water, it is unlikely the Project area attracted any prolonged human use or settlement, and that *archaeological sensitivity* is therefore rated Moderate.

Surface Survey

The surface survey was conducted on May 18, 2019 by Digtech Principal Investigator Chris Webster, M.S., RPA. No contact was made in the field with any landowners or other personnel and there were no problems with access to the project areas. The entirety of the survey area is an old-vine vineyard. The northern, eastern, and southern boundaries of the survey area are wide dirt roads (*Figure 4*, Appendix D), while the western boundary runs through the vineyard following the rows of vines (*Figure 5*, Appendix D). There is no portion of the APE that is not plowed and/or heavily disturbed. Ground visibility was excellent throughout the survey area.

No archaeological resources were located during the surface survey. One existing historical built-environment resource (P-10-006610) crosses the southwest portion of the parcel but is outside the project footprint (*Figure 6*, Appendix D). This resource, the PG&E Gates-Panoche transmission line, was evaluated in 2015 and determined ineligible for listing on the NRHP and CRHR (Asselin, et al 2015). The resource appeared as recorded. No cultural materials were collected during the surface survey. Survey notes and photographs are maintained by Digital Technologies in Archaeological Consulting, LLC, in their Reno, Nevada office.

Management Considerations

No additional cultural resources studies are recommended at this time. The surface survey was negative for cultural resources and the Project area has been heavily disturbed by agricultural activity and the construction of roads and electrical infrastructure.

As there are no known cultural resources in the APE, the Project will have no effect on cultural resources. However, unanticipated resources may be discovered during ground-disturbing activities, which will then need to be evaluated in order to assess project impacts.

There are likely no subsurface historical archaeological remains in the APE. However, there may be unrecorded subsurface prehistoric remains, as indicated by the “moderate” result of the archaeological sensitivity study (Kaijankoski 2010). There may also be previously recorded ethnohistoric era remains within the Project APE based on tribal knowledge provided (Ledger 2020).

Due to the moderate likelihood of encountering subsurface prehistoric resources and the potential for encountering subsurface ethnohistoric resources during Project construction, archaeological and Native American monitoring is recommended during all ground-disturbing activity associated with the Project.

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Appendices

- A. Resume – Douglas Mengers, PanGIS
- B. Record Search Results - Table
- C. SLF Search Results
 - 1. SLF Response Letter
 - 2. Native American Contacts List
 - 3. Sample Outreach Letter
- D. Photographs of Survey Area
- E. Maps (Non-Confidential)

Confidential Appendices

- F. Record Search Results – Map
- G. Resource Record (DPR 523) – P-10-00610

Appendix A – Resume: Douglas Mengers, PanGIS

Education

M.A., Applied Anthropology,
San Diego State University

B.A., History, University of
California at San Diego

B.A., Anthropology, University
of California at San Diego

Professional Certifications & Registrations

Secretary of Interior Standards
(36 CRP Part 61) for History
Secretary of Interior Standards
(36 CRP Part 61) for
Archaeology (historic and
prehistoric)
Advanced CEQA Essentials
Bureau of Land Management
(BLM) Principal Investigator
NCTC Rail Safety Training
MCTC Rail Safety Training
SANDAG Architectural
Historian II
Hazwoper 40 Hour

Areas of Expertise

Section 106 Compliance
NEPA Compliance
CEQA Compliance
Archaeological Field Studies
Historic-Era Structure
Evaluations
Historic Artifact Analysis
Historic Publications
Environmental
Contract/Project Management
SB 18/ AB 52
Native American Outreach
State, Regional, Local Policy
Knowledge
GIS Asset Management
ESRI ArcGIS
GIS Mobile Solutions
Resource Agency Coordination
Permitting

Doug Mengers M.A., RPA #39693945, DPPH Principal Investigator Cultural Resources



Mr. Mengers is a Registered Professional Archaeologist and Historian with 13 years of experience, meeting Secretary of Interior standards for archaeology, history, and architectural history. He is a BLM approved Principal Investigator and CPUC qualified archaeologist. He has worked on large-scale, multi-year utility projects for the past 10 years, progressing from field monitor, GIS Lead, Field Director, to Principal Investigator, and is very knowledgeable of the process and required procedures. He has expertise in project implementation with experience in agency coordination and has a deep understanding of relevant federal and state codes and regulations, including NHPA Section 106/110 compliance, NEPA, ARPA, and CEQA as they pertain to cultural resources and the built environment.

Mr. Mengers has earned a CEQA Practice certificate and has a strong understanding of CEQA, as well as the ability to critically assess information during the environmental review process. He can oversee the preparation of technically compliant, legally defensible, and high-quality environmental documents including Environmental Impact Reports (EIRs), Environmental Assessments (EAs), Initial Studies, Mitigated Negative Declarations (MNDs), and required CEQA findings, as well as drafting of cultural resources specialists reports. He oversees projects from start to finish and can apply tools to minimize time and expense related to the environmental review process. He is qualified to manage CEQA projects and multi-disciplinary teams, and develop plans and scopes of work, budgets, and schedules for complex environmental projects. Mr. Mengers has conducted Native American Consultation for many projects and maintains positive relationships with local tribal groups. He has served as Principal Investigator on many projects with Federal components and has a strong knowledge of NEPA and Section 106.

Select Project Experience:

SDG&E Data Recovery and Treatment Plan for Substation Extension Project (2020) Mr. Mengers was the lead historian on this project to expand a substation. During trenching for geotechnical investigations, a subsurface cistern was discovered during archaeological monitoring. Trenching in the vicinity was halted and the client requested a data recovery and treatment plan for the historic-era cistern. Mr. Mengers conducted background research on the area using Sanborn maps and information from the local history center. He then wrote a treatment and data recovery plan, including a discussion of capping. The plan will be implemented after the geotechnical studies are complete.

Caltrans/City of Porterville, Tule River Bike Path Phase III (2017 – 2018)

Principal Investigator, Mr. Mengers provided environmental compliance for

archaeological and historical resources. He conducted an archival record search and historic research at local historical societies, conducted Tribal consultation, directed pedestrian surveys of the APE, prepared the ASR/HPSR reports, and coordinated with agency personnel. The purpose of the archaeological survey was to determine if any historic properties or archaeological resources were potentially eligible for listing on the National Register of Historic Places are located within or near the construction area, and documents compliance with Section 106 of the NHPA. Historic railroad bridges, buildings, and trash deposits were recorded and evaluated.

Cultural Resources Management Plan (CRMP) for SCE's Devers-Colorado River (DCR) No.1 Transmission Line Rating Remediation Project (2018) Senior Investigator Mr. Mengers conducted the Class III survey to assist federal permitting agencies in complying with Section 106 of the NHPA and NEPA and to assist the Public Utilities Commission, the lead state agency for the inventory portion of the project. The lead federal agency was the BLM. He prepared the Cultural Resources Management Plan (CRMP) which describes the measures that SCE will take to ensure no adverse effects to Historic Properties/historical resources during the project in accordance with Mitigated Negative Declaration (MND). Mr. Mengers conducted a site tour for the Lead Agency's third-party monitoring firm and directed staff for GIS maps and project files.

Mojave National Preserve- Determination of Eligibility (DoEs) for 7 Mine Sites (2019 - 2020) Principal Investigator, Mr. Mengers evaluated 7 abandoned mines to determine their eligibility for listing on the National Register of Historic Places (NRHP). The DoEs will assist the NPS with compliance required by 36 CFR 800 for Section 106 of the NHPA before proceeding with the safety mitigations. The study includes historic research, condition assessments, photo-documentation, and architectural descriptions along with descriptions and photographs of the cultural landscape. As project lead, he led fieldwork, wrote site inventory forms and managed GIS staff in mapping and recording historic mining features.

Caltrans FNAE and Historic Properties Action Plan for Cottonwood Creek Bridge Widening Project (2020) PSQ-Equivalent Principal Architectural Historian, Mr. Mengers wrote the Finding of No Adverse Effect with Standard Conditions and Secretary of the Interior's Standards for the Treatment of Historic Properties Action Plan for the Cottonwood Creek Bridge Widening Project in the County of San Diego. The road over the bridge was found eligible for the NRHP and a historical resource for the purposes of CEQA, so the bridge was evaluated as a component of the road. The purpose of the project is to widen and rehabilitate Cottonwood Creek Bridge, constructed in 1950, to meet federal bridge safety requirements.

SCE Devers to Palo Verde Transmission Project, Riverside County, CA (2009- 2017) Mr. Mengers served as an Archaeologist/Historian and GIS team leader for this multi-year project. He was a co-author for the Historic Properties Management Plan and was responsible for recording a number of historic districts, canal siphons, other water conveyance systems, historic ranches, and conducting testing for historic and prehistoric sites. Responsibilities also included the identification, cataloging, and curation for all historic artifacts recovered from the project, researching and writing portions of the historic context. He also kept the GIS databases up-to-date based on ever-changing engineering GIS data for the construction of the transmission lines. He was also responsible for integration of GPS field data collected in the field, keeping GPS units updated with proper background files for monitoring and survey, creating environmental avoidance areas, and GIS graphics production for reports.

SDG&E Salt Creek Substation Construction Monitoring, San Diego County, CA (2016 - 2018) PanGIS provided archaeological monitoring during construction of the Salt Creek Substation. Mr. Mengers, Senior Archaeologist, documented compliance with CEQA and the measures in the Cultural Resources Mitigation and Monitoring Plan.

He insured that all mitigation measures were implemented during the project, scheduled cultural monitors during the two-year project, and wrote the final technical report.

Cultural Resource Assessment and Section 106 Evaluation for Sycamore Creek Mobile Home Park (2017)

Project Historian Mr. Mengers conducted the site survey, performed a record search, historic research at historic societies, and prepared a site inventory form for the remains of a historic-era trailer park and adjacent historic rancho. The project site came under review by the ACOE, Section 106 of the NHPA. Based on background historic research he also prepared a site evaluation to assess NRHP eligibility to be submitted to the State SHPO. Mr. Mengers authored a cultural report, summarizing the background research and survey results.

Design of Los Peñasquitos Lagoon Restoration (2019-2020) Principal Investigator for Cultural Resources, he is providing CEQA and NEPA services for cultural and historical resources and GIS mapping support to satisfy the Historical Resources Guidelines and Section 106 of the NHPA. Tasks include record search, NAHC Sacred Lands File Search, Native American outreach letters, intensive linear ground surveys, historic research, paleontology study, updated site forms, technical reports with recommendations, and writing cultural sections for the EIR. The goal of this project is to restore the historic coastal salt marsh habitat in the Los Peñasquitos Lagoon.

Lawson Valley West Bridge Replacement Project, San Diego County, CA (2020) PQS-Equivalent Principal Investigator Historic Archaeology, Mr. Mengers managed PanGIS staff conducting archival research, a pedestrian archaeological field survey, and creating the GIS deliverables. For the cultural resource reporting, Mr. Mengers authored the Caltrans Archaeological Site Report (ASR) in support of the proposed project's environmental compliance with NEPA and Section 106 of the National Historic Preservation Act. The documents were prepared according to Caltrans guidelines, including the First Amended Section 106 Programmatic Agreement (106 PA) among Federal Highways Administration (FHWA), the State Office of Historic Preservation (SHPO), the Advisory Council of Historic Preservation (ACHP), and Caltrans.

CA Dept. of Water Resources and CDFW South Coast Region Land Management Plans (LMP) (2020) PanGIS staff are preparing LMPs on three properties, Boden Canyon ER, Batiquitos Lagoon ER, and Ballona Wetlands ER. Project archaeologist, Mr. Mengers is managing staff conducting cultural field studies for use in the development of the LMPs. These studies will enable CDFW to prepare an LMP for each of the properties that can then be processed through CEQA and implemented by CDFW. Studies include Archaeological Background Research, Native American Outreach and Consultation, Site surveys, Archaeological Technical Cultural Report, Cultural Resources Treatment and Protection Plan Cultural Resources Research Design and Context Statement, Cultural Resource Survey and On-Call GIS Support.

Shasta Valley Resource Conservation District's (SVRCD) Watershed Protection Projects (2019) Senior archaeologist and historian Mr. Mengers managed 3 projects for the SVRCD. Shasta Valley has a rich ranching, mining, and Native American history. The purpose of the projects was to provide constraints information to assist the SVRCD in several Federally funded watershed protection projects. Mr. Mengers provided oversight for the GIS mapping, record search and Sacred Lands Search from the NAHC, intensive linear ground surveys, and historic research. Projects were located on long-established ranch lands; therefore, research was conducted on the history of the Newton, Lemos, Hull, and Sandahl ranch properties through the County Historical Society. Research sources included the publication Siskiyou Pioneer and conversations with current property owners, descendants of the original ranch families. This research was intended to assist with the evaluation of undocumented historical resources encountered during the field survey. Mr. Mengers authored a series of reports with resource recommendations.

SDG&E Environmental Compliance MSA, Agreement # 6360040006 (2014-2020) Senior archaeologist and historian, Mr. Mengers provides cultural resource management services including site surveys, data recovery, Plans, and Analysis, GIS/Geospatial Services, Cultural Construction Monitoring, Monitoring reports, agency coordination (BLM, State Parks, USFWS), historic era structure evaluation, and technical report preparation; addressing Inventory Results, Potential NHPA/CRHR Resource Eligibility, and further measures for CEQA and Section 106 Compliance.

Historic Resources Evaluation for Cottonwood Sand Mine Development (2019 – 2020) Project lead, Mr. Mengers directed archival and background research, conducted an intensive pedestrian survey, carried out an eligibility evaluation and integrity assessment of the historic resources observed in the project area, and authored the site forms and technical report. The project site consisted of 277 acres over 24 parcels. Section 106 compliance and eligibility evaluations. As mining extraction activities are completed by phase, the land and river channel will be restored and replanted with native vegetation.

BBMWD Big Bear Lake Routine Lake Maintenance Project (2017) PanGIS acted on behalf of the lead agency providing the CEQA and NEPA compliance for archaeological and paleontological resources. Mr. Mengers supervised all cultural compliance services for this project. He conducted archival record searches, wrote historic context statements, managed AB52 Tribal consultation, prepared resource recommendations, attended agency meetings and created GIS maps and models for archaeological sensitivity in proposed project area.

Cultural Resource Studies and Evaluations for Del Mar Bluffs Stabilization Project 5 (DMB5) (2020)

Architectural Historian and Senior Archaeologist Mr. Mengers reviewed cultural documentation from Del Mar Bluffs 4 (also a PanGIS project) and other previous studies. He and archaeological staff with rail certification training conducted a pedestrian reconnaissance survey of the Area of Potential Effect. New archaeological and historical resources including water conveyance features were recorded. Mr. Mengers prepared a report documenting the sites and potential for impacts, including SHPO evaluation concurrence documentation. The memorandum includes sixteen site inventory form updates, ESRI GIS based maps, and recommendations for which sites may need further evaluation. This project was subject to National Environmental Policy Act (NEPA) review. Per the requirements of NEPA, the Federal Railroad Administration (FRA) is committed to the examination and avoidance of potential impacts to the social and natural environment when considering approval of proposed transportation projects.

Southern California Edison (SCE) CWA15 Environmental Impact Management for the Colorado River-Palo Verde 500kV Transmission Line, Riverside County, CA (2016) SCE was required to manage and document environmental impacts including biological and cultural resources during the construction of the Colorado River-Palo Verde TL. Field director/Primary Report Author, Mr. Mengers provided daily archaeological resources construction monitoring at multiple construction sites, 14 hours per day/7 days per week. His duties included: obtaining Field Work Authorization from BLM, archaeological survey ahead of construction crews, daily monitoring logs, WEAP training, monthly summary reports, safety tailboard meetings, and ESA staking. Cultural resources encountered during monitoring and survey were recorded with high precision GPS units. All cultural resources within the project area were added to the SCE GIS Schema for cultural resources. He wrote the final report and created maps. The report was submitted to both SCE and BLM.

Testing, Monitoring, and Data Recovery Plans, Artifact Analysis and Curation for 2100 Kettner Redevelopment Project (2019 – 2020) Mr. Mengers served as the Principal Investigator for Historic Archaeology. He developed testing, monitoring and data recovery plans for the projects and supervised archaeological monitoring and data recovery. After the fieldwork was complete, Mr. Mengers developed a curation plan for agency approval. 3500+ artifacts were analyzed and cataloged, and a portion were curated per agency guidance.

Grandview Pointe Project – 1902 Grandview Street Historic Resource Assessment, Oceanside, CA (2018)

PanGIS Senior Historian Mr. Mengers performed archival and background research, conducted the intensive survey of the property to document the historic-era structures at 1902 Grandview Street, carried out CRHR and City of Oceanside Historic Preservation Ordinance (HPO) eligibility evaluation and integrity assessment of the historic resources observed in the project area, and authored the final report. The historical resources assessment described in this report was conducted to fulfill mitigation measures in accordance with CEQA Guidelines and using CRHR eligibility criteria. The exterior of each structure was examined and photographed; an interior examination was not conducted. Field note included information on architectural style and features, construction methods, modifications, and property condition. A DPR 523 update form was created for the property. Mr. Mengers attended Oceanside City council meetings.

Caltrans Historic District SR-163 Bridge Rail Upgrade Project (2019) Four bridges over SR-163 are part of a Historic District and must be upgraded to meet current safety standards. Senior Historical Archaeologist, Mr. Mengers worked with a team of architectural historians to conduct research and make recommendations. He surveyed the bridges, took photos, produced a photo appendix, completed site inventory forms, and was responsible for creating APE maps for direct and indirect effects. He was also responsible for completing two Historic Property Survey Reports (HPSR) and the Finding of Effect or Finding on No Effect (FOE/FONE), along with GIS deliverables and exhibits.

Southern California Edison West of Devers Transmission Project, Riverside County, CA (2015-2018) Mr. Mengers was the Principal Investigator and authored the final project reports. He performed and directed survey, conducted background research, evaluated prehistoric and historic sites and districts, provided site assessments and recommendations (NTRP), and produced DPR forms. This project included water conveyance systems, testing, and Section 106.

San Diego High School Constraints Analysis, Phase 1, San Diego, CA (2019) PanGIS provided due diligence and constraints analysis services for cultural resources sensitivity analysis for historical (built) resources (historic-era structures and landscape features) for Whole Site Modernization Improvements and Long-Range Facilities Master Plan at San Diego High School. Initial research indicated that many of the existing structures were constructed prior to 1970, therefore requiring an assessment due to age and potential status as historic resources. Project Architectural Historian Mr. Mengers authored the historic constraints analysis. The goal of the historic-era structures and landscape features analysis is to determine if any built environment resources within the project area are likely to be considered historic resources under State guidelines and, if so, to determine if any built environment resources are likely to be or are potentially eligible for listing on the NRHP or Local Registers. Mr. Mengers performed a reconnaissance survey to identify resources likely to require a full evaluation. The results of the analysis will assist the San Diego Unified School District in determining direct construction impacts to historic resources and guide future historic resource evaluations.

San Diego Unified San Diego High School Historic-Era Structures and Landscape Features Evaluations (2020) In the 2nd Phase of this project, Mr. Mengers evaluated Ten historic built-environment resources and landscape features found in Phase 1 of the study to be potentially eligible for NRHP, State, and Local Registers based on the architects who designed them. The evaluation included archival research, an intensive historic built-environment survey including photo documentation, completion of site inventory forms with evaluations, GIS maps, and a technical report.

Appendix B – Record Search Results – Table

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-00433		1977	Davis, Alan, Dick, Linda, and Vamer, Dudley	An Archaeological Reconnaissance of the Gates Substation to the Proposed Gregg Substation 500 KV Transmission Line, Fresno and Madera Counties	California State University, Fresno	
FR-01878		2001	Jackson, Thomas L., Nave, Thomas, Shapiro, William A., Culleton, Brendan, O'Neil, Mary, and Monroe, Cara	Cultural Resources Inventory Application for Certification Avenal Energy	Pacific Legacy, Inc.	
FR-02015	Submitter - Application No. 01-04-012	2001	Unknown	Los Banos-Gates 500 kV Transmission Project Draft Supplemental Environmental Impact Report - Cultural Resources Section.	Aspen Environmental	10-000046, 10-000085, 10-000129, 10-001997, 10-003199
FR-02443		2010	Kaijankoski, Philip	Gates-Tulare Lake Reconductoring Project	Far Western Anthropological Research Group, Inc.	
FR-02449		2011	Kellawan, Rebecca	Cultural Resources Sensitivity Study for the Rosztoczy Parcel 250 MW Solar PV Program	Far Western Anthropological Research Group, Inc.	
FR-02462		2011	Kellawan, Rebecca	McGeorge Parcel - 250 MW Solar PV Program - Findings and Recommendations	Far Western Anthropological Research Group, Inc.	
FR-02516		2012	Patrick, Ian	Cultural Resources Identification Efforts for the PG&E Solar Photovoltaic (PV) 250 MW Program -Gates West Parcel	Patrick GIS Group, Inc.	
FR-02543		2010	Kaijankoski, Philip	Cultural Resource Sensitivity Study for the Gates Parcel Solar PV Project	Far Western Anthropological Research Group, Inc.	
FR-02769		2016	Asselin, Katie, Baloian, Randy, Morlet, Aubrie, Mirro, Michael, Whiteman, Jennifer, Tibbet, Josh, and Baloian, Mary	Cultural Resources Inventory and Evaluation for the Central Valley Power Connect Project, Fresno, Kings, and Madera Counties, California	Applied EarthWorks	10-003930, 10-005810, 10-006602, 10-006603, 10-006604, 10-006605, 10-006606, 10-006607, 10-006608, 10-006609, 10-006610, 10-006611, 10-006612, 10-006613, 10-006614, 10-006615, 10-006616, 10-006617, 10-006618, 10-006619, 10-006620, 10-006621, 10-006622, 10-006623, 10-006624, 10-006625, 10-006626, 10-006627, 10-006628, 10-006629, 10-006630, 10-006631, 10-006632, 10-006633, 10-006634, 10-006635, 10-006636, 10-006637, 10-006638, 10-006639, 10-006640
FR-02769A		2016	Asselin, Katie, Mirro, Michael, and Baloian, Mary Clark	Supplemental Cultural Resources Inventory for the Central Valley Power Connect Project, Madera, Fresno, and Kings Counties, California	Applied EarthWorks	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-02843		2017	Koenig, Heidi and Alexander, Doug	Cultural Resources Survey Report for the Fifth Standard Solar Project Complex, Fresno County, California	ESA	

Appendix C – Sacred Lands File Search Results



NATIVE AMERICAN HERITAGE COMMISSION

July 1, 2020

Douglas Mengers

PanGis Inc.

Via Email to: dmengers@pangis.com

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

Re: LSPGC –Gates 500kv Dynamic Reactive Support Project, Fresno County

Dear Mr. Mengers:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Cultural Resources Analyst

Attachment

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contacts List
July 1, 2020**

Big Sandy Rancheria of Western Mono Indians Elizabeth D. Kipp, Chairperson PO. Box 337 Auberry, CA 93602 lkipp@bsrnation.com (559) 374-0066 (559) 374-0055	Western Mono	Kings River Choinumni Farm Tribe Stan Alec 3515 East Fedora Avenue Fresno, CA 93726 (559) 647-3227 Cell	Foothill Yokuts Choinumni
Cold Springs Rancheria Carol Bill, Chairperson P.O. Box 209 Tollhouse, CA 93667 coldsprgstribes@netptc.net (559) 855-5043 (559) 855-4445 Fax	Mono	North Fork Mono Tribe Ron Goode, Chairperson 13396 Tollhouse Road Clovis, CA 93619 rwgoode911@hotmail.com (559) 299-3729 Home (559) 355-1774 - cell	Mono
Dumna Wo-Wah Tribal Goverment Robert Ledger Sr., Chairperson 2191 West Pico Ave. Fresno, CA 93705 ledgerrobert@ymail.com (559) 540-6346	Dumna/Foothill Yokuts Mono	Santa Rosa Rancheria Tachi Yokut Tribe Leo Sisco, Chairperson P.O. Box 8 Lemoore, CA 93245 (559) 924-1278 (559) 924-3583 Fax	Tache Tachi Yokut
Dunlap Band of Mono Indians Benjamin Charley Jr., Tribal Chair P.O. Box 14 Dunlap, CA 93621 ben.charley@yahoo.com (760) 258-5244	Mono	Table Mountain Rancheria Leanne Walker-Grant, Chairperson P.O. Box 410 Friant, CA 93626 rpennell@tmr.org (559) 822-2587 (559) 822-2693 Fax	Yokuts
Dunlap Band of Mono Indians Dirk Charley, Tribal Secretary 5509 E. McKenzie Avenue Fresno, CA 93727 dcharley2016@gmail.com (559) 554-5433	Mono	Table Mountain Rancheria Bob Pennell, Cultural Resources Director P.O. Box 410 Friant, CA 93626 rpennell@tmr.org (559) 325-0351 (559) 325-0394 Fax	Yokuts

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
LSPGC –Gates 500kv Dynamic Reactive Support Project, Fresno County.

**Native American Heritage Commission
Native American Contacts List
July 1, 2020**

Traditional Choinumni Tribe David Alvarez, Chairperson 2415 E. Houston Avenue Fresno CA 93720 davealvarez@sbcglobal.net (559) 217-0396 Cell	Choinumni
--	-----------

Traditional Choinumni Tribe Rick Osborne, Cultural Resources 2415 E. Houston Avenue Fresno CA 93720 (559) 324-8764 lemek@att.net	Choinumni
---	-----------

Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas CA 93906 kwood8934@aol.com (831) 443-9702	Foothill Yokuts Mono Wuksache
---	-------------------------------------

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

**This list is only applicable for contacting local Native Americans Tribes for the proposed:
LSPGC –Gates 500kv Dynamic Reactive Support Project, Fresno County.**



July 1, 2020
Elizabeth D. Kipp, Chairperson
PO. Box 337
Auberry, CA, 93602

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Kipp,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

PanGIS, Inc., is providing cultural resources services for the project's planning process, including: a records search at the Southern San Joaquin Valley Information Center (SSJVIC), Sacred Lands File Search with the Native American Heritage Commission (NAHC), and a cultural resources technical report.

A records search of the NAHC Sacred Lands File was conducted on June 29, 2020, for the project area; the results were negative. The NAHC suggested you may be able to supply information pertinent to the project area or might recommend others with specific knowledge. Any sensitive cultural information you provide will be protected and will not be disclosed in public documentation. **This is an information request only and is not associated with any official consultation.**

Thank you for your consideration of this matter and please do not hesitate to contact me at (619)218-9724 or dmengers@pangis.com should you have any questions or need additional information.

Sincerely,
Douglas Mengers, M.A. RPA, DPPH
Senior Archaeologist/Historian
PanGIS, Inc.
(619) 218-9724
dmengers@pangis.com

Attachment 1: LSPGC- Gates 500kV Dynamic Reactive Support Project Location Map

*8555 Aero Drive, Suite 200
San Diego, California 92123
Phone: 760.683.8335 Fax: 760.884.3763*

Appendix D – Photographs of Survey Area



Figure 4. Eastern boundary of survey area, facing north (46602, 5/18/19)



Figure 5. Western boundary of survey area, facing south (46603, 5/18/19)

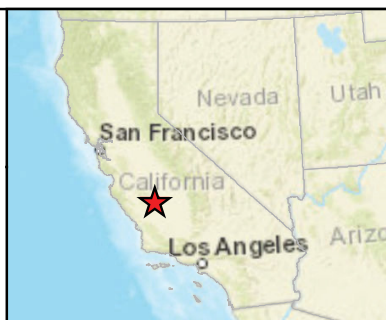


Figure 6. Southern boundary of survey area, facing west, P-10-006610 in distance (46602, 5/18/19)

Appendix E – Maps (Non-Confidential)

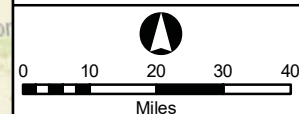


- ★ Project Area
- County Boundaries

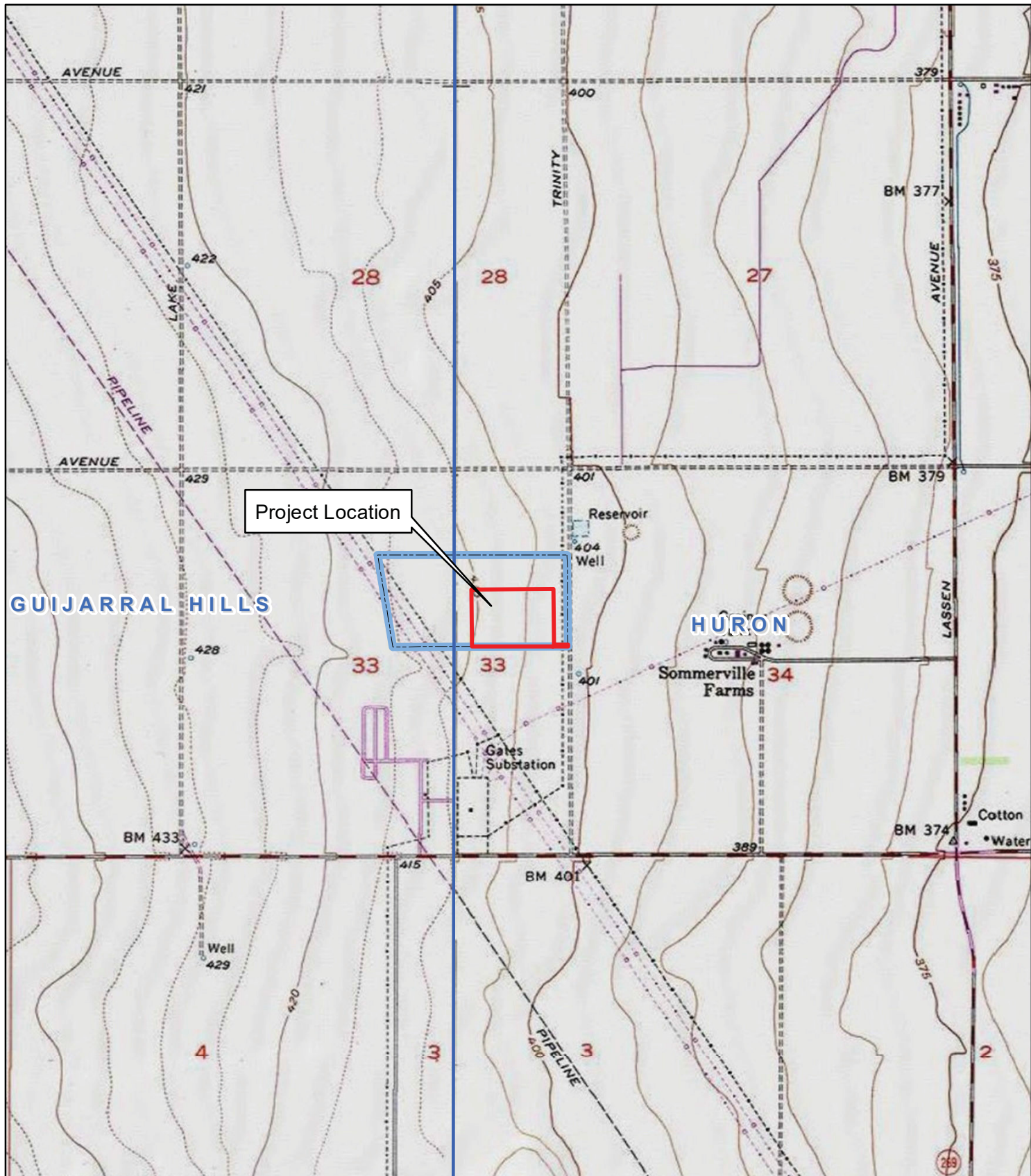


Gates Substation Expansion

Vicinity Map



1:2,000,000



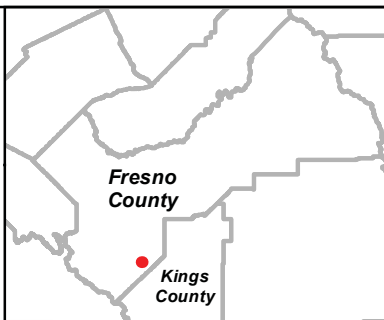
Project Area



USGS 7.5' Quad Boundaries

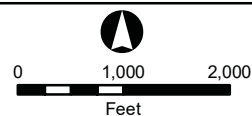


Parcel Boundary

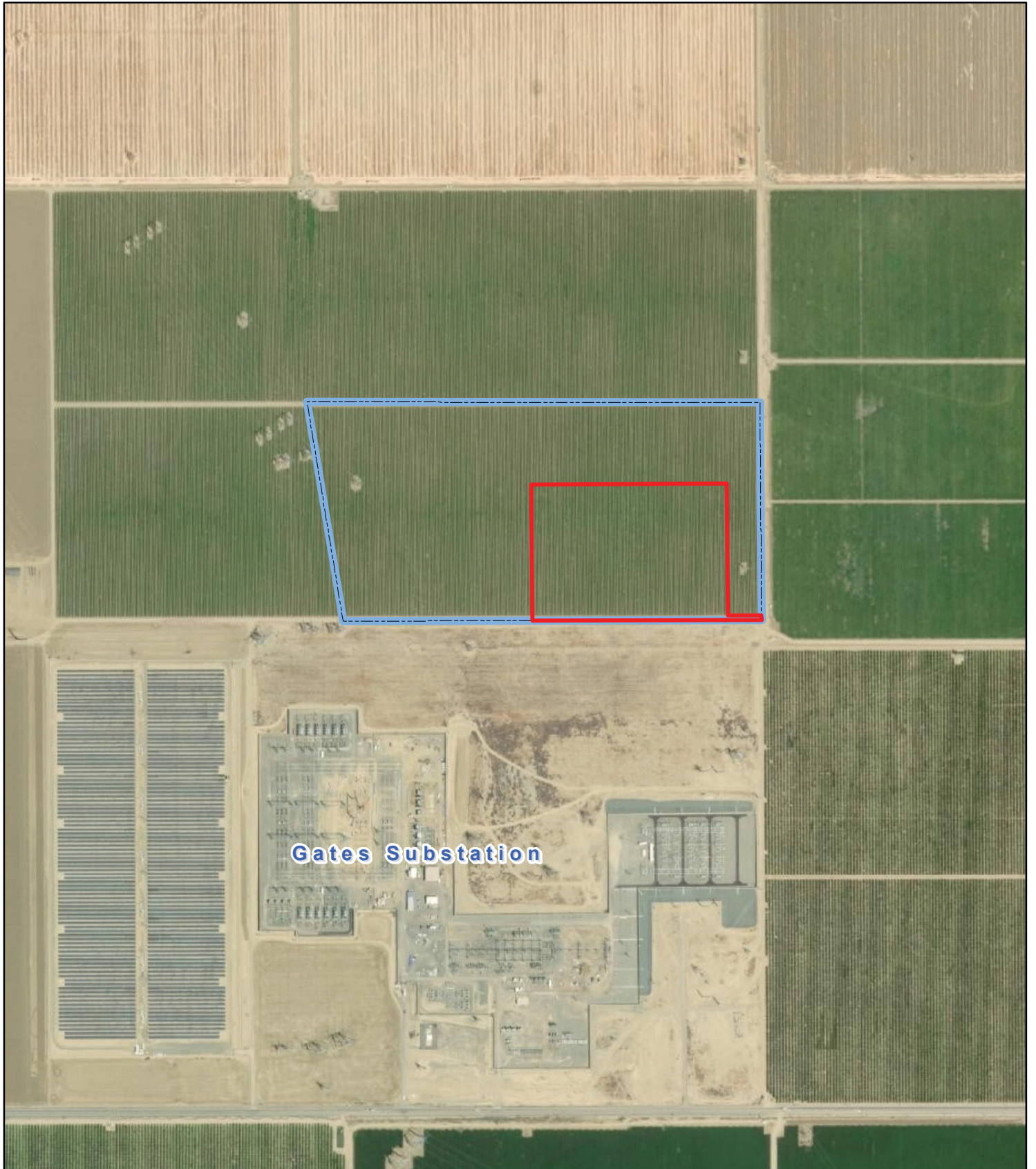


Gates Substation Expansion

Location Map



1:24,000



Project Area

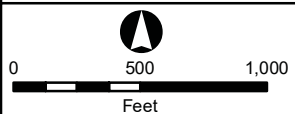


Parcel Boundary



Gates Substation Expansion

Aerial Location Map



1:10,000

Appendix 4.6-A – Fuel Use Calculations

Gates 500kV Dynamic Project - Project Fuel Use Calculations

Project Construction

Fuel Usage (gallons) = CO2 emission (kg) / fuel combustion rate (kg/gallon)

Diesel Emissions

off road equipment	932.2325 MT
onroad (haul & vendor trips)	138.316 MT
Total Diesel Emissions	1070.5485 MT
kg/MT	1000
Total CO2 Emissions (kg)	1070548.5 kg

Diesel fuel combustion rate 10.21 kg/gallon

Diesel fuel consumption 104853 gallons

Gasoline Emissions

Worker Trips	95.6965 MT
kg/MT	1000
Total Emissions (kg)	95696.5 kg

Gasoline combustion rate 8.78 kg/gallon

Gasoline consumption 10899 gallons

Notes

Combustion rates taken from The Climate Registry 2020 default emission factors (Table 2.1).

Gates 500kV Dynamic Project - Project Fuel Use Calculations

Project Operations

Fuel Usage (gallons) = CO2 emission (kg) / fuel combustion rate (kg/gallon)

Diesel Emissions

off road equipment	0 MT
onroad (haul & vendor trips)	0 MT
Total Diesel Emissions	0 MT
kg/MT	1000
Total CO2 Emissions (kg)	0 kg

Diesel fuel combustion rate 10.21 kg/gallon

Diesel fuel consumption 0 gallons

Gasoline Emissions

Worker Trips	4.1871 MT
kg/MT	1000
Total Emissions (kg)	4187.1 kg

Gasoline combustion rate 8.78 kg/gallon

Gasoline consumption 477 gallons

Notes

Combustion rates taken from The Climate Registry 2020 default emission factors (Table 2.1).

Appendix 4.7-A – Preliminary Geotechnical Engineering Report



Preliminary Geotechnical Engineering Report

Gates Substation

Huron, California

April 23, 2019

Terracon Project No. NA195027

Prepared for:

LS Power Development, LLC

Chesterfield, MO

Prepared by:

Terracon Consultants, Inc.

Lodi, California



April 23, 2019

LS Power Development, LLC
16150 Main Circle Drive, Suite 310
Chesterfield, MO 63017



Attn: Jim Anderson, P.E.
P: (636) 534-3318
E: JAnderson@LSPower.com

Re: Preliminary Geotechnical Engineering Report
Gates Substation
West Jayne Avenue
Huron, California
Terracon Project No. NA195027

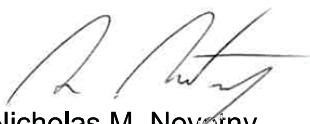
Dear Mr. Anderson:

We have completed the Preliminary Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PNA195027 dated March 14, 2019. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants, Inc.



Nicholas M. Novotny
Professional Geologist 9626
Senior Staff Geologist



for:

Patrick C. Dell, Senior Associate
Geotechnical Engineer 2186
Geotechnical Department Manager

REPORT TOPICS

INTRODUCTION	1
SITE CONDITIONS	1
PROJECT DESCRIPTION	2
GEOTECHNICAL CHARACTERIZATION	3
SEISMIC CONSIDERATIONS	3
LIQUEFACTION	4
FIELD SOIL RESISTIVITY TESTING	4
GEOTECHNICAL OVERVIEW	5
EARTHWORK	5
SHALLOW FOUNDATIONS	9
DEEP FOUNDATIONS	12
FLOOR SLABS	15
CORROSIVITY	17
GENERAL COMMENTS	17
FIGURES	19

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the [GeoReport](#) logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.

REPORT SUMMARY

Topic ¹	Overview Statement ²
Project Description	The project will consist of adding several structures to the north of the existing substation. The project will include 1-2 A-frame structures for a 500kV tower, a transformer pad for the 500kV tower, a control building that will house specialized equipment, and some other lightly loaded buildings.
Geotechnical Characterization	<ul style="list-style-type: none">■ Subsurface materials encountered within the vicinity of the proposed substation improvements generally consisted of interbedded medium stiff to stiff silt with variable sand, still to very stiff lean clay with variable silt, and loose to medium dense silty sand with variable gravel to depths of 41 to 45 feet, underlain by medium dense to very dense poorly graded to silty sand with variable gravel to the maximum depth explored of 51½ feet.■ Groundwater was not encountered at any time during our investigation.
Earthwork	Earthwork for this project will consist of some over-excavation and recompaction beneath the proposed structures, as discussed within the body of this report.
Shallow Foundations	<ul style="list-style-type: none">■ The proposed mechanical and electrical equipment for the proposed substation may be supported on either a reinforced concrete mat slab foundation or shallow spread footing foundations.■ The control building and lightly loaded ancillary structures may be supported on shallow spread footing foundations.
Deep Foundations	The proposed A-frame tower structures may be supported on cast-in-place drilled pier foundations.
General Comments	This section contains important information about the limitations of this preliminary geotechnical engineering report and indicates that we will be performing supplemental geotechnical investigation of the project site and providing a supplemental geotechnical engineering report at the time of final design.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.

Preliminary Geotechnical Engineering Report

Gates Substation West Jayne Avenue Huron, California

Terracon Project No. NA195027
April 23, 2019

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed Gates Substation improvements to be located on West Jayne Avenue in Huron, California. The purpose of these services is to provide information and preliminary geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Seismic site classification per 2016 CBC
- Foundation design and construction
- Floor slab design and construction
- Excavation considerations

The geotechnical engineering Scope of Services for this project included the advancement of two (2) test borings to depths of approximately 51½ feet below existing site grades.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	<ul style="list-style-type: none">■ The project is located on the north side of West Jayne Avenue near Huron, California.■ The approximate coordinates of the site are 36.1456°N and 120.1263°W See Site Location
Existing Improvements	The project site is an existing substation. The location of the proposed improvements currently consists of agricultural land.

Preliminary Geotechnical Engineering Report

Gates Substation ■ Huron, California

April 23, 2019 ■ Terracon Project No. NA195027



Item	Description
Current Ground Cover	Vineyard.
Existing Topography	Relatively flat.
Geology	<ul style="list-style-type: none">■ The site is located in the Great Valley Geomorphic Province of California. The Great Valley is characterized mainly by sedimentary strata emanating from the denudation of the bounding mountain ranges, the Sierra Nevada and Coast Ranges.■ The surface geology at the site is characterized as Quaternary Alluvium, which is comprised of alluvial gravel, sand, and clay of valley areas according to the "Geologic Map of the Coalinga and Gujarral Hills Quadrangles, California" by the Dibblee Geological Foundation (T.W. Dibblee, 2007, Scale: 1:24,000).

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	Project information was relayed to us from the client through John Romano of Terracon in a series of emails from March 12 through March 15, 2019.
Project Description	The project will consist of adding several structures to the existing substation.
Proposed Structures	The project will include 1-2 A-frame structures for a 500kV tower, a transformer pad for the 500kV tower, a control building that will house specialized equipment, and some other lightly loaded buildings.
Building Construction	We have assumed some of the structures will be lightly loaded wood- or light gauge steel-framed, possible concrete masonry unit (CMU) block wall exteriors with concrete slab-on-grade floors.
Finished Floor Elevation	Anticipated to be within 1 to 2 feet of existing grade.
Maximum Loads	<ul style="list-style-type: none">■ Walls: 1 to 2 kips per linear foot (klf)■ Columns: 20 to 30 kips■ Slabs: 150 pounds per square foot (psf)
Grading/Slopes	We have assumed up to 1 to 2 feet of cut and 1 to 2 feet of fill will be required to develop final grade.

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Silt	Variable sand, fine to medium grained, brown to light brown, medium stiff to very stiff
2	Silty Sand	With variable gravel, fine to coarse grained, light brown, loose to medium dense
3	Lean to Silty Clay	Fine grained, low plasticity, light brown and tan to dark brown, stiff to very stiff.
4	Poorly Graded to Silty Sand	Fine to coarse grained, subangular gravel, tan and brown to light brown, medium dense to very dense

Groundwater

The boreholes were observed while drilling and after completion for the presence and level of groundwater. Groundwater was not encountered in our test borings while drilling, or for the short duration the borings remained open.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the structures may be higher or lower than anticipated. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear

strength in accordance with Section 20.4 of ASCE 7 and the 2016 California Building Code (CBC). Based on the soil properties encountered at the site and as described on the exploration logs and results, it is our professional opinion that the **Seismic Site Classification is D**. Subsurface explorations at this site were extended to a maximum depth of 51½ feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

LIQUEFACTION

Liquefaction is a mode of ground failure that results from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils or non-plastic fine-grained soils exist below groundwater. The California Geologic Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. The project site is not located within a liquefaction hazard zone mapped by the CGS.

FIELD SOIL RESISTIVITY TESTING

Field Measurements of soil resistivity were performed on April 4th and 5th, 2019 in general accordance with ASTM Test Method G-57, and IEEE Standard 81, using the Wenner Four-Electrode Method. The soil resistivity testing was performed near the center of the test locations identified in the Exploration Plan provided in **Site Location and Exploration Plans**. The Wenner arrangement (equal electrode spacing) was used with the “a” spacing incrementally increasing. The “a” spacing is generally considered to be the depth of influence of the test.

A total of ten (10) in-situ electrical resistivity tests were performed at the project site with “a” spacings of 1, 2.5, 5, 10, 15, 20, 30, and 50 feet. Test results are presented in the table below:

a-Spacing		B-1 North-South	B-1 North-South	B-1 East-West	B-1 East-West
		Measured Resistance	Apparent Resistivity	Measured Resistance	Apparent Resistivity
[feet]	[cm]	[Ohms]	[Ohms-cm]	[Ohms]	[Ohms-cm]
1	30.48	11.03	2,112	11.28	2,160
2.5	76.20	5.08	2,434	4.80	2,296
5	152.40	2.26	2,165	2.24	2,144
10	304.80	1.18	2,250	1.10	2,097
15	457.20	0.88	2,534	0.82	2,356

a-Spacing		B-1 North-South	B-1 North-South	B-1 East-West	B-1 East-West
		Measured Resistance	Apparent Resistivity	Measured Resistance	Apparent Resistivity
[feet]	[cm]	[Ohms]	[Ohms-cm]	[Ohms]	[Ohms-cm]
20	609.60	0.72	2,742	0.66	2,513
30	914.40	0.47	2,695	0.47	2,677
50	1524.00	0.31	2,959	0.28	2,643

GEOTECHNICAL OVERVIEW

The near surface, medium stiff silt soils could become unstable with typical earthwork and construction traffic, especially after precipitation events. Effective site drainage should be completed early in the construction sequence and maintained after construction to avoid potential issues. If possible, the grading should be performed during the warmer and drier times of the year. If grading is performed during the winter months, an increased risk for possible undercutting and replacement of unstable subgrade will persist. Additional site preparation recommendations, including subgrade improvement and fill placement, are provided in the **Earthwork** section.

The proposed mechanical and electrical equipment for the proposed substation may be supported on either a reinforced concrete mat slab foundation or shallow spread footing foundation. The control building and lightly loaded ancillary structures may be supported on shallow spread footing foundations. The **Shallow Foundations** section addresses support of the building bearing on native soils recompacted as engineered fill. The **Floor Slabs** section addresses slab-on-grade support of the building.

The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

The following recommendations include site preparation, excavation, subgrade preparation and placement of engineered fills on the project. The recommendations presented for design and construction of earth supported elements including foundations and slabs are contingent upon following the recommendations outlined in this section.

Earthwork on the project should be observed and evaluated by Terracon. The evaluation of earthwork should include observation and testing of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the project.

Site Preparation

Strip and remove existing vegetation, debris, and other deleterious materials from proposed structure areas. Exposed surfaces should be free of mounds and depressions which could prevent uniform compaction. The site should be initially graded to create a relatively level surface to receive fill and provide for a relatively uniform thickness of fill beneath proposed building structures.

Subgrade Preparation

Due to the low bearing capacity of the near surface soils, foundations and floor slabs should bear on engineered fill. Engineered fill should extend to a minimum depth of 12 inches below the bottom of foundations, or 2 feet below existing grades, whichever is greater. Grading for the proposed substation improvements should incorporate the limits of the improvement footprints plus a lateral distance of 5 feet beyond the outside edge of perimeter footings.

Subgrade soils beneath exterior slabs should be scarified, moisture conditioned, and compacted to a minimum depth of 10 inches. The moisture content and compaction of subgrade soils should be maintained until slab construction.

Exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified to a minimum depth of 10 inches, moisture conditioned, and compacted per the compaction requirements in this report.

Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively workable. However, the workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors. If unworkable conditions develop, workability may be improved by scarifying and drying.

Fill Material Types

All fill materials should be inorganic soils free of vegetation, debris, and fragments larger than three inches in size. Pea gravel or other similar non-cementitious, poorly-graded materials should not be used as fill or backfill without the prior approval of the geotechnical engineer.

Clean on-site soils or approved imported materials may be used as fill material for the following

- | | |
|------------------------|---------------------------|
| ■ general site grading | ■ foundation backfill |
| ■ foundation areas | ■ trench backfill |
| ■ slab-on-grade floor | ■ exterior slabs-on-grade |

Imported soils for use as fill material within proposed building and structure areas should conform to low volume change materials as indicated in the following specifications:

<u>Gradation</u>	<u>Percent Finer by Weight (ASTM C 136)</u>
3"	100
No. 4 Sieve	50-100
No. 200 Sieve	10-40
■ Liquid Limit	30 (max)
■ Plasticity Index	15 (max)
■ Maximum expansion index*	20 (max)

*ASTM D 4829

The contractor shall notify the Geotechnical Engineer of import sources sufficiently ahead of their use so that the sources can be observed and approved as to the physical characteristic of the import material. For all import material, the contractor shall also submit current verified reports from a recognized analytical laboratory indicating that the import has a "not applicable" (Class S0) potential for sulfate attack based upon current ACI criteria and is "mildly corrosive" to ferrous metal and copper. The reports shall be accompanied by a written statement from the contractor that the laboratory test results are representative of all import material that will be brought to the job.

Engineered fill should be placed and compacted in horizontal lifts, using equipment and procedures that will produce recommended moisture contents and densities throughout the lift. Fill lifts should not exceed 10 inches loose thickness.

Fill Compaction Requirements

Recommended compaction and moisture content criteria for engineered fill materials are as follows:

Material Type and Location	Per the Modified Proctor Test (ASTM D 1557)		
	Minimum Compaction Requirement (%)	Range of Moisture Contents for Compaction Above Optimum	
		Minimum	Maximum
On-site soils and low volume change imported fill:			
Beneath foundations:	90	0%	+3%
Beneath interior slabs:	90	0%	+3%

Material Type and Location	Per the Modified Proctor Test (ASTM D 1557)		
	Minimum Compaction Requirement (%)	Range of Moisture Contents for Compaction Above Optimum	
		Minimum	Maximum
Utility Trenches*:	90	0%	+3%
Bottom of excavation receiving fill:	90	0%	+3%

* Upper 12 inches should be compacted to 95% within structural areas. Low-volume change imported soils should be used in structural areas.

We recommend that compacted native soil or any engineered fill be tested for moisture content and relative compaction during placement. Should the results of the in-place density tests indicate the specified moisture content or compaction requirements have not been met, the area represented by the test should be reworked and retested as required until the specified moisture content and relative compaction requirements are achieved.

Grading and Drainage

All grades must provide effective drainage away from the structures during and after construction and should be maintained throughout the life of the structures. Water retained next to the structures can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the building.

Exposed ground should be sloped and maintained at a minimum 5% away from the structures for at least 10 feet beyond the perimeter of the structures. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structures should also be periodically inspected and adjusted, as necessary, as part of the structures' maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations for the proposed structures are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or

adjacent to construction areas should be removed. If the subgrade desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of vegetation and topsoil, proofrolling, and mitigation of areas delineated by the proofroll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 1,000 square feet of compacted fill in the structure areas. One density and water content test should be performed for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

SHALLOW FOUNDATIONS

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

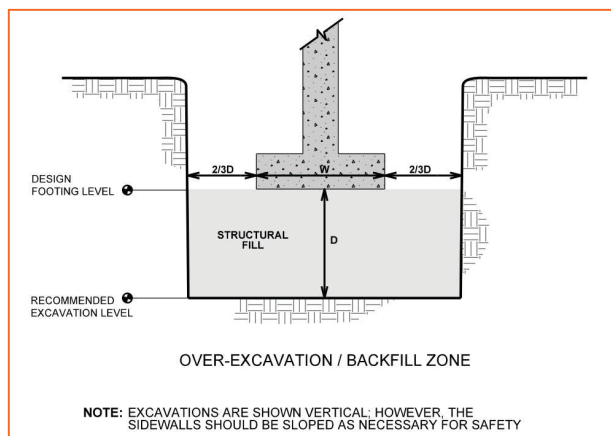
Item	Description
Maximum Net Allowable Bearing pressure ^{1, 2}	2,500 psf
Required Bearing Stratum ³	12 inches of native soils recompactd as engineered fill.
Minimum Foundation Dimensions	Columns: 24 inches Continuous: 12 inches
Maximum Foundation Dimensions	Columns: 72 inches Continuous: 24 inches
Ultimate Passive Resistance ⁴ (equivalent fluid pressures)	350 pcf
Ultimate Coefficient of Sliding Friction ⁵	0.30
Minimum Embedment below Finished Grade ⁶	12 inches
Estimated Total Settlement from Structural Loads ²	Less than about 1 inch
Estimated Differential Settlement ^{2, 7}	About 2/3 of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. These bearing pressures can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions. Values assume that exterior grades are relatively flat around the structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted structural fill be placed against the vertical footing face. If passive resistance is used to resist lateral loads, the base friction should be reduced by 25 percent.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
6. Embedment necessary to minimize the effects of seasonal water content variations. Finished grade is defined as the lowest adjacent grade within five feet of the foundation for perimeter (exterior) footings.
7. Differential settlements are as measured over a span of 50 feet.

Shallow Spread Footing Foundation Construction Considerations

As noted in **Earthwork**, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

Over-excavation for structural fill placement below footings should be conducted as shown below. The over-excavation should be backfilled up to the footing base elevation, with engineered fill placed, as recommended in the **Earthwork** section.



To ensure foundations have adequate support, special care should be taken when footings are located adjacent to trenches. The bottom of such footings should be at least 1 foot below an imaginary plane with an inclination of 1.5 horizontal to 1.0 vertical extending upward from the nearest edge of the adjacent trench.

MAT FOUNDATIONS

Substation improvements may be supported on mat slab foundations. If the site has been prepared in accordance with the requirements noted in **Earthwork** and the mat foundation rests on a minimum of 12 inches of over excavated native soils that have been recompact as engineered fill, the following design parameters are applicable.

Mat Width (feet) ¹	Allowable Bearing Capacity (psf) ^{2, 3}	Modulus of Subgrade Reaction (pci) ⁴
Minimum 6	1,500	150
10 or more	1,000	150

1. Interpolate for mat width between 6 and 10 feet.
2. Factor of safety of 3 or allowable settlement of 1.0 inch
3. These bearing pressures can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions.
4. Allowable settlement of 1.0 inch

Since there are several factors that will control the design of mat foundations besides vertical load, Terracon should be consulted when the final foundation depth and width are determined to assist the structural designer in the evaluation of anticipated settlement.

As stated in the table above, a modulus of subgrade reaction (k_v) of 150 pounds per cubic inch (pci) may be used for the structural design. Other details including treatment of loose foundation soils, superstructure reinforcement and observation of foundation excavations as outlined in the **Earthwork** section of this report are applicable for the design and construction of a mat foundation at the site.

The subgrade modulus (k_v) for the mat is affected by the size of the mat foundation and would vary according the following equation:

$$k_v = K_v1 \times (B+1)^2 / (4 \times B^2)$$

Where: k_v is the modulus for the size footing being analyzed
 B is the width of the mat foundation.

If using the pseudo-coupled method of mat design, the modulus of subgrade reaction (k_v) values for the perimeter should be twice the central values, and the integral of all the values over the area of the mat should be equal to the average. Terracon should be contacted if additional k_v recommendations are necessary for the pseudo-coupled method.

DEEP FOUNDATIONS

We recommend that the transmission tower structures be supported on a cast-in-drilled-hole (CIDH) concrete pile (drilled shaft) foundation. Recommendations for drilled shaft foundations are presented in the following paragraphs.

Drilled Shaft Design Parameters

Soil design parameters are provided below in the **Drilled Shaft Design Summary** table for the design of drilled shaft foundations. The values presented for allowable side friction and end bearing include a factor of safety. The upper 2 feet of subgrade should be neglected as far as providing support for the drilled pier.

Drilled Shaft Design Summary ¹				
Approximate Elevation (feet)	Stratigraphy ²		Allowable Skin Friction (psf) ³	Allowable End Bearing Pressure (psf) ⁴
	No.	Material		
2 to 9	1	Silty Sand to Sandy Silt	50	3,500
9 to 14	3	Lean Clay and Silty Clay	400	12,000
14 to 26	2/4	Poorly Graded to Silty Sand	200	12,500

Drilled Shaft Design Summary ¹				
Approximate Elevation (feet)	Stratigraphy ²		Allowable Skin Friction (psf) ³	Allowable End Bearing Pressure (psf) ⁴
	No.	Material		
26 to 34	3	Lean Clay	260	4,500
34 to 51	4	Poorly Graded to Silty Sand	650	85,000

1. Design capacities are dependent upon the method of installation, and quality control parameters. The values provided are estimates and should be verified when installation protocol have been finalized.
2. See **Subsurface Profile** in **Geotechnical Characterization** for more details on stratigraphy.
3. Applicable for compressive loading only. Reduce to 2/3 of values shown for uplift loading. Effective weight of shaft can be added to uplift load capacity. Skin friction values are calculated for the midpoint of the layer.
4. End bearing capacities are calculated at the bottom of the layer.

Tensile reinforcement should extend to the bottom of shafts subjected to uplift loading.

Drilled shafts should have a minimum (center-to-center) spacing of three diameters. Closer spacing may require a reduction in axial load capacity. Axial capacity reduction can be determined by comparing the allowable axial capacity determined from the sum of individual piles in a group versus the capacity calculated using the perimeter and base of the pile group acting as a unit. The lesser of the two capacities should be used in design.

A minimum shaft diameter of 12 inches should be used. Drilled shafts should have a minimum length of 10 feet.

Post-construction settlements of drilled shafts designed and constructed as described in this report are estimated to range from about ½ to ¾ inch. Differential settlement between individual shafts is expected to be ½ to ⅔ of the total settlement.

Drilled Shaft Lateral Loading

The following table lists input values for use in LPILE analyses. LPILE estimates values of k_h and E_{50} based on strength; however, non-default values of k_h should be used where provided. Since deflection or a service limit criterion will most likely control lateral capacity design, no safety/resistance factor is included with the parameters.

Stratigraphy ¹		L-Pile Soil Model	S _u (psf) ²	φ ²	γ (pcf) ²	Strain Factor ε ₅₀ ²	k (pci) ²
No.	Material						
1	Silty Sand to Sandy Silt	Sand (Reese)	---	30°	105	---	25
2	Silty Sand	Sand (Reese)		32°	1015	--	90
3	Lean Clay and Silty Clay	Stiff Clay w/o Free Water	2,000	---	120	0.005	400
4	Poorly Graded to Silty Sand	Sand (Reese)	---	34°	115	---	225

1. See **Subsurface Profile** in **Geotechnical Characterization** for more details on Stratigraphy.

2. Definition of Terms:

S_u: Undrained shear strength

φ: Internal friction angle,

γ: Moist unit weight

ε₅₀: Non-default E50 strain

k: Horizontal modulus of subgrade reaction

q_u: Non-default soil modulus – static. Refer to software guidelines for cyclic loading.

The load capacities provided herein are based on the stresses induced in the supporting soil strata. The structural capacity of the shafts should be checked to assure they can safely accommodate the combined stresses induced by axial and lateral forces. Lateral deflections of shafts should be evaluated using an appropriate analysis method, and will depend upon the pier's diameter, length, configuration, stiffness and "fixed head" or "free head" condition. We can provide additional analyses and estimates of lateral deflections for specific loading conditions upon request. The load-carrying capacity of shafts may be increased by increasing the diameter and/or length.

Drilled Shaft Construction Considerations

Sandy and gravelly subgrade materials were encountered with in the area of the proposed substation improvements. To prevent collapse of the sidewalls, the use of temporary steel casing and/or slurry drilling procedures may be required for construction of the drilled shaft foundations. The drilled shaft contractor and foundation design engineer should be informed of these risks.

If casing is removed during concrete placement, care should be exercised to maintain concrete inside the casing at a sufficient level to resist earth pressures present on a casing exterior. Water or loose soil should be removed from the bottom of the drilled shafts prior to placement of the concrete.

Use of a telescoping casing arrangement can be considered to avoid handling long casing lengths. The lower casing should be of sufficient length and stiffness and have an appropriate cutting edge to allow it to be firmly seated into the soil. If possible, any excess water should be evacuated from the casing to place concrete in the "dry."

Care should be taken to not disturb the sides and bottom of the excavation during construction. The bottom of the shaft excavation should be free of loose material before concrete placement. Concrete should be placed as soon as possible after the foundation excavation is completed, to reduce potential disturbance of the bearing surface.

Concrete for "dry" drilled shaft construction should have a slump of about 5 to 7 inches. Concrete should be directed into the shaft utilizing a centering chute. Concrete for "wet" shaft construction would require higher slump concrete.

While withdrawing casing, care should be exercised to maintain concrete inside the casing at a sufficient level to resist earth pressures acting on the casing exterior. Arching of the concrete, loss of seal and other problems can occur during casing removal and result in contamination of the drilled shaft. These conditions should be considered during the design and construction phases. Placement of loose soil backfill should not be permitted around the casing prior to removal.

The drilled shaft installation process should be performed under the direction of the Geotechnical Engineer. The Geotechnical Engineer should document the shaft installation process including soil and groundwater conditions encountered, consistency with expected conditions, and details of the installed shaft.

FLOOR SLABS

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Floor Slab Support ¹	For floor slab areas covered with moisture sensitive flooring -Minimum 4 inches of free-draining (less than 6% passing the U.S. No. 200 sieve) crushed aggregate ² For industrial floor slabs- Minimum of 6 inches of Class 2 aggregate base compacted to at least 95% of the maximum dry density obtained in the ASTM D1557 test method.
Estimated Modulus of Subgrade Reaction ³	150 pounds per square inch per inch (psi/in) for point loads
<ol style="list-style-type: none"> 1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation. 2. Other design considerations such as condensation development could warrant more extensive design provisions. 3. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in Earthwork, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower. 	

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor

slabs, the affected material should be removed and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

CORROSIVITY

The table below lists the results of laboratory soluble sulfate, soluble chloride, electrical resistivity, and pH testing. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction.

Corrosivity Test Results Summary						
Boring	Sample Depth (feet)	Soil Description	Soluble Sulfate (ppm)	Soluble Chloride (ppm)	Electrical Resistivity (Ω -cm)	pH
B-2	1.0	Sandy Silt	134	140	795	8.54

The sulfate test results indicate that the soil from boring B-2 classifies as Class S0 according to Table 19.3.1.1 of ACI 318-14. This indicates that the sulfate level is negligible when considering corrosion to concrete.

GENERAL COMMENTS

Our analysis and opinions in this preliminary report are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. In order to supplement the data obtained, we will be performing a supplemental geotechnical investigation, including additional test borings and laboratory testing, to refine our analysis and opinions.

Terracon should also be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are

noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

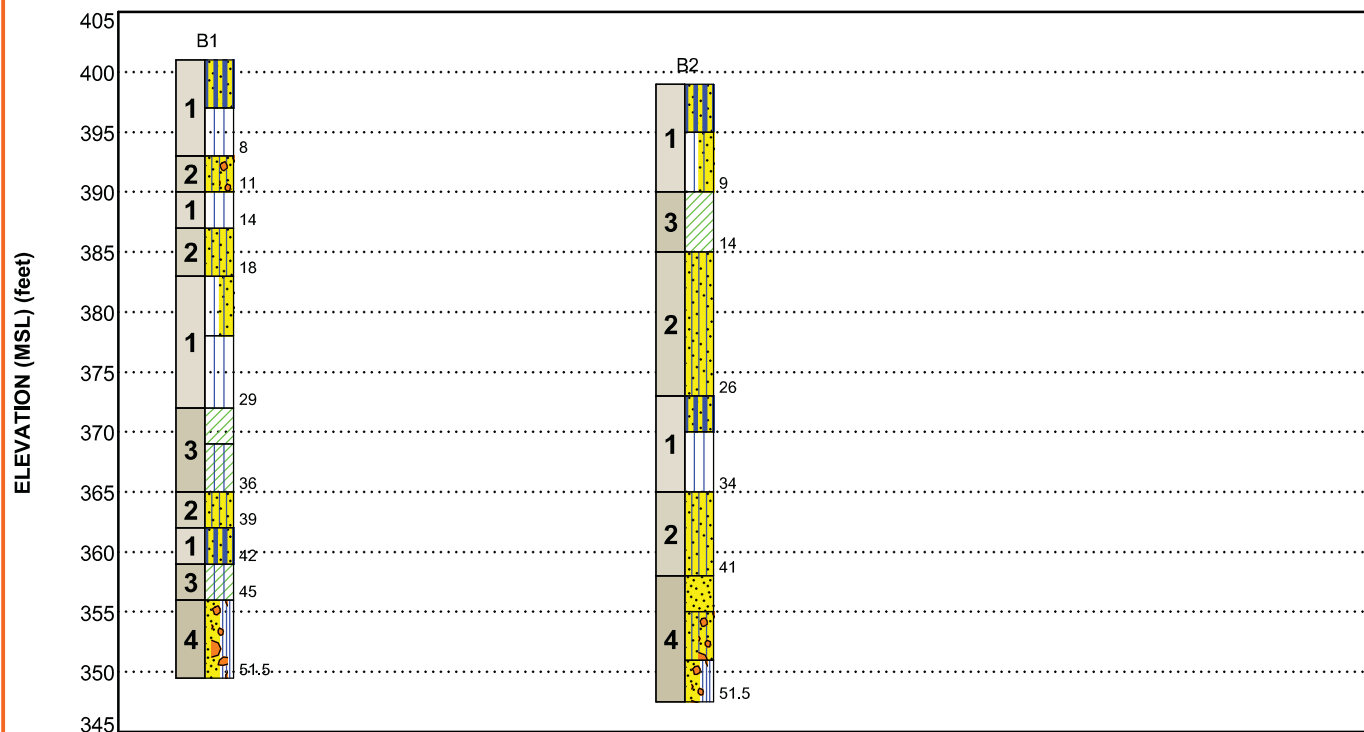
Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

FIGURES

Contents:
GeoModel

GEOMODEL

CAISO Voltage Support ■ Huron, CA
4/23/2019 ■ Terracon Project No. NA195027



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Silt	Variable sand, fine to medium grained, brown to light brown, medium stiff to very stiff
2	Silty Sand	With variable gravel, fine to coarse grained, light brown, loose to medium dense
3	Lean to Silty Clay	Fine grained, low plasticity, light brown and tan to dark brown, stiff to very stiff.
4	Poorly Graded to Silty Sand	Fine to coarse grained, subangular gravel, tan and brown to light brown, medium dense to very dense

LEGEND

Sandy Silt	Silty Sand	Silty Clay
Silt	Silt with Sand	Poorly-graded Sand with Silt and Gravel
Silty Sand with Gravel	Lean Clay	Poorly-graded Sand

- ▽ First Water Observation
- ▽ Second Water Observation
- ▽ Third Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Boring Depth (feet)	Planned Location
2	51½	Structure area

Boring Layout and Elevations: Unless otherwise noted, Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±10 feet) and approximate elevations were obtained by interpolation from Google Earth Imagery. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a track-mounted rotary drill rig using continuous hollow stem flight augers. We obtained samples at depths of 1 foot and 5 feet and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. A 2.5-inch O.D. split-barrel Modified California sampling spoon with 2.0-inch I.D. tube lined sampler was used for sampling. Tube-lined, split-barrel sampling procedures are similar to standard split spoon sampling procedure; however, blow counts are not equivalent to the SPT blow counts. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D1140 Standard Test Method for Determining the Amount of Material Finer than No. 200 Sieve by Soil Washing

The laboratory testing program included examination of soil samples by an engineer. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan

Exploration Plan

Note: All attachments are one page unless noted above.

SITE LOCATION

Gates Substation ■ Huron, California
April 23, 2019 ■ Terracon Project No. NA195027



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

Gates Substation ■ Huron, California
April 23, 2019 ■ Terracon Project No. NA195027



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Boring Logs (B-1 through B-2)

Atterberg Limits

Corrosion Test Results

Note: All attachments are one page unless noted above.

BORING LOG NO. B1

Page 1 of 1

PROJECT: Gates Substation

CLIENT: LS Power Development LLC
Chesterfield, MO

SITE: West Jayne Avenue
Huron, CA

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 36.1456° Longitude: -120.1263°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		DEPTH									
1		SANDY SILT (ML) , fine grained, brown, medium stiff	4.0		X	4-4-4 N=8		13			
		SILT (ML) , brown, medium stiff	5		XX	3-3-5		23	80		
2		POORLY GRADED GRAVEL WITH SILT (SP-SM) , trace gravel, fine to medium grained, light brown, loose	8.0								
		SILT (ML) , fine grained, light brown, medium stiff	11.0		X	4-3-4 N=7		18			
1		SILTY SAND (SM) , fine to medium grained, light brown, loose	14.0								
2		SILTY SAND (SM) , fine to medium grained, light brown, loose	18.0		XX	5-5-7		7	97		47
		SILT WITH SAND (ML) , fine to medium grained, light tan, stiff	23.0		X	3-5-5 N=10		17			80
1		SILT (ML) , trace sand, fine to medium grained, brown, stiff	29.0		XX	4-6-7		15	101		92
		LEAN CLAY (CL) , light brown, stiff	32.0		X	5-5-6 N=11		16		33-21-12	
3		SILTY CLAY (CL-ML) , brown to dark brown, very stiff	36.0		XX	7-12-16		15	101		23
2		SILTY SAND (SM) , fine to medium grained, light tan, medium dense	39.0								
1		SANDY SILT (ML) , fine grained, brown, stiff	42.0		X	3-5-8 N=13		21			
3		SILTY CLAY (CL-ML) , brown, stiff	45.0		XX	12-19-25		4	103		
4		POORLY GRADED SAND WITH SILTY CLAY AND GRAVEL (SP-SM) , fine to coarse grained, tan, dense	51.5		X	10-11-11 N=22		4			
		Boring Terminated at 51.5 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
6 Inch Hollow Stem Auger

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were estimated using Google Earth.

WATER LEVEL OBSERVATIONS

Water level not determined

Terracon
902 Industrial Way
Lodi, CA

Boring Started: 03-29-2019

Boring Completed: 03-29-2019

Drill Rig: D50

Driller: R. Anderson

Project No.: NA195027

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL NA195027 CAISO VOLTAGE SUP.GPJ MODEL LAYER.GPJ 4/23/19

BORING LOG NO. B2

Page 1 of 1

PROJECT: Gates Substation

CLIENT: LS Power Development LLC
Chesterfield, MO

SITE: West Jayne Avenue
Huron, CA

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 36.1456° Longitude: -120.1252°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		DEPTH									
1		SANDY SILT (ML) , fine grained, brown, very stiff 4.0			✖	10-10-9		8	99		
		SILT WITH SAND (ML) , fine grained, brown, medium stiff 9.0	5		✕	2-2-3 N=5		17			80
3		LEAN CLAY (CL) , tan, stiff 14.0	10		✖	3-4-6	4.0 (HP)	23	90	29-19-10	
2		SILTY SAND (SM) , fine to medium grained, brown, medium dense 18.0	15		✕	3-5-4 N=9		5			22
4		SILTY SAND (SM) , fine to medium grained, light brown, medium dense 26.0	20		✖	5-7-7		5	99		15
1		SANDY SILT (ML) , fine grained, light brown, stiff 29.0	25		✕	6-5-6 N=11		13			
3		LEAN CLAY (CL) , brown, stiff 34.0	30		✖	4-7-11		25	106	42-26-16	
2		SILTY SAND (SM) , fine to medium grained, light brown, medium dense 41.0	35		✕	7-10-11 N=21		7			24
		POORLY GRADED SAND (SP) , fine to coarse grained, light brown, medium dense 44.0	40		✖	10-13-18		8	92		
4		SILTY SAND WITH GRAVEL (SM) , fine to coarse grained, brown, dense 48.0	45		✕	20-23-23 N=46		6			
		POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) , fine to coarse grained, subangular, light brown to light tan, very dense 51.5	50		✖	32-42-33		4	113		
		Boring Terminated at 51.5 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
6 Inch Hollow Stem Auger

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were estimated using Google Earth.

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
902 Industrial Way
Lodi, CA

Boring Started: 03-29-2019

Boring Completed: 03-29-2019

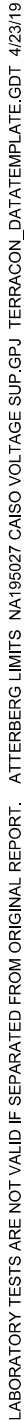
Drill Rig: D50

Driller: R. Anderson

Project No.: NA195027

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL NA195027 CAISO VOLTAGE SUP.GPJ MODEL LAYER.GPJ 4/23/19

ASTM D4318



CLIENT: LS Power Development LLC
Chesterfield, MO

CHEMICAL LABORATORY TEST REPORT

Project Number: NA195027

Service Date: 04/11/19

Report Date: 04/17/19

Task:

Terracon

750 Pilot Road, Suite F
Las Vegas, Nevada 89119
(702) 597-9393

Client

LS Power Development LLC
Chesterfield, MO

Project

CAISO Voltage Support

Sample Submitted By: Terracon (NA)

Date Received: 4/9/2019

Lab No.: 19-0391

Results of Corrosion Analysis

<i>Sample Number</i>	1
<i>Sample Location</i>	B2
<i>Sample Depth (ft.)</i>	1.0-2.5
pH Analysis, AWWA 4500 H	8.54
Water Soluble Sulfate (SO ₄), ASTM C 1580 (mg/kg)	134
Sulfides, AWWA 4500-S D, (mg/kg)	Nil
Chlorides, ASTM D 512, (mg/kg)	140
Red-Ox, AWWA 2580, (mV)	+682
Total Salts, AWWA 2520 B, (mg/kg)	1882
Resistivity, ASTM G 57, (ohm-cm)	795

Analyzed By:



Trisha Campo
Chemist

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

SUPPORTING INFORMATION

Contents:

General Notes

Unified Soil Classification System






Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Gates Substation ■ Huron, CA

April 16, 2019 ■ Terracon Project No. NA195027

SAMPLING	WATER LEVEL	FIELD TESTS
 Modified California Ring Sampler  Standard Penetration Test	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time <p>Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.</p>	<p>N Standard Penetration Test Resistance (Blows/Ft.)</p> <p>(HP) Hand Penetrometer</p> <p>(T) Torvane</p> <p>(DCP) Dynamic Cone Penetrometer</p> <p>UC Unconfined Compressive Strength</p> <p>(PID) Photo-Ionization Detector</p> <p>(OVA) Organic Vapor Analyzer</p>

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength Qu, (tsf)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium Stiff	0.50 to 1.00	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Dense	> 50	> 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42
			Hard	> 4.00	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF FINES	
Descriptive Term(s) of other constituents	Percent of Dry Weight	Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	<15	Trace	<5
With	15-29	With	5-12
Modifier	>30	Modifier	>12
GRAIN SIZE TERMINOLOGY		PLASTICITY DESCRIPTION	
Major Component of Sample	Particle Size	Term	Plasticity Index
Boulders	Over 12 in. (300 mm)	Non-plastic	0
Cobbles	12 in. to 3 in. (300mm to 75mm)	Low	1 - 10
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)	Medium	11 - 30
Sand	#4 to #200 sieve (4.75mm to 0.075mm)	High	> 30
Silt or Clay	Passing #200 sieve (0.075mm)		

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A					Soil Classification	
					Group Symbol	Group Name ^B
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F	
			$Cu < 4$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ ^E	GP	Poorly graded gravel ^F	
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}	
			Fines classify as CL or CH	GC	Clayey gravel ^{F, G, H}	
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E	SW	Well-graded sand ^I	
			$Cu < 6$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ ^E	SP	Poorly graded sand ^I	
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}	
			Fines classify as CL or CH	SC	Clayey sand ^{G, H, I}	
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots on or above “A”	CL	Lean clay ^{K, L, M}	
			$PI < 4$ or plots below “A” line ^J	ML	Silt ^{K, L, M}	
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K, L, M, N}
			Liquid limit - not dried		Organic silt ^{K, L, M, O}	
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above “A” line	CH	Fat clay ^{K, L, M}	
			PI plots below “A” line	MH	Elastic Silt ^{K, L, M}	
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K, L, M, P}
			Liquid limit - not dried		Organic silt ^{K, L, M, Q}	
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat	

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$$^E Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

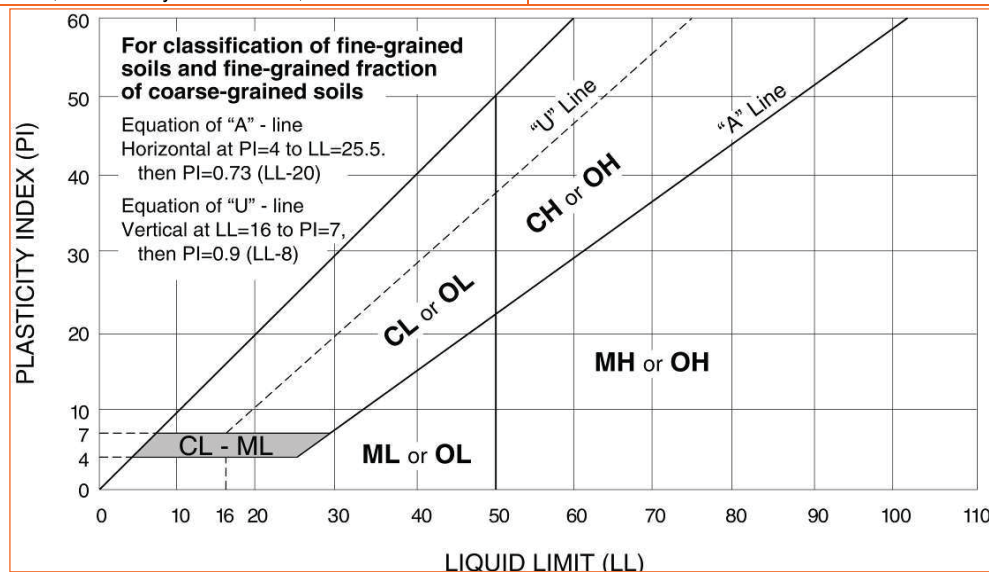
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



Appendix 4.7-B – Paleontological Resources Technical Report



Paleontological Resources Technical Report

LS Power Grid California (LSPGC)
Gates 500 kV Dynamic Reactive Support
Fresno County, California

August 10, 2020

Prepared for:

LS Power Development, LLC
Chesterfield, Missouri

Under contract to:

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Executive Summary

This Paleontological Resources Technical Report was prepared for the proposed LS Power Grid California (LSPGC)'s Gates 500 kV Dynamic Reactive Support project (Proposed Project), located in southwestern Fresno County, California. The purpose of this report is to identify and summarize paleontological resources that potentially occur within the Proposed Project area, identify individual Proposed Project construction elements that may negatively impact paleontological resources, and provide recommendations to minimize any potential negative impacts.

The goal of the Proposed Project is to ensure the reliability of this portion of the California Independent System Operator Corporation (CAISO) controlled grid, and to accommodate maintenance and contingencies of the reactive device. The approximately 20-acre Proposed Project site is located directly north of and adjacent to the existing Pacific Gas and Electric (PG&E) owned Gates Substation, which lies at the northwest corner of the intersection of West Jayne Avenue and South Trinity Avenue. As proposed, the Project will construct an approximately +/-848 (million volt-amperes, reactive) (MVAR) dynamic reactive support facility to include a minimum of two equally sized Static Synchronous Compensator (STATCOM) units, independently connected via two single circuit 500 kV interconnection transmission lines, to the existing Pacific Gas and Electric (PG&E) owned Gates Substation 500 kV bus.

The Proposed Project site lies on the nearly level valley floor in the heavily agricultural western portion of the central San Joaquin Valley, just east of the Guajarral Hills and Anticline Ridge, and north of the Kettleman Hills. The site is underlain at the surface by primarily Holocene-age surficial sediments consisting of alluvial gravel, sand, and clay derived and transported downstream from the older geologic units exposed within the nearby breached anticlines of the Kettleman Hills and Anticline Ridge. The precise thickness of these Holocene sediments is unknown in the vicinity of the Proposed Project site. Presumably, the Holocene-age deposits transition downsection (i.e., at depth) into older, Pleistocene-age deposits. The depth of this temporal transition is conservatively estimated to occur at 15 feet or more below ground surface.

The results of the paleontological records searches and literature review indicate that fossils have not been documented from Holocene-age or Pleistocene-age sedimentary deposits within a 5-mile radius of the Proposed Project site. However, fossils are known from late Pleistocene-age sedimentary deposits at several locations elsewhere in the west-central San Joaquin Valley. These deposits have yielded fossil remains of large-bodied mammals (e.g., mammoth, ground sloth, horse, mule deer, elk, camel, pronghorn, ox, bison, American lion, fox, coyote, dire wolf, badger), as well as small mammals (e.g., rabbit, beaver, pocket gopher, vole, wood rat, heteromyid rodent, mole) and other terrestrial or freshwater vertebrates (e.g., bony fish, pond turtle, rattlesnake, loon).

Following the paleontological potential criteria developed by the Society of Vertebrate Paleontology (SVP, 2010), the sedimentary deposits that occur within the Proposed Project site are assigned a low paleontological potential at depths of less than 15 feet below ground surface (where they are assumed to be Holocene in age), and an undetermined paleontological potential at depths greater than 15 feet below ground surface (where the strata may have been deposited during the Pleistocene). As such, Project-related earthwork that would extend greater than 15 feet below ground surface has the potential to impact paleontological resources. However, as currently designed, the deepest proposed earthwork will only extend to depths of approximately 10 feet below ground surface and include six boreholes for CIDH piles to support transmission towers. Therefore, construction of the Proposed Project is not anticipated to result in impacts to paleontological resources and implementation of a paleontological mitigation program is not recommended. In the unlikely event that fossils are unearthed during construction (i.e., an inadvertent discovery), mitigation measures are provided to ensure proper collection and treatment of the fossils.

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1.0 Introduction

1.1 Proposed Project Description

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 includes an approximately +/-848 (million volt-amperes, reactive) (MVAR) dynamic reactive support facility to include a minimum of two equally sized Static Synchronous Compensator (STATCOM) units, independently connected via two single circuit 500 kV interconnection transmission lines, to the existing Pacific Gas and Electric (PG&E) owned Gates Substation 500 kV bus. The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of a major portion 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 buses in the electrical proximity 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.

The approximately 20-acre Proposed Project site is located directly north of and adjacent to the existing Pacific Gas and Electric (PG&E) owned Gates Substation, which lies at the northwest corner of the intersection of West Jayne Avenue and South Trinity Avenue (Figure 1).

Proposed Project components and construction methods, as currently proposed, are outlined below:

- Two new STATCOM units will be constructed immediately north of the existing Gates Substation, and will ultimately be fenced in, occupying approximately 8.26 acres. The major associated equipment (e.g., power transformers, power circuit breakers, reactors, IGBT/Control Enclosures, and cooling equipment) will reside on shallow spread footing concrete foundations.
 - The overall site will be graded prior to sub-grade over-excavation for structure and equipment foundations, underground ducts, ground grid, and the control shelter. The foundations will be supported on at least 10 inches of engineered fill.
- Two new overhead transmission lines connecting the new STATCOM units to the existing Gates Substation will be constructed. Approximately three new poles or tower structures will be installed per transmission line, for a total of approximately six new poles/tower structures.
 - The new poles/tower structures will be installed on cast-in-drilled-hole (CIDH) concrete pile foundations. Installation will require excavation of a minimum 12-inch-diameter and 10-foot-deep hole.
 - Temporary guard structures may be installed in ground, requiring the excavation of an approximately 2-foot-diameter and 8-foot-deep hole.
 - Installation of the new overhead transmission lines will not require ground disturbance.
- The existing Gates Substation will be expanded to accommodate two new 500kV bus positions for the new STATCOM units.
 - Improvements to the Gates Substation will be supported on mat slab foundations, requiring over-excavation and recompaction of a minimum of 12 inches of native soils.

- Other on- and off-site improvements and/or construction elements include: new signage and lighting for the STATCOM units; access road improvements and new access road construction; construction of a stormwater detention basin, stormwater drainage, retaining wall, and conveyance system; installation of chain link and barb wire security fencing around the STATCOM units; construction of transformer oil containment basins; and use of temporary staging areas.
 - Existing access roads (Trinity Avenue and an unnamed farm road) would be widened to 24 feet and graded.
 - A new 24 foot-wide access road extending from the new STATCOM units to the new 500kV buses to the Gates Substation will be graded, and will generally follow the new 500kV transmission lines.
 - A stormwater detention basin will be constructed and will measure approximately 70 feet by 160 feet in area, and 3.5 feet deep.
 - A temporary staging area will require limited grading.

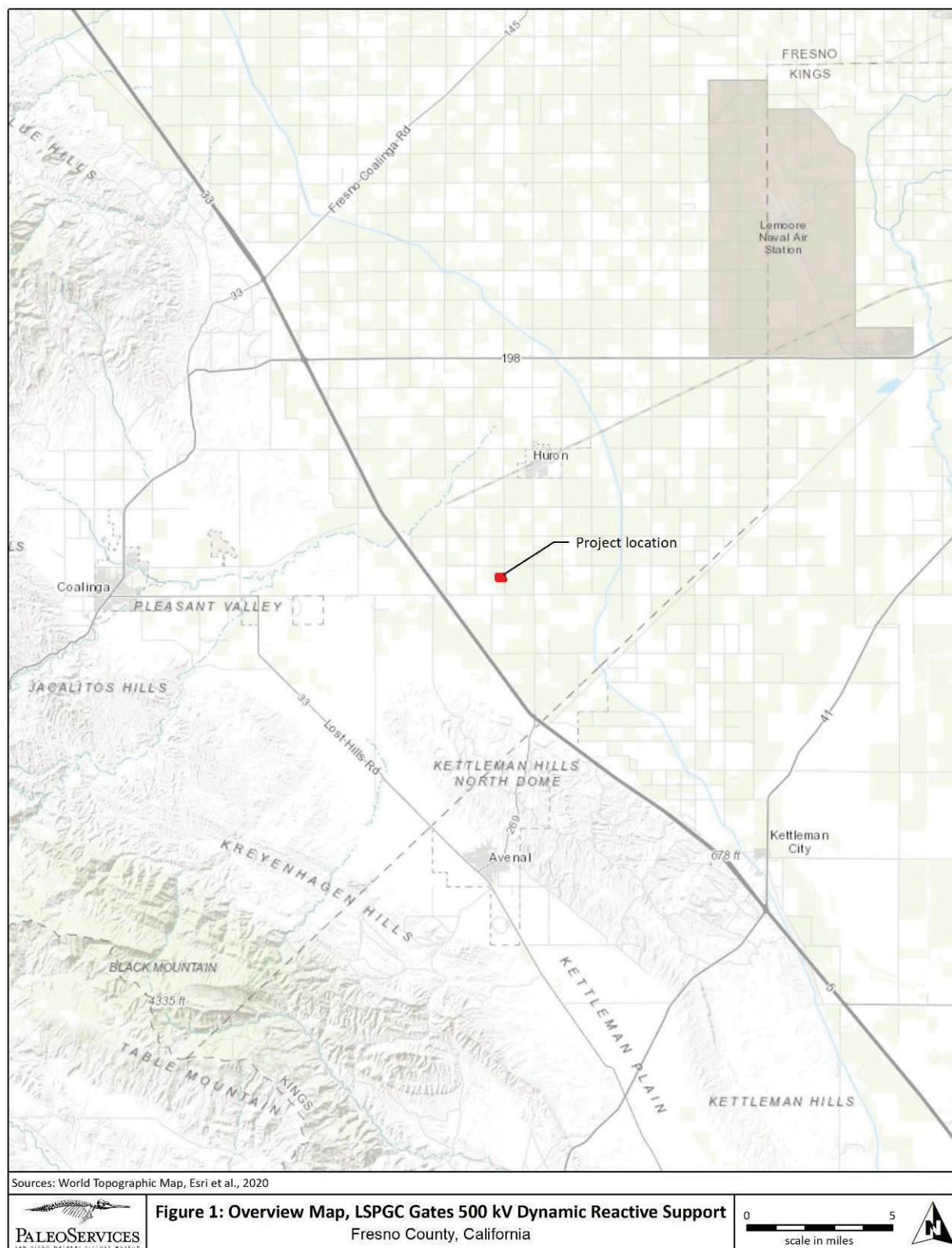
1.2 Scope of Work

The Proposed Project site is located in an area underlain by native sedimentary deposits that are undisturbed at depth. For this reason, an assessment of paleontological resources was undertaken to determine whether construction of the Proposed Project has the potential to negatively impact paleontological resources. This report is intended to summarize existing paleontological resource data in the vicinity of the Proposed Project site, discuss the significance of these resources, examine potential Proposed Project-related impacts to paleontological resources, and, if necessary, suggest mitigation measures to reduce any potential impacts to paleontological resources to less than significant levels. This report was written by Katie M. McComas and Thomas A. Deméré of the Department of PaleoServices, SDNHM.

1.3 Definition of Paleontological Resources

As defined here, paleontological resources (i.e., fossils) are the buried remains and/or traces of prehistoric organisms (i.e., animals, plants, and microbes). Body fossils such as bones, teeth, shells, leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in the geologic units/formations within which they were originally buried. The primary factor determining whether an object is a fossil or not is not how the organic remain or trace is preserved (e.g., “petrified”), but rather the age of the organic remain or trace. Although typically it is assumed that fossils must be older than ~11,700 years (i.e., the generally accepted end of the last glacial period of the Pleistocene Epoch), organic remains older than recorded human history and/or older than middle Holocene (about 5,000 radiocarbon years) can also be considered to represent fossils (SVP, 2010).

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of prehistoric life and are used to understand the history of life on Earth, the nature of past environments and climates, the membership and structure of ancient ecosystems, and the pattern and process of organic evolution and extinction. In addition, fossils are considered to be non-renewable resources because typically the organisms they represent no longer exist. Thus, once destroyed, a particular fossil can never be replaced.



Finally, paleontological resources can be thought of as including not only the actual fossil remains and traces, but also the fossil collecting localities and the geologic units containing those localities. The locality includes both the geographic and stratigraphic context of fossils—the place on the earth and stratum (deposited during a particular time in earth’s history) from which the fossils were collected. Localities themselves may persist for decades, in the case of a fossil-bearing outcrop that is protected from natural or human impacts, or may be temporarily exposed and ultimately destroyed, as is the case for fossil-bearing strata uncovered by erosion or construction. Localities are documented with a set of coordinates and a measured stratigraphic section tied to elevation detailing the lithology of the fossil-bearing stratum as well as overlying and underlying strata. This information provides essential context for any future scientific study of the recovered fossils.

1.3.1 Definition of Significant Paleontological Resources

The California Environmental Quality Act (CEQA, Public Resources Code Section 21000 *et seq.*) dictates that a paleontological resource is considered significant if it “has yielded, or may be likely to yield, information important in prehistory or history” (Section 15064.5, [a][3][D]). The Society of Vertebrate Paleontology (SVP) has further defined significant paleontological resources as consisting of “fossils and fossiliferous deposits[...]consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information” (SVP, 2010).

1.4 Regulatory Framework

Paleontological resources are considered scientifically and educationally significant nonrenewable resources; they are protected under a variety of laws, regulations, and ordinances. The Proposed Project is located within an unincorporated portion of Fresno County, California. As such, state and local regulations are applicable to the Proposed Project.

1.4.1 State: California Environmental Quality Act

The California Environmental Quality Act (CEQA, Public Resources Code Section 21000 *et seq.*) addresses paleontological resources in the context of an environmental review for a discretionary state or local agency action. Guidelines for the Implementation of CEQA are included in the California Code of Regulations (CCR), sections 15000 *et seq.* Within the CCR, paleontological resources are specifically addressed in the Environmental Checklist (CCR Section 15023, Appendix G): “Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.”

CEQA does not provide a definition for a “unique paleontological resource” in the Environmental Checklist (CCR Section 15023, Appendix G), nor does it include specific guidelines for the mitigation of paleontological resources under Section 15126.4, Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects. Therefore, most CEQA lead agencies follow the definitions and guidelines provided by SVP (2010), which are in line with industry standards (e.g., Murphey et al., 2014; and see Section 1.3.1). The SVP (2010) additionally provides criteria for determining the significance of paleontological resources (see sections 1.3.1 and 2.2), and for appropriate measures to minimize impacts to paleontological resources. As advised by SVP (2010), impacts to paleontological resources can be minimized to a level below the threshold of significance through: 1.) the permanent preservation of a fossil locality and its contained fossil resources or 2.) the implementation of a paleontological mitigation program that would reduce any adverse impacts to a level below the threshold of significance through the salvage and permanent storage of any salvaged fossils in an established scientific institution.

1.4.2 Local: Fresno County

Fresno County primarily addresses the management of paleontological resources through CEQA. In addition, the Fresno County General Plan (Fresno County, 2000) includes Goal OS-J and related Policy OS-J.1 that are applicable to paleontological resources:

- **Goal OS-J:** To identify, protect, and enhance Fresno County’s important historical, archaeological, paleontological, geological, and cultural sites and their contributing environment.
 - **Policy OS-J.1:** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.

2.0 Methods

2.1 Paleontological Literature Review and Records Searches

A paleontological records search of the paleontological collections at the SDNHM was conducted in order to identify any known fossil collection localities in the vicinity of the Proposed Project site. An informal search of the online paleontological collections database at the University of California Museum of Paleontology (UCMP) was also conducted. In addition, a literature review was conducted to gain a greater understanding of the geologic history of the area surrounding the Proposed Project site, as well as to determine the types of fossils that the specific geologic units underlying the Proposed Project site have produced. The literature review included examination of relevant published geologic maps and reports, peer-reviewed papers, and other relevant literature (e.g., field trip guidebooks, unpublished theses and dissertations, archived paleontological mitigation reports). This approach was followed in recognition of the direct relationship between paleontological resources and the geologic units within which they are entombed. Knowing the geologic history of a particular area and the fossil productivity of geologic units that occur in that area, it is possible to predict where fossils may or may not be encountered.

2.2 Paleontological Resource Assessment Criteria

The Society of Vertebrate Paleontology (SVP, 2010) has developed mitigation guidelines for paleontological resources that conform with industry standards (Murphey et al., 2019) and were developed with input from a variety of federal and state land management agencies. As described in Section 1.4.1, use of the SVP (2010) guidelines is common practice by CEQA lead agencies.

The SVP (2010) guidelines recognize that significant paleontological resources are considered to include not only actual fossil remains and traces, but also the fossil collecting localities and the geologic units containing those fossils and localities, and thus evaluate paleontological potential (or paleontological sensitivity) of individual geologic units within a project area. Paleontological potential is determined based on the existence of known fossil localities within a given geologic unit, and/or the potential for future fossil discoveries, given the age and depositional environment of a particular geologic unit. The SVP guidelines include four classes of paleontological potential: High Potential, Undetermined Potential,

Low Potential, or No Potential (SVP, 2010). A summary of the criteria for each paleontological potential ranking is outlined below.

2.2.1 High Potential

Geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Geologic units classified as having high potential include, but are not limited to, some volcanoclastic formations (e. g., ashes or tephra), some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and geologic units temporally or lithologically suitable for the preservation of fossils (e. g., deposits aged middle Holocene and older consisting of fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential includes both the potential for yielding abundant or significant vertebrate fossils or for yielding significant invertebrate, plant, or trace fossils, as well as the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Geologic units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and geologic units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.

2.2.2 Undetermined Potential

The definition for undetermined potential provided by SVP (2010) has been expanded for the purposes of this report in order to add more information related specifically to the management of paleontological resources in the context of mitigation paleontology. Geologic units are assigned an undetermined potential if there is little information available concerning their paleontological content, geologic age, and depositional environment. Further field study of the specific formation is necessary to determine if these geologic units have high or low potential to contain significant paleontological resources. For planning purposes, this class of resource potential represents a conservative assessment that assumes an undetermined geologic unit is fossiliferous until proven otherwise.

In the context of mitigation paleontology, gaining additional information about a geologic unit assigned an undetermined potential in order to refine the resource potential ranking (e.g., to high potential or low potential) can be accomplished in several ways depending on the nature of the geologic unit and whether it is exposed at the surface. Field surveys (e.g., a pre-construction survey as part of a paleontological resource assessment) can be conducted when a geologic unit is well exposed at the ground surface, allowing paleontologists to physically search for fossils while also studying the stratigraphy of the unit. In cases where the geologic unit is not exposed at the surface (e.g., is covered by disturbed areas such as concrete or agricultural topsoil, or occurs in the subsurface underlying another geologic unit), strategically located excavations into subsurface stratigraphy may be conducted to gain additional information (e.g., geotechnical investigation boreholes or trenches). Paleontological monitoring of excavations into a geologic unit with an undetermined potential as part of a paleontological monitoring program may also allow for refinement of the resource potential ranking of the unit over the course of the monitoring program. In this case, the results of the monitoring program are used to routinely reevaluate the resource potential ranking of the geologic unit.

2.2.3 Low Potential

Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some geologic units have low potential for yielding significant fossils. Such geologic units will be poorly represented by fossil specimens in institutional collections, or, based on general scientific consensus, only preserve fossils in rare circumstances where the presence of fossils is

an exception not the rule, e. g. basalt flows or Recent colluvium. Geologic units with low potential typically will not require impact mitigation measures to protect fossils.

2.2.4 No Potential

Geologic units with no potential are either entirely igneous in origin and therefore do not contain fossil remains, or are moderately to highly metamorphosed and thus any contained fossil remains have been destroyed. Artificial fill materials also have no potential, because the stratigraphic and geologic context of any contained organic remains (i.e., fossils) has been lost. For projects encountering only these types of geologic units, paleontological resources can generally be eliminated as a concern, and no further action taken.

2.3 Paleontological Impact Analysis

Direct impacts to paleontological resources occur when earthwork operations cut into the geologic units within which fossils are buried and physically destroy the fossil remains. As such, only those excavations that will disturb potentially fossiliferous geologic units have the potential to significantly impact paleontological resources. As described above, potentially fossiliferous geologic units are those rated with a high potential. Taking a conservative approach, geologic units with an undetermined potential are also considered to be potentially fossiliferous until proven otherwise. Although impact avoidance is possible through relocation of a proposed action, paleontological monitoring during construction is typically recommended to reduce any negative impacts to paleontological resources to less than significant levels.

The purpose of the impact analysis is to determine which (if any) of the Proposed Project-related earthwork activities may disturb potentially fossiliferous geologic units, and where and at what depths these impacts are likely to occur. The paleontological impact analysis involved analysis of available Project documents and comparison with geological and paleontological data gathered during the records searches and literature review.

3.0 Results

3.1 Paleontological Literature Review and Records Searches

3.1.1 Geology

Geographically, the Proposed Project site lies on the nearly level valley floor in the heavily agricultural western portion of the central San Joaquin Valley, just east of the Guajarral Hills and Anticline Ridge, and north of the Kettleman Hills. As mapped by Dibblee (1971), the Proposed Project site is underlain at the surface by primarily Holocene-age surficial sediments consisting of alluvial gravel, sand, and clay (Qa; these deposits are mapped as recent alluvial fan deposits in the Great Valley [Qf] by Jennings and Strand, 1958) (Figure 2). These Holocene alluvial sediments primarily consist of poorly consolidated silts and silty sands, with less common intervals of clay (Terracon, 2019), and likely were eroded and transported by streams from the older geologic units exposed within the nearby breached anticlines (e.g., the Kettleman Hills and Anticline Ridge, where strata of the Tulare, San Joaquin, and Etchegoin formations are exposed) (Dibblee and Minch, 2006, 2007; Woodring et al., 1940). Within drainages of the Coast Ranges foothills, these deposits range in thickness from thin veneers only one foot thick to an estimated maximum thickness of about 25 feet along the eastern edges of the Kettleman Hills, where sediments have accumulated in alluvial fans (Woodring et al., 1940). Within the distal alluvial fans spreading onto the valley floor, in the vicinity of the Proposed Project site, the precise thickness of

Holocene alluvial deposits is unknown. Presumably, the Holocene-age deposits transition downsection (i.e., at depth) into older, Pleistocene-age deposits. The depth of this temporal transition is conservatively estimated here to occur at 15 feet or more below ground surface, based on the presence of mapped surface exposures of Pleistocene-age older alluvial deposits approximately 2 miles to the southwest of the Proposed Project site.

3.1.2 Paleontology

A records search of the paleontological collections at the SDNHM and an online search of the paleontological records at the UCMP found no documented fossil collection localities within a 5-mile radius of the Proposed Project site.

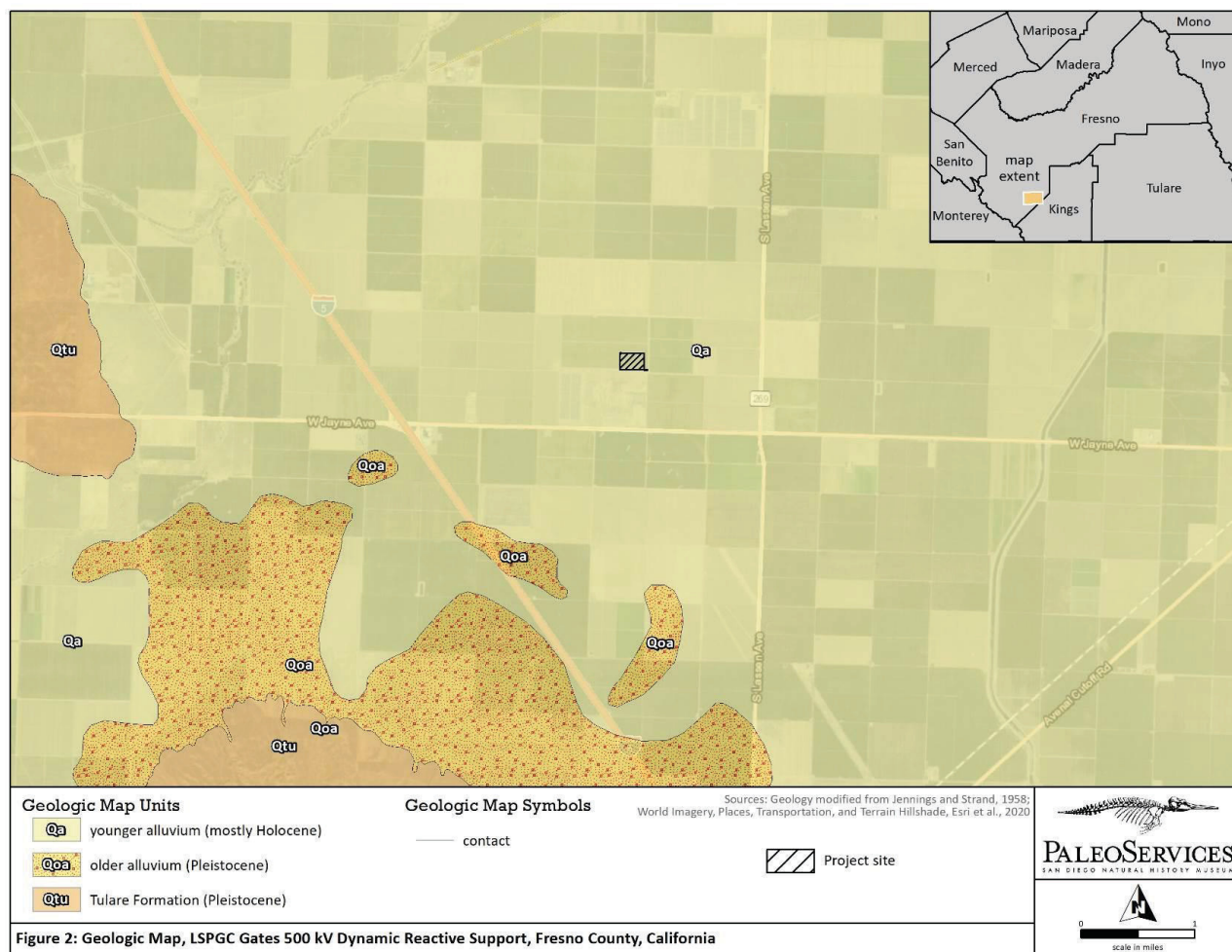
A review of the regional paleontological literature found no reports of fossils from the surficial Holocene deposits in the Proposed Project area. However, the review did find that there are numerous documented fossil localities from late Pleistocene-age sedimentary deposits in the west-central San Joaquin Valley. Fossil collection localities are known from several locations in Fresno County, including in the Riverdale and Tranquility areas (located approximately 25 miles northeast and 35 miles north of the Proposed Project site, respectively), and Kings County, including in the Corcoran area (30 miles east of the Proposed Project site) and at Dudley Ridge (located approximately 20 miles southeast of the Proposed Project site), where early human bone dated to the latest Pleistocene has been found alongside non-human Pleistocene fossils (Jefferson, 1991a,b). Recovered fossils from these localities include remains of bony fish, pond turtle, rattlesnake, loon, small mammals (e.g., rabbit, beaver, pocket gopher, vole, wood rat, heteromyid rodent, mole), and large mammals (e.g., mammoth, ground sloth, horse, mule deer, elk, camel, pronghorn, ox, bison, American lion, fox, coyote, dire wolf, badger).

3.2 Paleontological Resource Potential Analysis

Following the SVP (2010) criteria for determining paleontological potential, as outlined in Section 2.2, the Holocene-age alluvial deposits underlying the Proposed Project site are assigned a low paleontological potential. This rating is based on the relatively young age (generally less than about 11,700 years old) of these deposits, the recognition that organic remains preserved in such deposits are conspecific with organisms living in the area today, and the lack of known, scientifically significant paleontological resources from similar Holocene-age deposits in the central San Joaquin Valley.

However, as mentioned above, the Holocene-age sediments likely transition in the subsurface into older, Pleistocene-age deposits, at depths that may be as shallow as 15 feet below ground surface (see Section 3.1.1). Pleistocene sedimentary deposits located at depth within the Proposed Project site are assigned an undetermined paleontological potential based on the occurrence of scientifically significant vertebrate fossils in similar deposits found at widely scattered localities in the west-central San Joaquin Valley.

Because the contact between Holocene-age deposits and older, Pleistocene-age deposits may be as shallow as 15 feet below ground surface, all deposits underlying the Proposed Project site are specifically assigned a low paleontological potential from 0–15 feet below ground surface, where they are assumed to be Holocene in age, and an undetermined paleontological potential at depths greater than 15 feet below ground surface, where they may be Pleistocene in age (Figure 3).



3.3 Paleontological Impact Analysis

As discussed above, the Proposed Project site is immediately underlain by Holocene-age alluvial deposits at the surface that likely overlie and transition in the subsurface into older, Pleistocene-age deposits. Impacts to paleontological resources may occur only during excavations that will disturb sedimentary deposits of Pleistocene-age. Therefore, shallow excavations that will likely only disturb surficial Holocene deposits do not have the potential to impact paleontological resources, while excavations that will extend greater than about 15 feet below ground surface (and will potentially disturb Pleistocene-age sedimentary deposits) have the potential to impact paleontological resources (Table 1).

Table 1. Summary of paleontological potential of the geologic units underlying the Proposed Project site and paleontological monitoring recommendations for earthwork impacting this geologic unit.

Geologic unit (map symbol)	Age (years old)	Paleontological potential	Monitoring recommended?
alluvial deposits (Qa)	Holocene (generally less than 11,700), with older Pleistocene-age deposits present in the subsurface	Low (0–15 feet); Undetermined (>15 feet)	No (0–15 feet); Yes (>15 feet)

Project components and construction methods, as currently proposed, will require varying degrees of ground disturbance, ranging from no or only superficial ground disturbance, to shallow excavation, to deeper excavation. The anticipated ground disturbance associated with each Proposed Project component and its potential to impact paleontological resources is outlined below (Table 2).

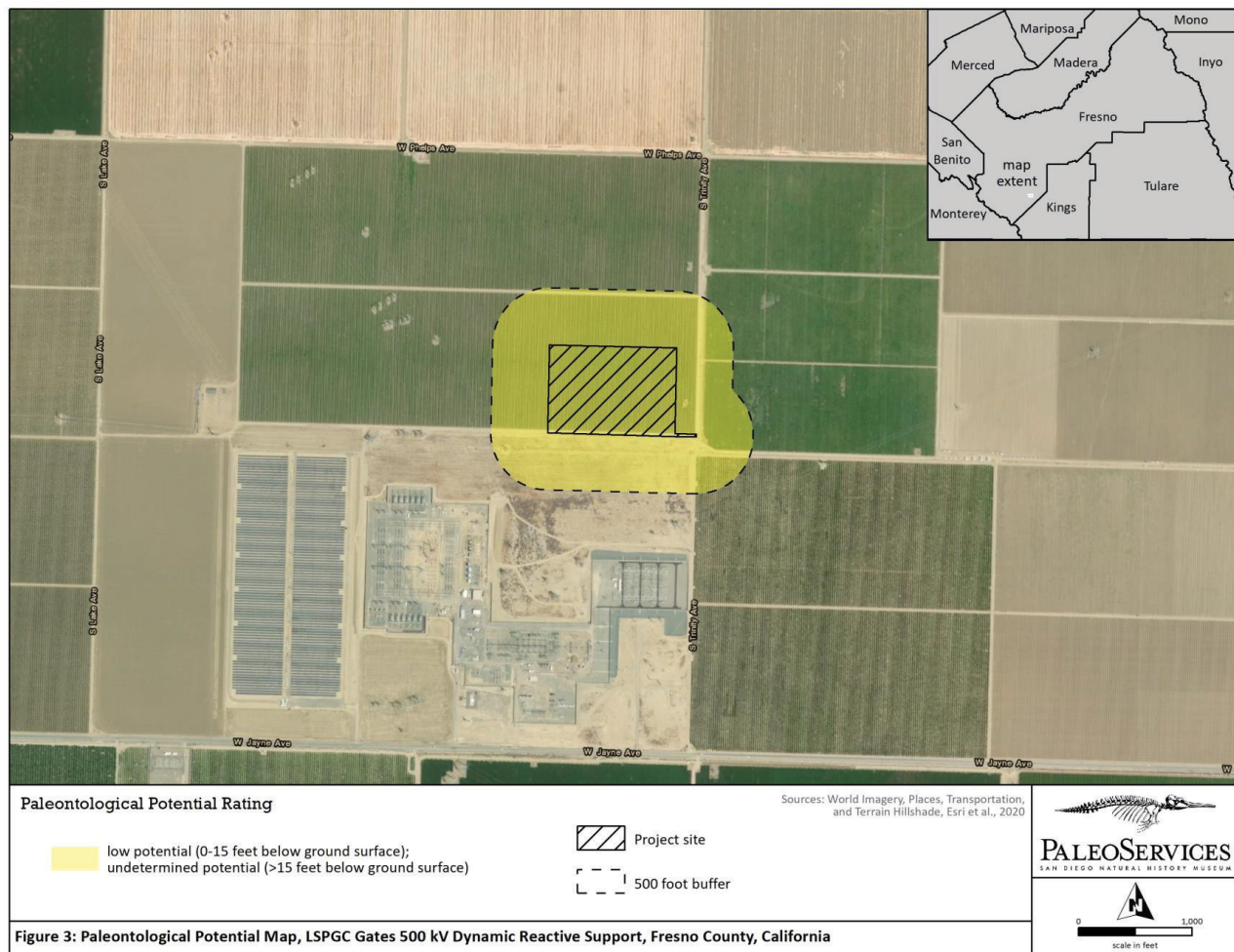
Proposed Project components requiring excavations exceeding approximately 10 feet but not deeper than 15 feet below ground surface (bgs) are limited to the installation of new transmission poles/towers to support two new 500 kV overhead transmission lines between the new STATCOM units and the Gates Substation. Six approximately 10-foot-deep boreholes will be excavated for the installation of the six new transmission poles/towers, which will be installed on CIDH concrete pile foundations. Large-diameter helical augers used for the excavation of such boreholes have the potential to bring up spoils containing unbroken fossils, and can therefore be successfully monitored for paleontological resources.

Earthwork associated with the other various Proposed Project components (e.g., overall site grading, excavation for equipment foundations, installation of temporary guard structures, excavation of stormwater detention basins/drainage systems, excavation of transformer oil containment basins, installation of security fencing and retaining walls, access road grading, and use of temporary staging areas) is anticipated to be relatively shallow, extending less than 10 feet bgs. Finally, the installation of the new overhead transmission lines and aboveground equipment will not require significant ground disturbance.

Table 2. Summary of anticipated ground disturbance associated with Proposed Project components and paleontological monitoring recommendations for this work.

Proposed Project component	Anticipated ground disturbance	Monitoring recommended?
Overall site grading	Shallow grading (<10 feet bgs)	No
Excavation for equipment foundations	Shallow over-excavation (<10 feet bgs)	No

Installation of new transmission poles/towers on CIDH concrete pile foundations	Deep augering (>10 feet but <15 feet bgs)	No
Installation of temporary guard structures	Shallow augering (<10 feet bgs)	No
Installation of new overhead transmission lines	No ground disturbance	No
Installation of aboveground equipment	No ground disturbance	No
Excavation of stormwater detention basins, stormwater drainage, and transformer oil containment basins	Shallow excavation (<10 feet bgs)	No
Installation of security fencing and retaining walls	Minimal ground disturbance (<10 feet bgs)	No
Access road improvements and new access road construction	Shallow grading (<10 feet bgs)	No
Use of temporary staging area	Shallow grading (<10 feet bgs)	No



4.0 Recommendations & Conclusions

Implementation of a paleontological mitigation program is not recommended for the Proposed Project, as Project-related earthwork is not anticipated to negatively impact paleontological resources. However, in the unlikely event that fossils are unearthed during earthwork activities (i.e., an inadvertent discovery), the following measures should be followed:

APM PALEO-1: Upon discovery of an unearthed fossil, earthwork within the vicinity of the discovery shall immediately halt, and a qualified paleontologist should evaluate the discovery. Earthwork shall be diverted until the significance of the fossil discovery can be assessed by the qualified paleontologist. If the fossil discovery is deemed significant, the fossil shall be recovered using appropriate recovery techniques based on the type, size, and mode of preservation of the unearthed fossil. Earthwork may resume in the area of the fossil discovery once the fossil has been recovered, and the qualified paleontologist deems the site has been mitigated to the extent necessary. Additional earthwork following the fossil discovery may be monitored for paleontological resources on an as-needed basis, at the discretion of the qualified paleontologist.

APM PALEO-2: Recovered fossils shall be prepared, identified, catalogued, and stored in a recognized professional repository (e.g., San Diego Natural History Museum, University of California Museum of Paleontology) along with associated field notes, photographs, and compiled fossil locality data. Donation of the fossils should be accompanied by financial support for initial specimen curation and storage. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils. This report shall be submitted to appropriate agencies, as well as to the designated repository.

5.0 References

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Appendix 4.8-A – Greenhouse Gas Screening Letter

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February 13, 2021

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**RE: Gates 500 kV Dynamic Reactive Support Greenhouse Gas Screening Letter –
Fresno County**

The purpose of this letter is to provide Greenhouse Gas (GHG) analysis for the Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project or Project). This study quantifies GHG emissions associated with construction and operation of the Project and includes a general analysis of both a Business as Usual (BAU) scenario project and an operational project assessment for the Proposed Project for 2023 or the first year the Project would be operational. This analysis was prepared in accordance with San Joaquin Valley Air pollution Control District guidance (SJVAPCD, 2009) for GHGs.

GHGs analyzed in this study are Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O) and Sulfur Hexafluoride (SF₆). To simplify GHG calculations CH₄, N₂O and SF₆ are converted to equivalent amounts of CO₂ and are identified as carbon dioxide equivalent (MTCO₂e) using the 100 year periods of 25, 298, 22,800 respectively (IPCC, 2007).

Project Location

The approximately 24 acre Proposed Project site is located within a 72 acre parcel which is currently being used for agricultural uses and is located immediately west of S Trinity Avenue between Phelps Avenue to the north and W Jayne Avenue to the south and is located within the northeast quarter of Public Land Survey System (PLSS) Section 33 of Township 20 South and 17 East. The primary access to the Proposed Project for both construction and operations will be along Jayne Avenue. The site is located approximately 3.5 miles southwest of the City of Huron.

Project Description

The Proposed Project would be constructed and operated by LS Power Grid California (LSPGC). The Project seeks to construct two new static synchronous compensators (STATCOM) facilities and two new single circuit 500 kV transmission lines that will connect to the existing Pacific Gas & Electric (PG&E) Gates Substation. The STATCOM facility will support the regional transmission

system by providing voltage support and grid stability at the Gates 500 kV bus. This will facilitate the reliable operation of the extra high voltage transmission system buses in the electrical proximity of the Gates 500 kV substation after the retirement of the Diablo Canyon nuclear generating units. The transmission system in the vicinity of the Proposed Project includes the existing PG&E Gates Substation which currently serves the electrical needs of PG&E customers and operates various 500 kV transmission lines, 230 kV transmission lines, and 70 kV transmission lines. The Gates Substation will need to be expanded to provide two new 500 kV bus positions, one for each STATCOM unit.

The Proposed Project will include the following main components:

- Construction of two new STATCOM facilities with a rated real power output of 0 MW, and a nominal terminal voltage of 500 kV;
- The project will install three (3) SPS2 550 kV circuit breaker or similar
- Improvement of existing public and private dirt roads to facilitate construction, operation, and maintenance of the STATCOM units;
- Installation of two new approximately 1,150 feet 500 kV single-circuit overhead electrical transmission lines between the STATCOM units and the Gates Substation;
- Expansion of the Gates Substation to provide two new bus positions, one for each STATCOM unit. This will require the addition of two new 500 kV breakers, 500 kV disconnect switches, PT's & CT's, protection and control, take-off structures, and associated equipment;
- A 4,000 square foot (SF) control building for each STATCOM facility; and
- 3,200 lineal feet (LF) of 20 foot wide gravel covered access roads.

The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of a major portion of the CAISO controlled grid and accommodate maintenance and contingencies of the reactive device. This would be accomplished through the construction of a dynamic reactive device between two equally sized blocks.

The Project will be operated, monitored and dispatched remotely on a day-to-day basis. Crews of two to four person's will periodically visit the site (approximately twice per month) for routine inspection and maintenance of the facilities and site. The Developer will own and maintain the facility up to the point where the system enters PG&E property.

Project construction includes site preparation and grading, installation of drainage and retention basins, foundations/supports, setting of equipment, wiring and electrical system installation, and assembly of the accessory components. The Project would require the grading of approximately 23.85 acres and will require an import of roughly 17,000 CY of suitable site materials and export of roughly 2,000 CY of excess material. The Proposed Project plans to start grading and construction in the second quarter of 2022 and be completed in the fourth quarter

of 2023 and was assumed to have a six-day working week. Additionally, the Project will require 740,000 gallons of water which would be trucked to the site daily. Also, it should be noted that the peak construction activities will be during the earthwork phase of the Project between March and May of 2022. Material hauling/truck details along with worker trips were provided within the project description (See Table 3-6) and was manually updated within the CalEEMod software. The estimated Equipment List and construction task durations are shown in **Table 1**.

Table 1: Anticipated Construction Equipment and Durations

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Site Prep/roadway work	03/15/2022	5/28/2022		
Graders			1	250
Off-Highway Trucks (Dump Truck)			4	415
Off-Highway Trucks (Water Truck)			4	300
Rollers			1	405
Rubber Tired Loaders (4-5 yard)			1	275
Below Grade Construction	06/1/2022	8/30/2022		
Excavators			1	108
Off-Highway Trucks (Water Truck)			4	300
Forklifts			1	100
Tractors/Loaders/Backhoes			1	68
Excavators			1	70
Rubber Tired Loaders (4-5 yard)			1	275
Drill Rig			1	125
Off-Highway Trucks (Dump Truck)			1	415
Skid Steer Loaders			1	74
Trenchers			1	75
Above Grade Construction	09/1/2022	8/15/2023		
Aerial Lifts			1	49
Aerial Lifts			1	74
Cranes (17 Ton)			1	250
Cranes (30 ton)			1	130
Forklifts			2	130
Welders			1	395
¹Commissioning and Testing	8/16/23	12/15/23		
Forklifts			2	130
Aerial Lifts			1	49
1. Commissioning and Testing estimated between 6/15/23 – 12/15/23. For purposes of modeling and to avoid double counting, Forklifts and Aerial Lifts are the same units as Above Grade Construction. For this purpose, commissioning and testing was modeled with a start date of 8/16/23.				

Once operational, the Project would generate very few GHG emissions from daily operations. Operational emissions sources would include the consumption of energy onsite from Project auxiliary equipment, such as control room HVAC units, communications equipment and lighting. It is assumed that the total demand onsite would be six kw continuous per building or roughly 105,120 kWh per year and was modeled as such within CalEEMod.

The Project would include three SPS2 550 kV gas circuit breakers or similar, which utilize roughly 595 pounds (lb) of SF₆ per breaker for insulation purposes. While the SF₆ is contained within the circuit breakers, a very small amount leaks over time. SF₆ has strong global warming potential of 23,900.

Mobile vehicle visits to the Project site associated with periodic operations and maintenance would also generate air emissions. Monthly staff operations and maintenance visits, with crews of two to four persons are expected to generate two to four trips twice per month. For purposes of preparing an overly conservative analysis, it was assumed that the Project would generate four trips per day using a rural setting. CalEEMod has been updated to reflect Project-related operational conditions.

Methods and Background

With the exception of the analysis of SF₆ from the new circuit breakers, the GHG impacts related to construction and daily operations were calculated using the latest CalEEMod 2016.3.2 air quality and GHG model, which was developed by BREEZE Software for South Coast Air Quality Management District (SCAQMD) in 2017. CalEEMod utilizes EMFAC 2014 for vehicular emission rates for each operational year. SJVAPCD recognizes the CalEEMod Version 2016.3.2 as an acceptable model for projects of this nature.

Regarding the Project's energy intensity factors, CalEEMod's default rates do not include state regulated renewable energy mandates for energy providers such as PG&E. Based on the requirements of SB 100 (State of California, 2018) utility providers are required to have 60% of their portfolio supplied by renewable energy sources. To date, PG&E has achieved 39% and in 2023, PG&E should have 47.8% in place to meet requirements of SB 100 in 2030. Given this, PG&E energy-intensity factors for 2023 were calculated and were modeled as such within CalEEMod (California Public Utilities Commission, 2019).

In 2010 CARB published final regulations for SF₆ and outlines requirements for equipment operational from 2011 to beyond 2020. From that data, the allowable leakage rates in 2011 are 10% and in 2020 and each calendar year after that are 1% (CARB, 2010) from 2011. The project would install three SPS2 550 kV gas circuit breakers or similar. In 2023, the SPS2 550 kV circuit breakers can emit at most by regulation (17.85 lbs). Under the baseline scenario in 2004, SF₆

regulations are not readily available. However, 2011, which is assumed to be the conservative BAU baseline, the project could release 178.5 lb of SF₆.

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental documents. In response to this, In August 2008, SJVAPCDs Governing Board adopted the Climate Change Action Plan (CCAP). Based on that plan, the district came up with processes to evaluate GHG significance. The plan basically covered projects which include Best Performance Standards (BPS) which are more typical of residential or commercial type projects and projects that do not implement BPS.

Projects not implementing BPS would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

Since this Project is not a typical residential or commercial development project, including standard BPS is not applicable. Based on this, this analysis will do a comparison of BAU in 2004 and the operational year (2023) with the intent of showing a 29% reduction over BAU. CalEEMod inputs/outputs for both BAU and the Proposed Project are shown in ***Attachment A*** to this letter.

Estimated Project-Related Construction Emissions (BAU)

Based on modeling conducted, BAU construction (between 2003 and 2004) for the Project would generate 1,395 Metric Tons (MT) CO₂e over the estimated construction period. Given the fact that the total emissions would ultimately contribute to cumulative levels, it is acceptable to average the total construction emission over the life of the Project, which is assumed to be 30 years (SCAQMD, 2008). Given this, as shown in Table 2, the Project would add approximately 46.51 MT CO₂e per year from construction.

Table 2: Expected Annual Construction CO₂e Emissions (2004 BAU)

Year	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e (MT)
2003	0.00	1,057.16	1,057.16	0.17	0.00	1,061.47
2004	0.00	332.39	332.39	0.06	0.00	333.92
Total						1,395.39
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						46.51
Expected Construction emissions are based upon CalEEMod modeling assumptions (Table 1 above and modified to BAU year)						

Similarly, as shown in Table 3, Project construction (between 2022 and 2023) for the Proposed Project would generate 1,173.66 MT CO₂e over the estimated construction period or an annual average of 39.12 MT CO₂e per year from construction. The reductions achieved are primarily due to the fact that both construction equipment and vehicles used from workers to and from are more efficient in 2023.

Table 3: Expected Annual Construction CO₂e Emissions (2023)

Year	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e (MT)
2022	0.00	886.72	886.72	0.25	0.00	892.87
2023	0.00	279.53	279.53	0.05	0.00	280.78
Total						1,173.66
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						39.12
Expected Construction emissions are based upon CalEEMod modeling assumptions (Table 1 above)						

Estimated Project-Related Operational Emissions

Operations of the Project would begin once construction is completed. Operational related emissions would result primarily from vehicle exhaust emissions associated with maintenance staff traveling to and from the Project site. As well as energy consumption onsite as discussed earlier in this analysis. CalEEMod was used to estimate annual operational-related emissions for both the 2004 BAU scenario and the Proposed Project scenario which would be operational in 2023. Also, it should be noted that the scenario analyzed would have both annualized construction and operational emissions combined to reflect the total annual GHG emission produced by the Project. In addition, the GHG emissions generated from SF₆ based on regulatory emission leakage allowed is included in the modeling.

Under the BAU scenario, the expected operational emissions including amortized construction emissions would be expected to generate 2,017.11 MTCO₂e per year as shown in Table 4.

Table 4: Operational Emissions Summary MT/Year (BAU)

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT/Yr)
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	30.58	30.58	0.00	0.00	30.70
Mobile	0.00	4.87	4.87	0.00	0.00	4.90
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (MT/Year)						35.60
SF ₆ emissions (Allowed 10 Percent or 178.5 lb *23,900 CO ₂ Equivalent Factor) = 4,266,150 lb						¹ 1,935
Amortized Construction Emissions (Table 2 above)						46.51
Total Construction and Operations (MT/Year)						²2,017.11
1. Data is in Metric Tons (MT). Conversion rate is 1 lb = 0.000453592 MT						
2. Data is presented in decimal format and may have rounding errors.						

Under the 2023 scenario, the expected operational emissions including amortized construction emissions would be expected to generate 65.98 MTCO₂e per year as shown in Table 5.

Table 5: Operational Emissions Summary MT/Year (2023)

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT/Yr)
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	15.98	15.98	0.00	0.00	16.04
Mobile	0.00	4.19	4.19	0.00	0.00	4.20
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (MT/Year)						20.23
SF ₆ emissions (Allowed 1 Percent or 17.85 lb *23,900 CO ₂ Equivalent Factor) = 42,662 lb						¹ 19.35
Amortized Construction Emissions (Table 3 above)						39.12
Total Construction and Operations (MT/Year)						78.70
Combined BAU Scenario						2,017.11
Reduction over BAU						²1,938.41
Percentage Reduction over BAU						96.1%
1. Data is in Metric Tons (MT). Conversion rate is 1 lb = 0.000453592 MT						
2. Data is presented in decimal format and may have rounding errors.						

Based on this, the Proposed Project would have a 96.1% reduction in GHG emissions over BAU and would therefore generate a less than significant GHG impact per SJVAPCD requirements. For questions, please contact me directly at (760) 473-1253.

Sincerely,

Ldn Consulting, Inc.



Jeremy Loudon

Attachments:

Attachment A: CALEEMOD Inputs/Outputs

Sources:

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Gates 500 kV Dynamic Reactive Support Project (BAU 2004) - Fresno County, Annual

Gates 500 kV Dynamic Reactive Support Project (BAU 2004)
Fresno County, Annual**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	9.20	8,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - 2005 is first available operational year in CalEEMod

Land Use - Site area is 9.2 Acre; 2 small control buildings will be installed (Estimated to be 8,000 SF)

Construction Phase - LSPGC Gates Schedule and includes Construction List provided by applicant. BAU 2004

Off-road Equipment - construction sched per PD

Off-road Equipment - Above Grade... 16 week duration equipment set

Off-road Equipment - Per revised construction sched. Added three additional 300 HP Water Truck

Off-road Equipment - Dates were modified to reflect the fact that aerial lifts in this phase and forklifts are identical to above ground work.

Off-road Equipment - Per revised construction sched. Added one additional 415 HP Dump Truck

Trips and VMT - Daily vehicle trips identified in Table 3-6 of PD. Hauling trips incorporated in average ADT for Trucks and worker trips. Vehicle Class for Vender modified to HHDT only to be conservative

Grading -

Architectural Coating -

Vehicle Trips - 4 trips per weekday

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Energy Use - 6kw per building average demand $6 \times 24 \times 365 = 52,560$ kWh per building... 2 buildings (105,120kWh) or 13.14 kWh per SF (8000 SF * 13.14 kwh/sf) =105,120 kWh

Construction Off-road Equipment Mitigation - t4 30%

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	250
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	250
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	250
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	150	250
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	299.00
tblConstructionPhase	NumDays	230.00	105.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	0.00	13.14
tblGrading	AcresOfGrading	40.63	33.75
tblGrading	MaterialExported	0.00	2,000.00
tblGrading	MaterialImported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	0.00	8,000.00
tblLandUse	LotAcreage	0.00	9.20
tblOffRoadEquipment	HorsePower	187.00	250.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	80.00	405.00
tblOffRoadEquipment	HorsePower	203.00	275.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	158.00	108.00

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tblOffRoadEquipment	HorsePower	158.00	70.00
tblOffRoadEquipment	HorsePower	89.00	100.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	203.00	275.00
tblOffRoadEquipment	HorsePower	65.00	74.00
tblOffRoadEquipment	HorsePower	97.00	68.00
tblOffRoadEquipment	HorsePower	78.00	75.00
tblOffRoadEquipment	HorsePower	63.00	74.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	231.00	130.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	46.00	395.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	89.00	130.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Above Grade Construction
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tblOffRoadEquipment	PhaseName		Below Grade Construction
tblOffRoadEquipment	PhaseName		Site Prep/roadway work
tblOffRoadEquipment	PhaseName		Site Prep/roadway work
tblOffRoadEquipment	PhaseName		Below Grade Construction
tblOffRoadEquipment	PhaseName		Below Grade Construction
tblOffRoadEquipment	PhaseName		Site Prep/roadway work
tblOffRoadEquipment	PhaseName		Site Prep/roadway work
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tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00

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tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	2,375.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripNumber	28.00	8.00
tblTripsAndVMT	WorkerTripNumber	33.00	15.00
tblTripsAndVMT	WorkerTripNumber	3.00	15.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	4.00

Gates 500 kV Dynamic Reactive Support Project (BAU 2004) - Fresno County, Annual

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2003	2.0542	16.9273	9.5715	0.1007	0.0988	0.7820	0.8809	0.0235	0.7799	0.8034	0.0000	1,057.1573	1,057.1573	0.1724	0.0000	1,061.4680
2004	0.7212	4.7111	3.6735	0.0295	0.0763	0.2241	0.3004	0.0204	0.2227	0.2431	0.0000	332.3908	332.3908	0.0612	0.0000	333.9217
Maximum	2.0542	16.9273	9.5715	0.1007	0.0988	0.7820	0.8809	0.0235	0.7799	0.8034	0.0000	1,057.1573	1,057.1573	0.1724	0.0000	1,061.4680

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2003	1.3690	10.5744	8.0539	0.1007	0.0988	0.4912	0.5900	0.0235	0.4891	0.5126	0.0000	1,057.1562	1,057.1562	0.1724	0.0000	1,061.4669
2004	0.7019	4.5613	3.6766	0.0295	0.0763	0.2156	0.2919	0.0204	0.2142	0.2346	0.0000	332.3906	332.3906	0.0612	0.0000	333.9215
Maximum	1.3690	10.5744	8.0539	0.1007	0.0988	0.4912	0.5900	0.0235	0.4891	0.5126	0.0000	1,057.1562	1,057.1562	0.1724	0.0000	1,061.4669

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	25.39	30.05	11.43	0.00	0.00	29.75	25.34	0.00	29.86	28.60	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0405	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	30.5806	30.5806	1.3800e-003	2.9000e-004	30.7004
Mobile	5.4700e-003	0.0358	0.0495	2.6000e-004	2.6300e-003	8.6000e-004	3.4900e-003	7.1000e-004	8.2000e-004	1.5300e-003	0.0000	4.8679	4.8679	1.4100e-003	0.0000	4.9032
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0460	0.0358	0.0495	2.6000e-004	2.6300e-003	8.6000e-004	3.4900e-003	7.1000e-004	8.2000e-004	1.5300e-003	0.0000	35.4485	35.4485	2.7900e-003	2.9000e-004	35.6037

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2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0405	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	30.5806	30.5806	1.3800e-003	2.9000e-004	30.7004
Mobile	5.4700e-003	0.0358	0.0495	2.6000e-004	2.6300e-003	8.6000e-004	3.4900e-003	7.1000e-004	8.2000e-004	1.5300e-003	0.0000	4.8679	4.8679	1.4100e-003	0.0000	4.9032
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0460	0.0358	0.0495	2.6000e-004	2.6300e-003	8.6000e-004	3.4900e-003	7.1000e-004	8.2000e-004	1.5300e-003	0.0000	35.4485	35.4485	2.7900e-003	2.9000e-004	35.6037

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Prep/roadway work	Grading	3/15/2003	5/29/2003	6	65	
2	Below Grade Construction	Trenching	6/1/2003	8/30/2003	6	78	
3	Above Grade Construction	Building Construction	9/1/2003	8/13/2004	6	299	
4	Commissioning and Testing	Building Construction	8/16/2004	12/15/2004	6	105	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Prep/roadway work	Graders	1	10.00	250	0.41
Site Prep/roadway work	Off-Highway Trucks	4	10.00	300	0.38
Site Prep/roadway work	Off-Highway Trucks	4	5.00	415	0.38
Site Prep/roadway work	Rollers	1	10.00	405	0.38
Site Prep/roadway work	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Construction	Bore/Drill Rigs	1	10.00	125	0.50
Below Grade Construction	Excavators	1	10.00	108	0.38
Below Grade Construction	Excavators	1	5.00	70	0.38
Below Grade Construction	Forklifts	1	4.00	100	0.20
Below Grade Construction	Off-Highway Trucks	4	10.00	300	0.38
Below Grade Construction	Off-Highway Trucks	1	8.00	415	0.38
Below Grade Construction	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Construction	Skid Steer Loaders	1	10.00	74	0.37
Below Grade Construction	Tractors/Loaders/Backhoes	1	5.00	68	0.37
Below Grade Construction	Trenchers	1	5.00	75	0.50
Above Grade Construction	Aerial Lifts	1	4.00	74	0.31
Above Grade Construction	Aerial Lifts	1	4.00	49	0.31
Above Grade Construction	Cranes	1	10.00	250	0.29
Above Grade Construction	Cranes	1	5.00	130	0.29
Above Grade Construction	Forklifts	2	5.00	130	0.20
Above Grade Construction	Welders	1	2.00	395	0.45
Commissioning and Testing	Aerial Lifts	1	4.00	49	0.31
Commissioning and Testing	Forklifts	2	5.00	130	0.20

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Prep/roadway work	11	8.00	15.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Below Grade Construction	13	15.00	10.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Above Grade Construction	7	15.00	5.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Commissioning and Testing	3	5.00	5.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Prep/roadway work - 2003**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0190	0.0000	0.0190	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7706	7.0696	3.4719	0.0409		0.3087	0.3087		0.3087	0.3087	0.0000	416.2336	416.2336	0.0626	0.0000	417.7982
Total	0.7706	7.0696	3.4719	0.0409	0.0190	0.3087	0.3277	2.1000e-003	0.3087	0.3108	0.0000	416.2336	416.2336	0.0626	0.0000	417.7982

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3.2 Site Prep/roadway work - 2003**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0450	0.5595	0.1945	3.9600e-003	8.3400e-003	0.0192	0.0275	2.2900e-003	0.0184	0.0207	0.0000	40.5751	40.5751	7.1700e-003	0.0000	40.7544
Worker	0.0248	0.0339	0.2772	1.7000e-004	9.6100e-003	3.5000e-004	9.9600e-003	2.5500e-003	3.2000e-004	2.8800e-003	0.0000	9.9380	9.9380	1.5800e-003	0.0000	9.9774
Total	0.0698	0.5934	0.4718	4.1300e-003	0.0180	0.0195	0.0375	4.8400e-003	0.0187	0.0235	0.0000	50.5131	50.5131	8.7500e-003	0.0000	50.7318

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0190	0.0000	0.0190	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4422	3.9308	2.7008	0.0409		0.1714	0.1714		0.1714	0.1714	0.0000	416.2331	416.2331	0.0626	0.0000	417.7977
Total	0.4422	3.9308	2.7008	0.0409	0.0190	0.1714	0.1904	2.1000e-003	0.1714	0.1735	0.0000	416.2331	416.2331	0.0626	0.0000	417.7977

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3.2 Site Prep/roadway work - 2003**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0450	0.5595	0.1945	3.9600e-003	8.3400e-003	0.0192	0.0275	2.2900e-003	0.0184	0.0207	0.0000	40.5751	40.5751	7.1700e-003	0.0000	40.7544
Worker	0.0248	0.0339	0.2772	1.7000e-004	9.6100e-003	3.5000e-004	9.9600e-003	2.5500e-003	3.2000e-004	2.8800e-003	0.0000	9.9380	9.9380	1.5800e-003	0.0000	9.9774
Total	0.0698	0.5934	0.4718	4.1300e-003	0.0180	0.0195	0.0375	4.8400e-003	0.0187	0.0235	0.0000	50.5131	50.5131	8.7500e-003	0.0000	50.7318

3.3 Below Grade Construction - 2003**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.7895	6.5439	3.1509	0.0386		0.3330	0.3330		0.3330	0.3330	0.0000	383.3028	383.3028	0.0642	0.0000	384.9066
Total	0.7895	6.5439	3.1509	0.0386		0.3330	0.3330		0.3330	0.3330	0.0000	383.3028	383.3028	0.0642	0.0000	384.9066

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3.3 Below Grade Construction - 2003**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0360	0.4476	0.1556	3.1700e-003	6.6700e-003	0.0154	0.0220	1.8300e-003	0.0147	0.0165	0.0000	32.4601	32.4601	5.7400e-003	0.0000	32.6035
Worker	0.0557	0.0762	0.6238	3.8000e-004	0.0216	7.8000e-004	0.0224	5.7500e-003	7.3000e-004	6.4700e-003	0.0000	22.3604	22.3604	3.5500e-003	0.0000	22.4492
Total	0.0917	0.5238	0.7794	3.5500e-003	0.0283	0.0161	0.0445	7.5800e-003	0.0154	0.0230	0.0000	54.8205	54.8205	9.2900e-003	0.0000	55.0527

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4395	3.3824	2.4034	0.0386		0.1824	0.1824		0.1824	0.1824	0.0000	383.3024	383.3024	0.0642	0.0000	384.9062
Total	0.4395	3.3824	2.4034	0.0386		0.1824	0.1824		0.1824	0.1824	0.0000	383.3024	383.3024	0.0642	0.0000	384.9062

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3.3 Below Grade Construction - 2003**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0360	0.4476	0.1556	3.1700e-003	6.6700e-003	0.0154	0.0220	1.8300e-003	0.0147	0.0165	0.0000	32.4601	32.4601	5.7400e-003	0.0000	32.6035
Worker	0.0557	0.0762	0.6238	3.8000e-004	0.0216	7.8000e-004	0.0224	5.7500e-003	7.3000e-004	6.4700e-003	0.0000	22.3604	22.3604	3.5500e-003	0.0000	22.4492
Total	0.0917	0.5238	0.7794	3.5500e-003	0.0283	0.0161	0.0445	7.5800e-003	0.0154	0.0230	0.0000	54.8205	54.8205	9.2900e-003	0.0000	55.0527

3.4 Above Grade Construction - 2003**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2334	1.7927	0.7530	0.0109		0.0932	0.0932		0.0932	0.0932	0.0000	100.3387	100.3387	0.0190	0.0000	100.8138
Total	0.2334	1.7927	0.7530	0.0109		0.0932	0.0932		0.0932	0.0932	0.0000	100.3387	100.3387	0.0190	0.0000	100.8138

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3.4 Above Grade Construction - 2003**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0242	0.3013	0.1047	2.1300e-003	4.4900e-003	0.0103	0.0148	1.2400e-003	9.8900e-003	0.0111	0.0000	21.8482	21.8482	3.8600e-003	0.0000	21.9447
Worker	0.0750	0.1026	0.8397	5.1000e-004	0.0291	1.0600e-003	0.0302	7.7400e-003	9.8000e-004	8.7200e-003	0.0000	30.1005	30.1005	4.7800e-003	0.0000	30.2201
Total	0.0992	0.4039	0.9445	2.6400e-003	0.0336	0.0114	0.0450	8.9800e-003	0.0109	0.0198	0.0000	51.9487	51.9487	8.6400e-003	0.0000	52.1648

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2266	1.7401	0.7541	0.0109		0.0903	0.0903		0.0903	0.0903	0.0000	100.3385	100.3385	0.0190	0.0000	100.8137
Total	0.2266	1.7401	0.7541	0.0109		0.0903	0.0903		0.0903	0.0903	0.0000	100.3385	100.3385	0.0190	0.0000	100.8137

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3.4 Above Grade Construction - 2003**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0242	0.3013	0.1047	2.1300e-003	4.4900e-003	0.0103	0.0148	1.2400e-003	9.8900e-003	0.0111	0.0000	21.8482	21.8482	3.8600e-003	0.0000	21.9447
Worker	0.0750	0.1026	0.8397	5.1000e-004	0.0291	1.0600e-003	0.0302	7.7400e-003	9.8000e-004	8.7200e-003	0.0000	30.1005	30.1005	4.7800e-003	0.0000	30.2201
Total	0.0992	0.4039	0.9445	2.6400e-003	0.0336	0.0114	0.0450	8.9800e-003	0.0109	0.0198	0.0000	51.9487	51.9487	8.6400e-003	0.0000	52.1648

3.4 Above Grade Construction - 2004**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4312	3.3123	1.3913	0.0201		0.1723	0.1723		0.1723	0.1723	0.0000	185.3876	185.3876	0.0351	0.0000	186.2655
Total	0.4312	3.3123	1.3913	0.0201		0.1723	0.1723		0.1723	0.1723	0.0000	185.3876	185.3876	0.0351	0.0000	186.2655

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3.4 Above Grade Construction - 2004**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0448	0.5567	0.1935	3.9400e-003	8.3000e-003	0.0191	0.0274	2.2800e-003	0.0183	0.0206	0.0000	40.3671	40.3671	7.1300e-003	0.0000	40.5454
Worker	0.1385	0.1895	1.5515	9.4000e-004	0.0538	1.9500e-003	0.0558	0.0143	1.8100e-003	0.0161	0.0000	55.6143	55.6143	8.8400e-003	0.0000	55.8352
Total	0.1833	0.7461	1.7450	4.8800e-003	0.0621	0.0211	0.0831	0.0166	0.0201	0.0367	0.0000	95.9813	95.9813	0.0160	0.0000	96.3806

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4187	3.2150	1.3933	0.0201		0.1668	0.1668		0.1668	0.1668	0.0000	185.3874	185.3874	0.0351	0.0000	186.2653
Total	0.4187	3.2150	1.3933	0.0201		0.1668	0.1668		0.1668	0.1668	0.0000	185.3874	185.3874	0.0351	0.0000	186.2653

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3.4 Above Grade Construction - 2004**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0448	0.5567	0.1935	3.9400e-003	8.3000e-003	0.0191	0.0274	2.2800e-003	0.0183	0.0206	0.0000	40.3671	40.3671	7.1300e-003	0.0000	40.5454
Worker	0.1385	0.1895	1.5515	9.4000e-004	0.0538	1.9500e-003	0.0558	0.0143	1.8100e-003	0.0161	0.0000	55.6143	55.6143	8.8400e-003	0.0000	55.8352
Total	0.1833	0.7461	1.7450	4.8800e-003	0.0621	0.0211	0.0831	0.0166	0.0201	0.0367	0.0000	95.9813	95.9813	0.0160	0.0000	96.3806

3.5 Commissioning and Testing - 2004**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0574	0.3173	0.1526	2.1700e-003		0.0201	0.0201		0.0201	0.0201	0.0000	19.1402	19.1402	4.6900e-003	0.0000	19.2576
Total	0.0574	0.3173	0.1526	2.1700e-003		0.0201	0.0201		0.0201	0.0201	0.0000	19.1402	19.1402	4.6900e-003	0.0000	19.2576

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3.5 Commissioning and Testing - 2004**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0242	0.3013	0.1047	2.1300e-003	4.4900e-003	0.0103	0.0148	1.2400e-003	9.8900e-003	0.0111	0.0000	21.8482	21.8482	3.8600e-003	0.0000	21.9447
Worker	0.0250	0.0342	0.2799	1.7000e-004	9.7100e-003	3.5000e-004	0.0101	2.5800e-003	3.3000e-004	2.9100e-003	0.0000	10.0335	10.0335	1.5900e-003	0.0000	10.0734
Total	0.0492	0.3355	0.3846	2.3000e-003	0.0142	0.0107	0.0249	3.8200e-003	0.0102	0.0140	0.0000	31.8817	31.8817	5.4500e-003	0.0000	32.0181

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0507	0.2647	0.1537	2.1700e-003		0.0171	0.0171		0.0171	0.0171	0.0000	19.1402	19.1402	4.6900e-003	0.0000	19.2576
Total	0.0507	0.2647	0.1537	2.1700e-003		0.0171	0.0171		0.0171	0.0171	0.0000	19.1402	19.1402	4.6900e-003	0.0000	19.2576

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3.5 Commissioning and Testing - 2004**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0242	0.3013	0.1047	2.1300e-003	4.4900e-003	0.0103	0.0148	1.2400e-003	9.8900e-003	0.0111	0.0000	21.8482	21.8482	3.8600e-003	0.0000	21.9447
Worker	0.0250	0.0342	0.2799	1.7000e-004	9.7100e-003	3.5000e-004	0.0101	2.5800e-003	3.3000e-004	2.9100e-003	0.0000	10.0335	10.0335	1.5900e-003	0.0000	10.0734
Total	0.0492	0.3355	0.3846	2.3000e-003	0.0142	0.0107	0.0249	3.8200e-003	0.0102	0.0140	0.0000	31.8817	31.8817	5.4500e-003	0.0000	32.0181

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.4700e-003	0.0358	0.0495	2.6000e-004	2.6300e-003	8.6000e-004	3.4900e-003	7.1000e-004	8.2000e-004	1.5300e-003	0.0000	4.8679	4.8679	1.4100e-003	0.0000	4.9032
Unmitigated	5.4700e-003	0.0358	0.0495	2.6000e-004	2.6300e-003	8.6000e-004	3.4900e-003	7.1000e-004	8.2000e-004	1.5300e-003	0.0000	4.8679	4.8679	1.4100e-003	0.0000	4.9032

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	4.00	0.00	0.00	6,864	6,864
Total	4.00	0.00	0.00	6,864	6,864

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.415876	0.061183	0.150996	0.176036	0.035163	0.006973	0.031964	0.109874	0.002099	0.001787	0.005269	0.001212	0.001569

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

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5.2 Energy by Land Use - Natural Gas**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	105120	30.5806	1.3800e-003	2.9000e-004	30.7004
Total		30.5806	1.3800e-003	2.9000e-004	30.7004

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	105120	30.5806	1.3800e-003	2.9000e-004	30.7004
Total		30.5806	1.3800e-003	2.9000e-004	30.7004

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0405	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0405	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0405	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0405	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

Gates 500 kV Dynamic Reactive Support Project (BAU 2004) - Fresno County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Gates 500 kV Dynamic Reactive Support Project (BAU 2004) - Fresno County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Gates 500 kV Dynamic Reactive Support Project (BAU 2004) - Fresno County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Gates 500 kV Dynamic Reactive Support Project (BAU 2004) - Fresno County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Gates 500 kV Dynamic Reactive Support Project (Operational 2023)
Fresno County, Annual**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	9.20	8,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	335.11	CH4 Intensity (lb/MW hr)	0.015	N2O Intensity (lb/MW hr)	0.003

1.3 User Entered Comments & Non-Default Data

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Project Characteristics - 2019 RPS Annual Report...PGE achieved 39% RPS in 2018. 2030 will achieve 60% or 1.75% per year. By 2023 47.8% achieved.

Land Use - Site area is 9.2 Acre; 2 small control buildings will be installed (Estimated to be 8,000 SF)

Construction Phase - LSPGC Gates Schedule and includes Construction List provided by applicant.

Off-road Equipment - construction sched per PD

Off-road Equipment - Above Grade... 16 week duration equipment set

Off-road Equipment - Per revised construction sched. Added three additional 300 HP Water Truck

Off-road Equipment - Dates were modified to reflect the fact that aerial lifts in this phase and forklifts are identical to above ground work.

Off-road Equipment - Per revised construction sched. Added one additional 415 HP Dump Truck

Trips and VMT - Daily vehicle trips identified in Table 3-6 of PD. Hauling trips incorporated in average ADT for Trucks and worker trips. Vehicle Class for Vender modified to HHDT only to be conservative

Grading -

Architectural Coating -

Vehicle Trips - 4 trips per weekday

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Energy Use - 6kw per building average demand $6 \times 24 \times 365 = 52,560$ kWh per building... 2 buildings (105,120kWh) or 13.14 kWh per SF (8000 SF * 13.14 kwh/sf) =105,120 kWh

Construction Off-road Equipment Mitigation - t4 30%

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	299.00
tblConstructionPhase	NumDays	230.00	105.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	0.00	13.14
tblGrading	AcresOfGrading	40.63	33.75
tblGrading	MaterialExported	0.00	2,000.00
tblGrading	MaterialImported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	0.00	8,000.00
tblLandUse	LotAcreage	0.00	9.20
tblOffRoadEquipment	HorsePower	187.00	250.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	80.00	405.00
tblOffRoadEquipment	HorsePower	203.00	275.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	70.00
tblOffRoadEquipment	HorsePower	89.00	100.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	203.00	275.00

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

tblOffRoadEquipment	HorsePower	65.00	74.00
tblOffRoadEquipment	HorsePower	97.00	68.00
tblOffRoadEquipment	HorsePower	78.00	75.00
tblOffRoadEquipment	HorsePower	63.00	74.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	231.00	130.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	46.00	395.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	641.35	335.11
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	2,375.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripLength	6.60	20.00

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

tblTripsAndVMT	VendorTripLength	6.60	20.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripNumber	28.00	8.00
tblTripsAndVMT	WorkerTripNumber	33.00	15.00
tblTripsAndVMT	WorkerTripNumber	3.00	15.00
tblTripsAndVMT	WorkerTripNumber	3.00	5.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	4.00

2.0 Emissions Summary

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

2.1 Overall Construction**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4126	3.6929	2.9611	9.9700e-003	0.0988	0.1349	0.2338	0.0235	0.1243	0.1478	0.0000	886.7201	886.7201	0.2461	0.0000	892.8730
2023	0.1304	1.1714	1.0186	3.0500e-003	0.0763	0.0441	0.1204	0.0204	0.0409	0.0612	0.0000	279.5258	279.5258	0.0503	0.0000	280.7822
Maximum	0.4126	3.6929	2.9611	9.9700e-003	0.0988	0.1349	0.2338	0.0235	0.1243	0.1478	0.0000	886.7201	886.7201	0.2461	0.0000	892.8730

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3271	2.8894	3.4906	9.9700e-003	0.0988	0.1028	0.2016	0.0235	0.0951	0.1186	0.0000	886.7192	886.7192	0.2461	0.0000	892.8721
2023	0.1273	1.1396	1.0275	3.0500e-003	0.0763	0.0424	0.1187	0.0204	0.0392	0.0596	0.0000	279.5256	279.5256	0.0503	0.0000	280.7820
Maximum	0.3271	2.8894	3.4906	9.9700e-003	0.0988	0.1028	0.2016	0.0235	0.0951	0.1186	0.0000	886.7192	886.7192	0.2461	0.0000	892.8721

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	16.34	17.17	-13.53	0.00	0.00	18.93	9.57	0.00	18.66	14.73	0.00	0.00	0.00	0.00	0.00	0.00

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	1-1-2022	3-31-2022	0.4106	0.3161
6	4-1-2022	6-30-2022	1.9143	1.4426
7	7-1-2022	9-30-2022	1.2220	0.9148
8	10-1-2022	12-31-2022	0.5329	0.5219
9	1-1-2023	3-31-2023	0.4630	0.4540
10	4-1-2023	6-30-2023	0.4661	0.4570
11	7-1-2023	9-30-2023	0.2883	0.2791
		Highest	1.9143	1.4426

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	15.9786	15.9786	7.2000e-004	1.4000e-004	16.0391
Mobile	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0376	9.0600e-003	7.7000e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	20.1657	20.1657	1.0600e-003	1.4000e-004	20.2347

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	15.9786	15.9786	7.2000e-004	1.4000e-004	16.0391
Mobile	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0376	9.0600e-003	7.7000e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	20.1657	20.1657	1.0600e-003	1.4000e-004	20.2347

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Prep/roadway work	Grading	3/15/2022	5/28/2022	6	65	
2	Below Grade Construction	Trenching	6/1/2022	8/30/2022	6	78	
3	Above Grade Construction	Building Construction	9/1/2022	8/15/2023	6	299	
4	Commissioning and Testing	Building Construction	8/16/2023	12/15/2023	6	105	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Prep/roadway work	Graders	1	10.00	250	0.41
Site Prep/roadway work	Off-Highway Trucks	4	10.00	300	0.38
Site Prep/roadway work	Off-Highway Trucks	4	5.00	415	0.38
Site Prep/roadway work	Rollers	1	10.00	405	0.38
Site Prep/roadway work	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Construction	Bore/Drill Rigs	1	10.00	125	0.50
Below Grade Construction	Excavators	1	10.00	108	0.38
Below Grade Construction	Excavators	1	5.00	70	0.38
Below Grade Construction	Forklifts	1	4.00	100	0.20
Below Grade Construction	Off-Highway Trucks	4	10.00	300	0.38
Below Grade Construction	Off-Highway Trucks	1	8.00	415	0.38
Below Grade Construction	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Construction	Skid Steer Loaders	1	10.00	74	0.37
Below Grade Construction	Tractors/Loaders/Backhoes	1	5.00	68	0.37
Below Grade Construction	Trenchers	1	5.00	75	0.50
Above Grade Construction	Aerial Lifts	1	4.00	74	0.31
Above Grade Construction	Aerial Lifts	1	4.00	49	0.31
Above Grade Construction	Cranes	1	10.00	250	0.29
Above Grade Construction	Cranes	1	5.00	130	0.29
Above Grade Construction	Forklifts	2	5.00	130	0.20
Above Grade Construction	Welders	1	2.00	395	0.45
Commissioning and Testing	Aerial Lifts	1	4.00	49	0.31
Commissioning and Testing	Forklifts	2	5.00	130	0.20

Trips and VMT

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Prep/roadway work	11	8.00	15.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Below Grade Construction	13	15.00	10.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Above Grade Construction	7	15.00	5.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT
Commissioning and Testing	3	5.00	5.00	0.00	50.00	20.00	20.00	LD_Mix	HHDT	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Prep/roadway work - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0190	0.0000	0.0190	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1718	1.5349	1.1003	3.9600e-003		0.0555	0.0555		0.0511	0.0511	0.0000	347.6613	347.6613	0.1124	0.0000	350.4724
Total	0.1718	1.5349	1.1003	3.9600e-003	0.0190	0.0555	0.0745	2.1000e-003	0.0511	0.0532	0.0000	347.6613	347.6613	0.1124	0.0000	350.4724

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

3.2 Site Prep/roadway work - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.1150	0.0171	3.8000e-004	8.3400e-003	3.5000e-004	8.6800e-003	2.2900e-003	3.3000e-004	2.6200e-003	0.0000	36.2010	36.2010	3.0800e-003	0.0000	36.2781
Worker	3.4300e-003	2.3400e-003	0.0234	8.0000e-005	9.6100e-003	5.0000e-005	9.6700e-003	2.5500e-003	5.0000e-005	2.6000e-003	0.0000	7.5731	7.5731	1.6000e-004	0.0000	7.5770
Total	6.8700e-003	0.1173	0.0405	4.6000e-004	0.0180	4.0000e-004	0.0184	4.8400e-003	3.8000e-004	5.2200e-003	0.0000	43.7740	43.7740	3.2400e-003	0.0000	43.8551

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0190	0.0000	0.0190	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1309	1.1543	1.3696	3.9600e-003		0.0412	0.0412		0.0381	0.0381	0.0000	347.6609	347.6609	0.1124	0.0000	350.4719
Total	0.1309	1.1543	1.3696	3.9600e-003	0.0190	0.0412	0.0601	2.1000e-003	0.0381	0.0402	0.0000	347.6609	347.6609	0.1124	0.0000	350.4719

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3.2 Site Prep/roadway work - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.1150	0.0171	3.8000e-004	8.3400e-003	3.5000e-004	8.6800e-003	2.2900e-003	3.3000e-004	2.6200e-003	0.0000	36.2010	36.2010	3.0800e-003	0.0000	36.2781
Worker	3.4300e-003	2.3400e-003	0.0234	8.0000e-005	9.6100e-003	5.0000e-005	9.6700e-003	2.5500e-003	5.0000e-005	2.6000e-003	0.0000	7.5731	7.5731	1.6000e-004	0.0000	7.5770
Total	6.8700e-003	0.1173	0.0405	4.6000e-004	0.0180	4.0000e-004	0.0184	4.8400e-003	3.8000e-004	5.2200e-003	0.0000	43.7740	43.7740	3.2400e-003	0.0000	43.8551

3.3 Below Grade Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1551	1.3043	1.2691	3.6400e-003		0.0541	0.0541		0.0498	0.0498	0.0000	319.4545	319.4545	0.1033	0.0000	322.0375
Total	0.1551	1.3043	1.2691	3.6400e-003		0.0541	0.0541		0.0498	0.0498	0.0000	319.4545	319.4545	0.1033	0.0000	322.0375

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3.3 Below Grade Construction - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7500e-003	0.0920	0.0137	3.0000e-004	6.6700e-003	2.8000e-004	6.9500e-003	1.8300e-003	2.7000e-004	2.1000e-003	0.0000	28.9608	28.9608	2.4700e-003	0.0000	29.0225
Worker	7.7300e-003	5.2700e-003	0.0527	1.9000e-004	0.0216	1.2000e-004	0.0218	5.7500e-003	1.1000e-004	5.8500e-003	0.0000	17.0394	17.0394	3.5000e-004	0.0000	17.0483
Total	0.0105	0.0973	0.0663	4.9000e-004	0.0283	4.0000e-004	0.0287	7.5800e-003	3.8000e-004	7.9500e-003	0.0000	46.0002	46.0002	2.8200e-003	0.0000	46.0708

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1117	0.8948	1.5263	3.6400e-003		0.0370	0.0370		0.0343	0.0343	0.0000	319.4542	319.4542	0.1033	0.0000	322.0371
Total	0.1117	0.8948	1.5263	3.6400e-003		0.0370	0.0370		0.0343	0.0343	0.0000	319.4542	319.4542	0.1033	0.0000	322.0371

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3.3 Below Grade Construction - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7500e-003	0.0920	0.0137	3.0000e-004	6.6700e-003	2.8000e-004	6.9500e-003	1.8300e-003	2.7000e-004	2.1000e-003	0.0000	28.9608	28.9608	2.4700e-003	0.0000	29.0225
Worker	7.7300e-003	5.2700e-003	0.0527	1.9000e-004	0.0216	1.2000e-004	0.0218	5.7500e-003	1.1000e-004	5.8500e-003	0.0000	17.0394	17.0394	3.5000e-004	0.0000	17.0483
Total	0.0105	0.0973	0.0663	4.9000e-004	0.0283	4.0000e-004	0.0287	7.5800e-003	3.8000e-004	7.9500e-003	0.0000	46.0002	46.0002	2.8200e-003	0.0000	46.0708

3.4 Above Grade Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0562	0.5701	0.4048	9.6000e-004		0.0242	0.0242		0.0224	0.0224	0.0000	87.3995	87.3995	0.0222	0.0000	87.9533
Total	0.0562	0.5701	0.4048	9.6000e-004		0.0242	0.0242		0.0224	0.0224	0.0000	87.3995	87.3995	0.0222	0.0000	87.9533

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3.4 Above Grade Construction - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8500e-003	0.0619	9.2000e-003	2.0000e-004	4.4900e-003	1.9000e-004	4.6800e-003	1.2300e-003	1.8000e-004	1.4100e-003	0.0000	19.4928	19.4928	1.6600e-003	0.0000	19.5344
Worker	0.0104	7.0900e-003	0.0709	2.5000e-004	0.0291	1.6000e-004	0.0293	7.7400e-003	1.5000e-004	7.8800e-003	0.0000	22.9377	22.9377	4.8000e-004	0.0000	22.9496
Total	0.0123	0.0690	0.0801	4.5000e-004	0.0336	3.5000e-004	0.0340	8.9700e-003	3.3000e-004	9.2900e-003	0.0000	42.4305	42.4305	2.1400e-003	0.0000	42.4840

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0549	0.5567	0.4078	9.6000e-004		0.0235	0.0235		0.0217	0.0217	0.0000	87.3994	87.3994	0.0222	0.0000	87.9532
Total	0.0549	0.5567	0.4078	9.6000e-004		0.0235	0.0235		0.0217	0.0217	0.0000	87.3994	87.3994	0.0222	0.0000	87.9532

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3.4 Above Grade Construction - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8500e-003	0.0619	9.2000e-003	2.0000e-004	4.4900e-003	1.9000e-004	4.6800e-003	1.2300e-003	1.8000e-004	1.4100e-003	0.0000	19.4928	19.4928	1.6600e-003	0.0000	19.5344
Worker	0.0104	7.0900e-003	0.0709	2.5000e-004	0.0291	1.6000e-004	0.0293	7.7400e-003	1.5000e-004	7.8800e-003	0.0000	22.9377	22.9377	4.8000e-004	0.0000	22.9496
Total	0.0123	0.0690	0.0801	4.5000e-004	0.0336	3.5000e-004	0.0340	8.9700e-003	3.3000e-004	9.2900e-003	0.0000	42.4305	42.4305	2.1400e-003	0.0000	42.4840

3.4 Above Grade Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0972	0.9543	0.7377	1.7700e-003		0.0401	0.0401		0.0371	0.0371	0.0000	161.4798	161.4798	0.0409	0.0000	162.5013
Total	0.0972	0.9543	0.7377	1.7700e-003		0.0401	0.0401		0.0371	0.0371	0.0000	161.4798	161.4798	0.0409	0.0000	162.5013

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3.4 Above Grade Construction - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0774	0.0141	3.7000e-004	8.2900e-003	1.3000e-004	8.4300e-003	2.2800e-003	1.3000e-004	2.4100e-003	0.0000	34.8171	34.8171	2.0800e-003	0.0000	34.8692
Worker	0.0180	0.0117	0.1200	4.5000e-004	0.0538	2.8000e-004	0.0541	0.0143	2.6000e-004	0.0146	0.0000	40.7877	40.7877	7.9000e-004	0.0000	40.8074
Total	0.0203	0.0891	0.1340	8.2000e-004	0.0621	4.1000e-004	0.0625	0.0166	3.9000e-004	0.0170	0.0000	75.6048	75.6048	2.8700e-003	0.0000	75.6766

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0951	0.9337	0.7435	1.7700e-003		0.0390	0.0390		0.0361	0.0361	0.0000	161.4796	161.4796	0.0409	0.0000	162.5011
Total	0.0951	0.9337	0.7435	1.7700e-003		0.0390	0.0390		0.0361	0.0361	0.0000	161.4796	161.4796	0.0409	0.0000	162.5011

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3.4 Above Grade Construction - 2023**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0774	0.0141	3.7000e-004	8.2900e-003	1.3000e-004	8.4300e-003	2.2800e-003	1.3000e-004	2.4100e-003	0.0000	34.8171	34.8171	2.0800e-003	0.0000	34.8692
Worker	0.0180	0.0117	0.1200	4.5000e-004	0.0538	2.8000e-004	0.0541	0.0143	2.6000e-004	0.0146	0.0000	40.7877	40.7877	7.9000e-004	0.0000	40.8074
Total	0.0203	0.0891	0.1340	8.2000e-004	0.0621	4.1000e-004	0.0625	0.0166	3.9000e-004	0.0170	0.0000	75.6048	75.6048	2.8700e-003	0.0000	75.6766

3.5 Commissioning and Testing - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4700e-003	0.0839	0.1177	1.8000e-004		3.4900e-003	3.4900e-003		3.2100e-003	3.2100e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697
Total	8.4700e-003	0.0839	0.1177	1.8000e-004		3.4900e-003	3.4900e-003		3.2100e-003	3.2100e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697

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3.5 Commissioning and Testing - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2600e-003	0.0419	7.6200e-003	2.0000e-004	4.4900e-003	7.0000e-005	4.5600e-003	1.2300e-003	7.0000e-005	1.3000e-003	0.0000	18.8443	18.8443	1.1300e-003	0.0000	18.8725
Worker	3.2500e-003	2.1200e-003	0.0216	8.0000e-005	9.7100e-003	5.0000e-005	9.7600e-003	2.5800e-003	5.0000e-005	2.6300e-003	0.0000	7.3586	7.3586	1.4000e-004	0.0000	7.3622
Total	4.5100e-003	0.0440	0.0293	2.8000e-004	0.0142	1.2000e-004	0.0143	3.8100e-003	1.2000e-004	3.9300e-003	0.0000	26.2029	26.2029	1.2700e-003	0.0000	26.2347

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.3700e-003	0.0728	0.1208	1.8000e-004		2.8700e-003	2.8700e-003		2.6500e-003	2.6500e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697
Total	7.3700e-003	0.0728	0.1208	1.8000e-004		2.8700e-003	2.8700e-003		2.6500e-003	2.6500e-003	0.0000	16.2384	16.2384	5.2500e-003	0.0000	16.3697

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3.5 Commissioning and Testing - 2023**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2600e-003	0.0419	7.6200e-003	2.0000e-004	4.4900e-003	7.0000e-005	4.5600e-003	1.2300e-003	7.0000e-005	1.3000e-003	0.0000	18.8443	18.8443	1.1300e-003	0.0000	18.8725
Worker	3.2500e-003	2.1200e-003	0.0216	8.0000e-005	9.7100e-003	5.0000e-005	9.7600e-003	2.5800e-003	5.0000e-005	2.6300e-003	0.0000	7.3586	7.3586	1.4000e-004	0.0000	7.3622
Total	4.5100e-003	0.0440	0.0293	2.8000e-004	0.0142	1.2000e-004	0.0143	3.8100e-003	1.2000e-004	3.9300e-003	0.0000	26.2029	26.2029	1.2700e-003	0.0000	26.2347

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956
Unmitigated	8.0000e-004	9.0600e-003	7.6900e-003	4.0000e-005	2.6300e-003	2.0000e-005	2.6600e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	4.1871	4.1871	3.4000e-004	0.0000	4.1956

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	4.00	0.00	0.00	6,864	6,864
Total	4.00	0.00	0.00	6,864	6,864

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.496766	0.030510	0.170483	0.111467	0.014688	0.004287	0.033704	0.127678	0.002360	0.001460	0.004966	0.001070	0.000562

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	105120	15.9786	7.2000e-004	1.4000e-004	16.0391
Total		15.9786	7.2000e-004	1.4000e-004	16.0391

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	105120	15.9786	7.2000e-004	1.4000e-004	16.0391
Total		15.9786	7.2000e-004	1.4000e-004	16.0391

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0368	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

Gates 500 kV Dynamic Reactive Support Project (Operational 2023) - Fresno County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix 4.9-A - Phase I Environmental Site Assessment

Report

PHASE I ENVIRONMENTAL SITE ASSESSMENT Gates North APN 075-060-45SU, APN 075-060-18SU and APN 075-060-67S Huron, California

Submitted to:

LS Power Grid California, LLC
5000 Hopyard Road, Suite 480
Pleasanton, California 94588

Prepared by:

Mathis and Associates, Inc.
3655 South Hibiscus Way
Denver, Colorado 80237



Nick Mathis
Certified Professional Geologist
CPG No. 10023

March 2020

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FIGURES

Figure 1 Site Vicinity Map
Figure 2 Aerial Photograph

APPENDICES

Records of Communication
Title Commitment
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EXECUTIVE SUMMARY - SUMMARY OF FINDINGS

Mathis and Associates, Inc. has been retained by LS Power Grid California, LLC (Client) to conduct a Phase I Environmental Site Assessment (ESA), in conformance with ASTM Practice E 1527-13 Standard Practice for Environmental Site Assessments, of portions of parcel APN 075-060-18SU, portions of parcel APN 075-060-45SU and portions of parcel APN 075-060-67S, located in Huron, California. Parcel APN 075-060-67S is currently owned by the Joel Coelho Trust and parcels APN 077-060-18SU and APN 075-060-45SU are owned by PG&E. The site is located in portions of Section 33, Township 20 South, Range 17 East, Mount Diablo Base and Meridian (Figure 1). The objective of this assessment is to determine the presence or absence of recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs) and historical recognized environmental conditions (HRECs), as defined in ASTM 1527-13.

The purpose of this Phase I ESA is to characterize the site and surrounding area and to identify the potential for chemical/pollution related liabilities associated with current and/or previous uses of the subject property and adjacent properties. Several research methods have been utilized in this assessment, including regulatory file searches, historic use research, interviews, and on-site observations. This ESA has been conducted, to the extent feasible, under the guidance of Standard Practice E 1527-13 of ASTM International (ASTM). Practice E 1527-13 defines the extent and limit of “appropriate inquiry” as defined in 42 U.S.C. §9601(35) (B) for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability and defense provisions. The ESA is intended to identify *RECs*, *CRECs* and *HRECs* (ASTM, 2013) and establish support for the “innocent landowner defense” under CERCLA.

This Phase I Environmental Site Assessment is intended only to provide a general indication of the potential for environmental liabilities associated with the subject property (also referred to in this report as “the site”). It is based only on the observations made at the subject property on March 12, 2020, interviews with knowledgeable parties, and data obtained from federal, state, and local agencies. This report is not to be considered a statement of clearance.

As per ASTM E 1527-13, the following “nonscope considerations” were not included in this evaluation: biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment, industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, and wetlands. Since ASTM E 1527-13 does not require that these inspections be conducted, said inspections were not performed as part of this Phase I ESA.

Special Terms and Conditions

No special terms or conditions have been associated with the investigation described in this report.

User Reliance

As the so-called “user” of the site, LS Power Grid California, LLC is obligated to provide information relating to environmental conditions on the property involved in the current transaction. A preliminary title commitment was provided for the Joel Coelho Trust parcel and is included in the appendices section of this report. No title information was provided for the PG&E parcels.

Data Gaps

No information was available prior to 1937 at which time the site was native, unimproved land. In addition, a title commitment was not available and a Phase 1 questionnaire was not completed for the PG&E parcels.

Findings and Opinions

Mathis and Associate, Inc. did not identify activities at the site or at neighboring properties (potential offsite sources) that would indicate a significant potential for RECs, based on the information contained in the databases reviewed, the research conducted and/or the site reconnaissance completed.

Conclusions

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 of the Gates North property located in Huron, California. Any exceptions to, or deletions from, this practice are described in Section 1.0 and the Limitations section of this report. This assessment has revealed no evidence of RECs, CRECs, or HRECs.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Phase I ESA is to characterize the site and surrounding area and to identify the potential for chemical/pollution related liabilities associated with current and/or previous uses of the subject property and adjacent properties. Several research methods have been utilized in this assessment, including regulatory file searches, historic use research, interviews, and on-site observations. This ESA has been conducted, to the extent feasible, under the guidance of Standard Practice E 1527-13 of ASTM International (ASTM). Practice E 1527-13 defines the extent and limit of "appropriate inquiry" as defined in 42 U.S.C. §9601(35) (B) for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability and defense provisions. The ESA is intended to identify *RECs*, *CRECs*, and *HRECs* (ASTM, 2013) and establish support for the "innocent landowner defense" under CERCLA.

1.2 Involved Parties

LS Power Grid California, LLC has retained Mathis and Associates, Inc. to conduct a Phase I ESA of portions of parcels APN 075-060-18SU, APN 075-060-45SU and APN 075-060-67S, located in Huron, California. (Figure 1).

1.3 Scope of Work

This Phase I ESA is intended only to provide a general indication of the potential for environmental liabilities associated with the subject property (also referred to in this report as "the site"). It is based only on the observations made at the subject property on March 12, 2020, interviews with knowledgeable parties, and data obtained from federal, state, and local agencies. This report is not to be considered a statement of clearance.

As per ASTM E 1527-13, the following "nonscope considerations" were not included in this evaluation: biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality, unrelated to releases of hazardous substances or petroleum products into the environment, industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, and wetlands. ASTM E 1527-13 does not require that these inspections be conducted. The credentials of Nick Mathis, the consultant conducting the Phase I ESA, are included within the appendices section.

The following sections of this report present the compilation and analysis of all data collected in March 2020.

2.0 GENERAL SITE CHARACTERISTICS

2.1 Site Ownership and Location

The subject property (also referred to as “the site”) consists of parcel APN 075-060-67S, which is currently owned by the Joel Coelho Trust, and portions of parcels APN 075-060-18SU and APN 075-060-45SU, which are owned by PG&E. The legal description is portions of Section 33, Township 20 South, Range 17 East, Mount Diablo Base and Meridian. A site vicinity map is identified as Figure 1.

2.2 Adjacent Properties

The site is located in a predominantly agricultural area with an existing electrical substation owned by PG&E (Gates substation). The PG&E parcel is surrounded by a solar farm to the west, the Gates substation to the south, a citrus grove to the east, and the Joel Coelho Trust parcel to the north. The Joel Coelho Trust parcel is surrounded by a vineyard to the north and west, agricultural land to the east and the PG&E parcels to the south.

2.3 Site Descriptions and Current Site Uses/Operations

The PG&E parcels consist of approximately 60 acres of land and the Joel Coelho Trust parcel consists of approximately 72 acres of land. The PG&E parcels are currently unimproved with a transmission right-of-way (ROW) through the western, southern and southeastern portions of the parcels. The Joel Coelho Trust parcel is an active vineyard and also has a transmission ROW located in the western and eastern portions of the parcel. According to the Fresno County Tax Assessors Office, the site is zoned AE20, which is Exclusive Agriculture.

2.4 Former Site Uses/Operations

According to Jerry Coelho, the site owner, the Joel Coelho Trust parcel has operated as a vineyard for at least 20 years. The parcel was a vineyard when it was purchased approximately 20 years ago. He is not aware of previous property uses prior to that, but aerial photographs appear to show the site as agricultural dating to at least 1955. Mr. Coelho was personally interviewed in lieu of a Phase 1 site questionnaire. Mr. Coelho was asked about two bird houses that are located on two of the power poles located onsite. He indicated that they were Owl boxes used for controlling the rodent population. PG&E personnel were not available for an interview and did not provide a site questionnaire. Aerial photographs appear to show the PG&E parcels as agricultural dating to at least 1955.

3.0 ENVIRONMENTAL SETTING

3.1 Regional Physiographic Conditions

The site is located in the San Joaquin Valley and is characterized by hot, dry summers and cool rainy winters. The mean average annual precipitation ranges from six to eight inches with the majority of precipitation occurring from December to March.

The subject property is located in the San Joaquin Valley which is in the Pacific Border Province of the Pacific Mountain System. The valley extends from the Sacramento-San Joaquin River Delta in the north to the Tehachapi Mountains in the south, to the coastal ranges on the west and to the Sierra Nevada mountain range to the east. The elevation at the site ranges from 390 feet above mean sea level near the southeastern portion of the site to 410 feet above mean sea level near the northwestern portion of the site. The site slopes gradually to the southeast.

3.2 Soil Conditions

The site is underlain predominantly by the Westhaven loam (NRCS). The Westhaven series consists of very deep, well drained soils located on alluvial fans. These soils formed in alluvium derived predominantly from calcareous sedimentary rock and consists of loams, silty clay loam and loamy sand to silty clay loam. Slopes range from 0 to 2 percent. Surface runoff is low and permeability is moderately slow.

3.3 Geologic Conditions

The San Joaquin Valley is underlain by thousands of feet of sediments derived from the adjacent uplands and deposited in a variety of marine and nonmarine environments. The valley began to separate from the open ocean approximately 150 million years ago, when subduction of Franciscan marine sediments and volcanics beneath the edge of the old ocean shifted it vertically and created a barrier for the movement of sediments. The site is underlain by Pleistocene-Holocene aged unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits.

3.4 Surface Water and Groundwater Characteristics Conditions

Surface water mostly infiltrates with a gradual flow to the southeast. No pronounced culverts or ditches were observed. Depth to groundwater is greater than 90 feet and is influenced greatly by well pumping associated with agricultural activities. A water well is located approximately 250 feet northeast of the Joel Coelho Trust parcel but was not observed on any state databases.

4.0 RESULTS OF INVESTIGATION

4.1 Site Inspection Observation

An inspection of the subject property and surrounding area was conducted on March 12, 2020. The subject property was inspected on foot. Adjacent sites were viewed from the subject property and adjacent roads. Site photographs are included within the appendices section of this report.

The site consists of two adjacent parcels consisting of approximately 60 acres of land, owned by PG&E, and an approximate 72 acre parcel of land known as the Joel Coelho Trust parcel. The parcels are located adjacent to each other and are separated by a dirt road that runs east and west. The PG&E parcels are currently undeveloped with scattered grasses. Stockpiles of dirt and disturbed surface are located along the south-central portions of the parcel and adjacent to the Gates substation. Other stockpiles are located on a dirt road that separates the PG&E parcels from the Joel Coelho Trust parcel. This material appears to be associated with the vineyard. Transmission power poles and lines are located along the western, central, and eastern portions of the parcel. Subsurface fiber optic lines are located along the eastern portion of the PG&E parcels. The Joel Coelho Trust parcel is an active vineyard with some farm equipment present near the southern portion of the parcel. Transmission power lines and associated poles are located in the western and eastern portions of the parcel.

No stressed vegetation, odors, pools of liquid, pits or ponds, or waste water discharge was observed on the subject property or the immediate surroundings.

4.2 Adjacent Site and Vicinity Operations

The surrounding area is predominantly agricultural with the Gates substation bordering the PG&E parcels to the south and a solar farm adjacent to the west of the parcel. A citrus grove borders the PG&E parcels to the east with the Joel Coelho Trust parcel adjacent to the north. A vineyard borders the Joel Coelho parcel to the west and north with agricultural land located adjacent to the east. The Joel Coelho Trust parcel abuts the PG&E parcels, which are located to the south.

4.3 Results of Regulatory Agency List Review and File Research

Several sources of information were utilized to determine the potential for liabilities associated with present or past uses of the subject property and nearby lands. Several sources of information were utilized to determine the potential for liabilities associated with present or past uses of the subject property and nearby lands. These included the U.S. Environmental Protection Agency (EPA), the California Environmental Protection Agency (Cal/EPA), Division of Oil, Gas and Geothermal Resources (DOGGR), and Fresno County records.

Information was collected to assess the past and current uses of the site and focused on compliance or violations of federal, state, and local regulations, the presence of known spills, current generators of hazardous wastes and users of hazardous materials, the presence of known leaking underground and above ground storage tanks, identified National Priority List (“Superfund”) sites, and landfill sites located on or within the vicinity of the subject property. A summary of the database search is included within the appendices section of this report.

The site was not identified within the regulatory database. Three sites were identified on the Fresno County Certified Unified Program Agency (CUPA)/Solid Waste Programs Resource Lists (FSW) database. The Fresno County CUPA is responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The three facilities were listed as the PG&E Gates Substation & Maintenance Headquarters, Century Link Huron-CA03, and PG&E West Gates Solar System. The PG&E Gates Substation is listed as a hazardous waste generator, Auto Repair/Maintenance Model Plan, containing EPCRA Batteries and as having above-ground storage tank (AST) capacity of 10,000 to 99,999 gallons. The remaining two facilities were identified as small hazardous materials handlers.

The adjacent PG&E substation was also identified as containing a 3,000 gallon AST through the AST2007 database, managed by the California State Water Resources Board. This database identified ASTs prior to January 2008.

None of the aforementioned facilities have reported any issues of non-compliance according to the database and do not appear to be of environmental significance to the site. .

The website for the DOGGR was reviewed for information relating to oil and gas wells. No oil or gas wells or dry holes were identified on the site or on adjacent sites.

The California Department of Water Resources website (<https://gis.water.ca.gov/app/gicima/>) was reviewed for information for water wells located on the site or in the site vicinity. No water wells were identified on the site. The nearest water well was located nearly 1/2 mile to the west and indicated the depth to groundwater of approximately 92 feet. A water well is located approximately 250 feet to the northwest of the Joel Coelho Trust parcel but was not identified on this database.

4.4 Results of Site History/Land Use Review

Aerial photographs and Fresno County Tax Assessor records were reviewed as part of the Phase 1. In addition, personal interviews were conducted for the Phase 1 ESA.

Personal Interviews

The Fresno County Tax Assessor’s Office (559-600-5534) was contacted for information concerning past uses of the site. This information is presented in the Records of Communication Appendix of this report.

Jerry Coelho, owner of the Joel Coelho Trust parcel, was interviewed as part of this Phase 1 ESA in lieu of a Phase 1 ESA questionnaire. This information is presented in the Records of Communication Appendix of this report. A questionnaire and interview were not available for the PG&E parcels.

Aerial Photographs

Aerial photographs were provided by Geosearch and included photographs from 1937 through 2018.

The 1937 and 1942 aerial photographs show both parcels as native land. A small 2-track road appears to cross through the central and southeastern portions of the site. A small disturbed area was observed near the southwestern portions of the PG&E parcels, with two unidentifiable objects. The adjacent Gates substation was not present. The surrounding area was predominantly native, undeveloped land.

The 1955 aerial photograph shows both parcels with some agricultural development. A portion of the Gates substation had been developed. Transmission lines and power poles were present through the central, eastern and northwestern portions of the site. What appears to be an aqueduct, with a small retention pond, was located on the eastern portion of the Joel Coelho Trust parcel. The surrounding area was predominantly agricultural.

The 1965 aerial photograph shows both parcels with agricultural development and electric transmission lines located on both parcels. The apparent aqueduct was not present on the Joel Coelho Trust parcel. The Gates substation had not developed any further. The surrounding area was agricultural.

The 1971 aerial photograph shows both parcels with agricultural development. The Gates substation had developed further, adjacent to the south and southwest of the PG&E parcels. The surrounding area was agricultural.

The 1974 through 1994 aerial photographs showed little change on the parcels or in the site vicinity.

The 2004 through 2010 aerial photographs show continued agricultural activities on most areas of the site. The southern portions of the PG&E parcels are disturbed and appear to be a part of the larger Gates substation.

The 2012 aerial photograph shows the site with agricultural activities.

The 2014 through 2018 aerial photographs show the Joel Coelho Trust parcel as agricultural. No obvious agricultural activities are present on the PG&E parcels. A copy of a 2018 aerial photograph is included as Figure 2. Historical aerial photographs are included within the appendices section of this report.

Tax Record Reviews

The Fresno County Tax Assessor's Office (559-600-5534) was contacted for information concerning past uses of the site. Janet (last name not provided) indicated that the Joel Coelho Trust parcel is located within an agricultural preserve as part of The Williamson Act, which enables local governments to enter into contracts with private landowners for the purpose of restricting parcels of land to agricultural or related open space use. The Joel Coelho Trust parcel has been listed in the restriction since the early 1900s. The PG&E parcels are not listed with the agricultural restriction. Portions of these parcels include the Gates substation. According to Janet, no additional information is available to the public and would require the current owners to provide this information.

Preliminary Title Commitment

A preliminary title commitment was provided for the Joel Coelho Trust parcel. No title commitment was provided for the PG&E parcels. No environmental liens or activity and use restrictions (other than Land Conservation Contract), were identified within the title document.

City Directories

City directories are not available for the site.

Sanborn Fire Insurance Maps

Sanborn Fire Insurance maps are not available for the site.

Synopsis of Previous Investigations

No previous environmental investigations are known to exist for the site.

Vapor Intrusion

No vapor intrusion would be anticipated at the site due to the lack of an underground hazardous or petroleum hydrocarbon source.

Asbestos

No potential asbestos containing materials (ACM) were identified on the site.

4.5 THE OBJECTIVE OF THE FINDINGS

Phase I Environmental Site Assessment process is to identify *RECs*, *CRECs*, and *HRECs*. The term indicates the presence or likely presence of hazardous substances [as defined by as defined

in 42 U.S.C. §9601(35) (B)] or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with existing laws. However, the term is not intended to include *de minimis* conditions that generally do not present a material risk to of harm to the public health or the environment and that generally would not be the subject of an enforcement action (ASTM, 2013).

4.6 DATA GAPS

The following data gaps were identified:

- No historical records were available prior to 1937, at which time the site consisted of native land. No interview, questionnaire or title document was provided by PG&E, the owner of parcels APN 075-060-18SU and APN 075-060-45SU.

5.0 CONCLUSIONS

We have performed a Phase I ESA, in conformance with the scope and limitations of ASTM Standard Practice E 1527-13, of the property located in portions of Section 33, Township 20 South, Range 17 East, Mount Diablo Base and Meridian. The site is identified as portions of parcel APN 075-060-18SU, portions of parcel APN 075-060-45SU and portions of parcel APN 075-060-67S, located in Huron, California. APN 075-060-67S is currently owned by the Joel Coelho Trust and parcels APN 075-060-18SU and APN 075-060-45SU are owned by PG&E. Exceptions to or deletions from this practice are described in the introduction of this report. This assessment has revealed no evidence of RECs, HRECs, or CRECs.

It is the opinion of Mathis and Associates, Inc. that the observed environmental conditions associated with operations at the subject property do not have potential environmental impacts. Observations made during the site visit, interviews with the current owner and/or occupants, and a thorough review of various governmental and private records have revealed no known or suspected *RECs*, *HRECs*, or *CRECs*. Vapor intrusion would not be expected.

6.0 RECOMMENDATIONS

No *RECs*, *HRECs*, or *CRECs* were observed at the site. No additional site activities are recommended.

7.0 LIMITATIONS

This report is considered a Phase I ESA performed under the ASTM standard of 2013. No known deviations from this standard occurred.

Because no sampling has been conducted on-site, the results of this assessment are speculative and neither confirms nor precludes the presence of environmental liabilities.

8.0 REFERENCES

8.1 Published References

California Department of Conservation. Geologic Map of California.
<https://maps.conservation.ca.gov/cgs/gmc/>

California Department of Conservation. Wellfinder.
<https://www.conservation.ca.gov/calgem/Pages/Wellfinder.aspx/>

Department of Water Resources, State of California. <https://gis.water.ca.gov/app/gicima>

Fresno County Assessors Website, <https://www.co.fresno.ca.us/departments/assessor>

Geosearch, Radius Report and Historical Aerial Photographs.

Groundwater in the Central Valley, California, A Summary Report. USGS GILBERT L. BERTOLDI, RICHARD H. JOHNSTON, and K.D. EVENSON. 1991.

United States Department of Agriculture (USDA), Web Soil Survey (WSS), websoilsurvey.sc.egov.usda.gov

8.2 Record of Personal Communication

Jerry Coelho, Owner of the Joel Coelho Trust, personal interview. (559-696-8203)

Janice, Fresno County Tax Assessors Office, personal interview, March 13, 2020. (559-600-3534).

8.3 Map, Aerial and Other Geographic References

California Department of Conservation. California Geological Survey. Geologic Map of California. 2010.

Google Earth, Aerial Photograph. 2018.

USGS, 7.5 Minute Topographic Quadrangle, Gujarral Hills, CA. 2016.

9.0 CONSULTANT CREDENTIALS

QUALIFICATIONS AND SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

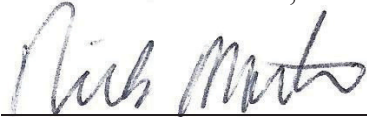
Nick Mathis, Project Manager, conducted the site inspection and research to prepare this Phase I ESA. Resumes are available upon request.

To the best of Mathis and Associates, Inc.'s professional knowledge and belief, Mathis and Associates, Inc. meets the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312 and also meets the specific qualifications based upon education, training, and experience to assess a property as to its nature, history, and setting. Mathis and Associates, Inc. developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

This report has been prepared using information available through government agencies and private contacts at the time of the investigation. Should Mathis and Associates, Inc. receive additional information which may alter the characteristics enumerated within this report, Mathis and Associates, Inc. reserves the right to revise this report or issue an addendum statement.

This report has been prepared and is respectfully submitted by

Mathis and Associates, Inc.



Nick Mathis
Project Manager

March 27, 2020

Date

EXPERTISE & SKILLS SUMMARY:

Over 25 years of project development and environmental consulting experience throughout the western United States. Broad knowledge of site assessments, due diligence reviews and permitting. Self-motivated and capable in developing and directing all aspects of landowner relations, scheduling, and supervision of external contractors to achieve positive results. Able to work independently and autonomously.

EXPERIENCE:

Mathis and Associates, Inc.

2004 to present

Principal

Providing consulting services for energy clients including LS Power, NRG Energy, Invenergy, Consolidated Edison, Wind Energy Transmission of Texas, PG&E, EOG, Anadarko Petroleum, Western Gas Resources, and others.

Responsibilities include:

- Providing due diligence reviews, landowner relations and negotiations for site access/surface use agreements.
- Conducting solar energy project due diligence and environmental studies in Arizona, Nevada, Utah and California.
- Permitting, including providing environmental studies (EA and EIS development), compliance, and regulatory communications for energy projects.
- Projects have been conducted on private lands and lands managed by the Arizona State Land Department, Bureau of Land Management (BLM) and other agencies.

O&G Environmental, LLC –Denver, CO.

2001 to 2004

Project Manager

Responsibilities included:

- Oversight for environmental field activities, business development, client regulatory compliance and budget management.
- Conducted Phase 1 and Phase 2 site assessments at commercial, retail, and energy facilities.
- Provided environmental studies of proposed energy developments for NEPA assessments.

Greystone, Inc. – Denver, CO

1994 to 2001

Project Manager

Responsibilities included:

- Provided environmental consulting services to mining, energy, commercial, government and oil and gas clients on state, fee and federal lands.
- Conducted due diligence assessments for natural gas and hydroelectric electrical generation facilities.
- Managed the State of Colorado LUST Trust Program conducting site assessments and site characterization activities at LUST facilities.

NICK MATHIS, CPG, MBA

Phone: (303) 913-0098

Email: NICKMATHIS2112@MSN.COM

ATEC Associates, Inc. – Dallas, TX. and Denver, CO
Assistant Project Manager/Environmental Scientist

1992 to 1994

Responsibilities included:

- Conducting field activities and report preparation for various environmental projects.
- Site Assessment, Site Characterization and Corrective Action Plan report development and preparation.

EDUCATION:

MBA – Awarded in 1988

Sul Ross State University

Alpine, Texas

B.S. *Geology* – Awarded in 1987

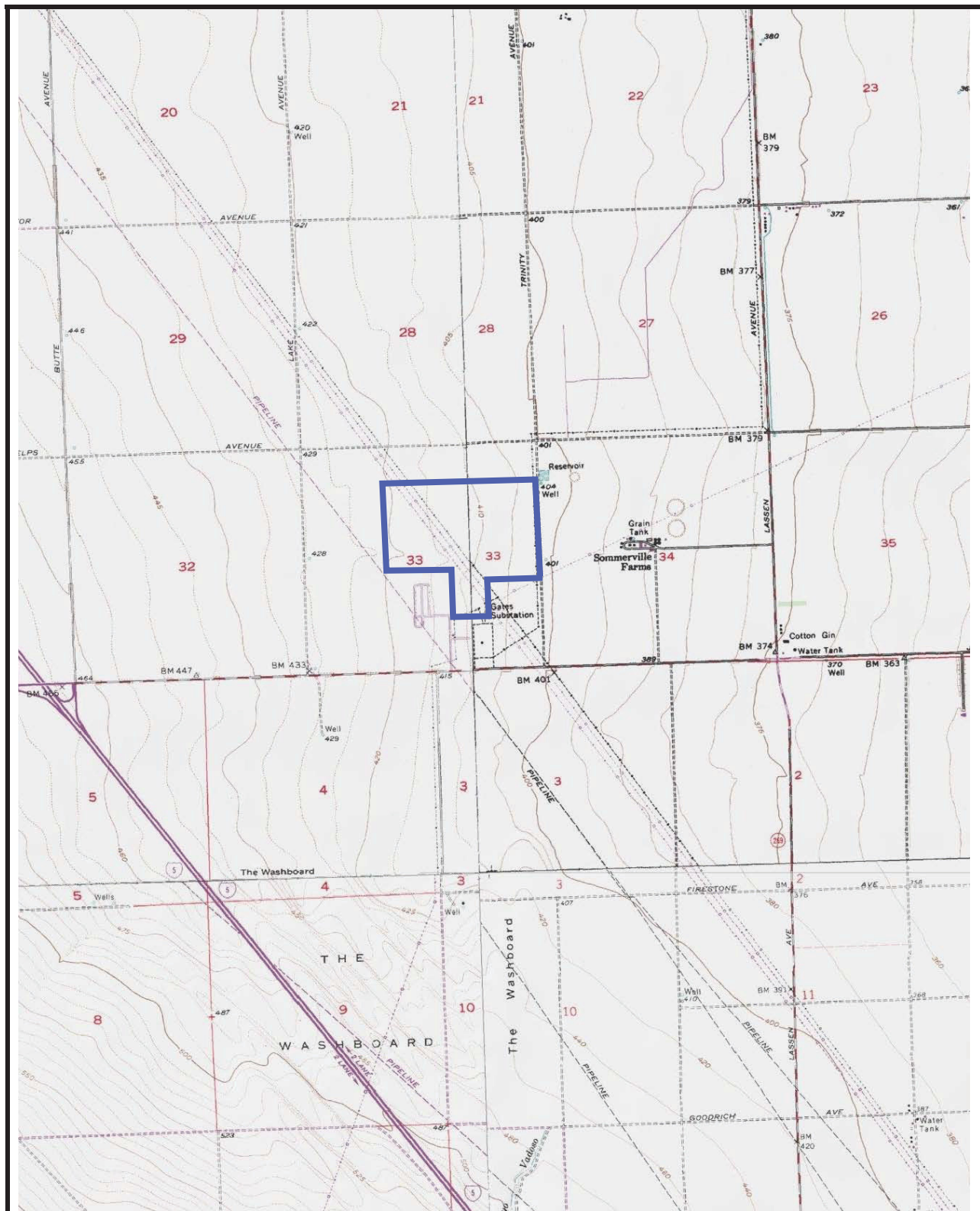
Sul Ross State University

Alpine, Texas

Certifications/Affiliations:

- OSHA 40-hour Hazardous Waste Site Health & Safety (29 CFR 1910.120)
- Certified Professional Geologist – AIPG, CPG # 10023

FIGURES



**Phase I ESA
Gates North
Huron, California**

**Figure 1
Site Vicinity Map**



Mathis and Associates, Inc.



**Phase I ESA
Gates North
Huron, California**

**Figure 2
2018 Aerial Photograph**



Mathis and Associates, Inc.

RECORDS OF COMMUNICATION

RECORD OF CONVERSATION

DATE OF CALL: 03/13/20 TIME OF CALL: 5:37 PM DURATION: 15 minutes

CALL/CALLER: Nick Mathis

PHONE NUMBER: 559-696-8203

PROJECT NAME/NUMBER: Gates North

SUBJECT OF CALL:

Mr. Coelho was interviewed for information on past uses of the site. Mr. Coelho is the owner of the site. He indicated that he purchased the property approximately 20 years ago and that it operated as a vineyard at that time. They change the variety of grape but continued to operate as a vineyard since that time. He indicated that they use pesticides and herbicides that are approved through Fresno County. He is not aware of any issues of environmental concern.

RECORD OF CONVERSATION

DATE OF CALL: 03/23/2020 TIME OF CALL: 1:30 PM DURATION: 10 minutes

CALL/CALLER: Nick Mathis

PHONE NUMBER: 559-600-3534

PROJECT NAME/NUMBER: Gates North

SUBJECT OF CALL:

Janet, Fresno County Tax Assessor's Office was contacted for information on available past use information for the site. Janet indicated that the Joel Coelho Trust parcel is located within an agricultural preserve as part of The Williamson Act, which enables local governments to enter into contracts with private landowners for the purpose of restricting parcels of land to agricultural or related open space use. The Joel Coelho Trust parcel has been listed in the restriction since the early 1900s. The PG&E parcels are not listed with the agricultural restriction. Portions of these parcels include the Gates substation. According to Janet, no additional information is available to the public and would require the current owners to provide this information.

TITLE COMMITMENT



Frank Green

Stewart Title Guaranty Company
Commercial Services (San Diego)
7676 Hazard Center Drive, Ste 1400
San Diego, CA 92108
(619) 398-8035 Phone
(619) 615-2389 Fax
fgreen@stewart.com

PRELIMINARY REPORT

Order No. : 19000480317
Title Unit No. : 48
Your File No. :
Buyer/Borrower Name :
Seller Name : Joel Coehlo Trust

Property Address: APN 075-060-67S, Fresno, CA

In response to the above referenced application for a Policy of Title Insurance, Stewart Title Guaranty Company Commercial Services (San Diego) hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of March 11, 2019 at 7:30 a.m.

Frank Green, Title Officer

When replying, please contact: Frank Green, Title Officer

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

- ☐ CLTA Standard Coverage Policy
- ☐ CLTA/ALTA Homeowners Policy
- ☐ 2006 ALTA Owner's Policy
- ☒ 2006 ALTA Loan Policy
- ☐ ALTA Short Form Residential Loan Policy
- ☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Jo Coelho, Sr., Trustee for the John Anthony Coelho, Jr. Trust; Joe Coelho, Sr., Trustee for the Mark Justin Coelho Trust; Joe Coelho, Sr., Trustee for the Marlena Marie Coelho Trust, as tenants in common, whose respective interests are not disclosed.

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of Fresno Unincorporated and described as follows:

That portion of Section 33, Township 20 South, Range 17 East, Mount Diablo Base and Meridian, according to the Official Plat thereof, being more particularly described as follows:

Beginning at a point on the East line of said Section 33, which lies North 00° 12' 32" East, a distance of 2800.00 feet from the Southeast corner of said Section 33, said point being the Northeast corner of that certain parcel described in Quitclaim Deed recorded in [Book 5842, Page 47](#) of Official Records, Fresno County Records; thence North 89° 34' 52" West, along the North line of said Parcel, a distance of 4056.35 feet; thence North 00° 32' 04" East, a distance of 2471.48 feet to a point on the North line of said Section 33, thence South 89° 37' 26" East, along said North line, a distance of 4042.30 feet to the Northeast corner of said Section 33; thence South 00° 12' 32" West, along the East line of said Section 33, a distance of 2474.51 feet to the point of beginning.

EXCEPTING THEREFROM all of the minerals and mineral ores of every kind and character now known to exist or hereafter discovered upon, within or underlying the hereinabove described property or that may be produced therefrom, including, without limited the generality of the foregoing, all oil, natural gas and hydrocarbon substances, geothermal steam, brines and minerals in solution, and sand, gravel and aggregates, and products derived therefrom, as granted to Bravo Oil Company in Deeds recorded December 29, 1965, as Document No. 104215 in [Book 5257 Page 19](#), Official Records.

APN: [075-060-67](#)

APN: 075-060-67S

(End of Legal Description)

THE MAP ATTACHED THROUGH THE HYPERLINK ABOVE IS BEING PROVIDED AS A COURTESY AND FOR INFORMATION PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. THERE WILL BE NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO ANY MATTERS CONCERNING THE CONTENTS OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

- A. General and Special City and/or County taxes, including any personal property taxes and any assessments collected with taxes, for the fiscal year 2018 - 2019:
1st Installment: \$6,145.14 Paid
2nd Installment: \$6,145.14 Paid
Parcel No.: 075-060-67
Code Area: 077-002
- B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the revenue and taxation code of the State of California.
- C. Assessments, if any, for Community Facility Districts affecting said land which may exist by virtue of assessment maps or notices filed by said districts. Said assessments are collected with the County Taxes.
- D. Said land lies within the boundaries of the Improvement District shown below and is subject to any and all assessments levied thereunder.

Name of District: Westlands Water District

- E. Said land lies within the boundaries of the Improvement District shown below and is subject to any and all assessments levied thereunder.

Name of District: Westlands Water District Distribution District No. 1

Exceptions:

- 1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.
- 2. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.
- 3. Rights of way of lawful width for any and all County Roads heretofore lawfully established and now in public use upon and across any of said lands, as reserved in the Deed from Southern Pacific Railroad Company to Southern Pacific Land Company, a corporation, dated 6, 1912, recorded March 22, 1912, in [Book 492, Page 413](#) of Deeds and subsequent Deeds of Record.
- 4. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas & Electric Company as set forth in a document recorded October 3, 1929, as Instrument No. 26774, in [Book 1018, Page 233](#), of Official Records, affects said land.
- 5. An easement for four pipe lines, each pipe line not to exceed 8 inches in diameter and a telephone line on a single line of poles and rights incidental thereto in favor of Superior Oil Company as set forth in a document recorded March 17, 1936 as Instrument No. 7217, in [Book 1477, Page 438](#), of Official Records, affects said land.

6. An easement for a pipe line 4 inches in diameter and rights incidental thereto in favor of The Superior Oil Company as set forth in a document recorded March 13, 1939, as Instrument No. 8683, in [Book 1741, Page 339](#), of Official Records, affects said land.
7. An easement for pipe lines and the appurtenances thereof and rights incidental thereto in favor of Standard Oil Company of California as set forth in a document recorded August 14, 1946 as Instrument No. 56573, in [Book 2425, Page 27](#), of Official Records, affects said land.
8. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas & Electric Company as set forth in a document recorded August 11, 1947 as Instrument No. 42090, in [Book 2549, Page 467](#), of Official Records, affects said land.
9. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas & Electric Company as set forth in a document recorded September 14, 1949 as Instrument No. 43496, in [Book 2766, Page 53](#), of Official Records, affects said land.
10. Terms, covenants, conditions and provisions contained in the Deed from Southern Pacific Land Company, a corporation, of the State of California, and Bravo Oil Company, a corporation of the State of Texas, dated December 27, 1965, recorded December 29, 1965, in [Book 5257 Page 19](#) of Official Records, Document No. 104215 which document, among other things, provides for the exclusive and perpetual right of said Grantee, its successors and assigns, of ingress and egress in, upon or over said property to explore and prospect for, extract, develop, save, convey, store, refine, process and remove the same and to make such use of said property and the surface thereof as is necessary or useful in connection therewith, which use may include the sinking, boring, digging or drilling of wells, shafts or tunnels, excavating, open pit mining and constructing, maintaining and removing roads, ways, pipe lines, pole lines, tanks, buildings, structures and facilities.

Reference is made to said document for full particulars.

11. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas & Electric Company as set forth in a document recorded May 18, 1966 as Instrument No. 38363, in [Book 5315, Page 115](#), of Official Records, affects said land.
12. Any discrepancies in boundary or area or any rights which may arise or exist which are disclosed by a Map of Survey on said property, recorded January 15, 1970, in [Book 25, Page 13](#) of Record of Surveys.
13. Covenants and restrictions imposed by a Land Conservation Contract executed pursuant to Section 51200 et. seq. California Government Code, recorded February 26, 1970 as Instrument No. 14222, in [Book 5765, Page 736](#), of Official Records.

Affects : The herein described land and other land.

14. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas & Electric Company as set forth in a document recorded July 2, 1970 as [Instrument No. 45114](#), in Book 5798, Page 911, of Official Records, affects said land.
15. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas & Electric Company as set forth in a document recorded November 24, 1970 as Instrument No. 82059, in [Book 5938, Page 592](#), of Official Records, affects said land.
16. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas and Electric Company as set forth in a document recorded September 6, 1972 as Instrument No. 19992, in [Book 6066, Page 276](#), of Official Records, affects said land.

An easement Modification recorded January 10, 1989 [as Instrument No. 89002737](#), of Official Records.

Reference is made to said document for full particulars.

17. An easement for water pipelines and rights incidental thereto in favor of Westlands Water District as set forth in a document recorded March 15, 1977 as [Instrument No. 25359](#), in Book 6757, Page 1119, of Official Records, affects said land.
18. Any discrepancies in boundary or area or any rights which may arise or exist, which are disclosed by a Map of Survey on said property, recorded in [Book 33, Page 45](#) of Record of Surveys.
19. Any discrepancies in boundary or area or any rights which may arise or exist, which are disclosed by a Map of Survey on said property, recorded in [Book 37, Page 11](#) of Record of Surveys.
20. Matters contained in that certain document Dated: December 1, 1991, Executed by: SP Pacific Properties, Inc., a Delaware Corporation, Entitled: Grant Deed, Recorded: December 17, 1991, as [Document No. 91154788](#), Official Records; Rerecorded September 28, 1994 as Document No. [94151531](#), Official Records.

Among other things, said document provides:

This covenant is to satisfy the requirements in Chapter 209(f) (2) of Pub. L. 97-293. This covenant expires 10 years from date of recordation hereof. Until the expiration date specified herein, sale price approval is required on this land. Sale by the landowner and his or her assigns of these lands for any value that exceeds the sum of the value of newly added improvements plus the value of the land as increased by the market

appreciation unrelated to the delivery of irrigation water will result in the ineligibility of this land to receive Federal project water.

Reference is made to said document for full particulars.

21. The matters contained in an instrument entitled "Wine Grape Purchasing Contract" dated February 8, 1996, by and between Terra Linda Farms and E & J Gallo Winery upon the terms therein provided recorded July 10, 1996 as [Instrument No. 96088647](#), of Official Records.

Reference is made to said document for full particulars.

An assignment of said contract was assigned to Metropolitan Life Insurance company by assignment recorded September 5, 2003 as [Instrument No. 20030211672](#), of Official Records

22. The matters contained in an instrument entitled "Wine Grape Purchasing Contract" dated January 31, 1997, by and between Terra Linda Farms and E & J Gallo Winery upon the terms therein provided recorded February 25, 1997 as Instrument No. [97026283](#), of Official Records.

Reference is made to said document for full particulars.

An assignment of said contract was assigned to Metropolitan Life Insurance Company by assignment recorded September 5, 2003 as [Instrument No. 20030211671](#), of Official Records

23. An easement for public utilities easement and rights incidental thereto in favor of Pacific Gas and Electric Company, A California Corporation as set forth in a document recorded May 22, 2015 as [Instrument No. 2015-0063356](#), of Official Records, affects said land.
24. If title is to be insured in the trustee(s) of a trust or their act is to be insured, we will require a full copy of the trust agreement and any amendments thereto. In certain situations the Company may accept a Trust Certificate, pursuant to Section 18100.5 of the California Probate Code in lieu of the trust agreement. The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

25. Matters which may be disclosed by an inspection or by a survey of said land satisfactory to this Company or by inquiry of the parties in possession thereof.
26. Rights or claims of parties in possession and easements or claims of easements not shown by the public records, boundary line disputes overlaps, encroachments, and any matters not of record, which would be disclosed by an accurate survey, and inspection of the land.
27. Rights of parties in possession.

Typist/Rev. H.P. 03-26-19

(End of Exceptions)

NOTES AND REQUIREMENTS

- A. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.
- B. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title Guaranty Company Commercial Services (San Diego) via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title Guaranty Company Commercial Services (San Diego). Stewart Title Guaranty Company Commercial Services (San Diego) may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title Guaranty Company Commercial Services (San Diego) shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title Guaranty Company Commercial Services (San Diego). Such benefits shall be deemed additional compensation to Stewart Title Guaranty Company Commercial Services (San Diego) for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

CERTIFICATION OF TRUST

(California Probate Code 18100.5)

IMPORTANT: THIS CERTIFICATION OF TRUST MUST BE FULLY COMPLETED

I/(We) * _____
(Name of Trustee(s))

as Trustee(s) of the * _____
(Name of Trust)

dated * (the "Trust") am/are providing the information set forth below at the request of Stewart Title Guaranty Company, a Texas corporation (hereafter called "Company").

WHEREAS, Company has been requested to issue a title insurance policy on the real property described in Schedule "A" of the Preliminary Report or Commitment issued under order number 19000480317; and

WHEREAS, Company has determined that information concerning the Trust is necessary to ascertain whether Company will be able to issue the requested policy of title insurance;

THEREFORE, acting in my/our capacity as Trustee(s) of the Trust, I/we hereby certify and confirm to Company that the information set forth below is accurate and correct.

1. The Trust identification number (SSN or employer Tax ID) is: _____

2. The Settlor(s) of the Trust is/are:

3. The currently active Trustee(s) of the Trust is/are:

4. As set out in the Trust, the powers of the Trustee(s) include: (check all that apply)

☐ The power to sell, convey and grant trust property.

☐ The power to hypothecate (borrow money and encumber/lien trust property).

5. As set out in the Trust, are all currently active Trustee(s) required to execute documents when exercising the powers set forth above?

(circle one)

YES

NO

6. As set out in the Trust, the Trust is: (check the appropriate box) ☐ Revocable ☐ Irrevocable

7. If the Trust is revocable, the name(s) of the person(s) identified as having power to revoke the Trust is/are:

8. The Trust and the individual named Settlor(s) do not have any liens or money judgments pending, filed and/or recorded against them.

9. The Trust and/or the individually named Settlor(s) are not aware of any threatened, pending, or filed lawsuits nor have it/they settled any lawsuits within the three (3) calendar years immediately preceding the signing of this Certification.

10. By signing below, the undersigned Trustee(s) affirm that the Trust is in full force and effect and has not been revoked or terminated; in addition, the Trust has not been modified or amended in any manner which would cause the representations set forth herein to be incorrect.

11. Is this Certification of Trust being executed by all currently active Trustees of the Trust? (circle one) YES NO

If "NO," please explain: _____

- PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS IN THIS CERTIFICATION BEFORE SIGNING. THE TRUSTEE(S) HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION IS TRUE AND CORRECT. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS CERTIFICATION, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING. THE TRUSTEE(S) UNDERSTAND THAT COMPANY MAY DECIDE NOT TO PROVIDE THE REQUESTED TITLE INSURANCE DESPITE THE INFORMATION AND AFFIRMATIONS CONTAINED HEREIN.

Trustee Signature	Trustee Signature
-------------------	-------------------

Signature _____ (this area for official notarial seal)



Frank Green

Stewart Title Guaranty Company
Commercial Services (San Diego)
7676 Hazard Center Drive, Ste 1400
San Diego, CA 92108
(619) 398-8035 Phone
(619) 615-2389 Fax
fgreen@stewart.com

Date : March 26, 2019
Escrow Officer : Outside Closer
Escrow No. : 19000480317
Title Order No. : 19000480317
Property Address : APN 075-060-67S, Fresno, CA

BORROWER ACKNOWLEDGEMENT OF RECEIPT, UNDERSTANDING AND APPROVAL OF PRELIMINARY REPORT

The undersigned Borrower(s) hereby acknowledge receipt of a copy of the Preliminary Report issued by Stewart Title Guaranty Company - Commercial Services under Order No. 19000480317, dated March 11, 2019 and hereby approves the legal description of subject property shown on Schedule A of the report.

Borrower(s) herein warrant and confirm that, to Borrower(s) knowledge, all Deeds of Trust (e.g., mortgages, loans and lines of credit), liens, judgments and/or encumbrances affecting Borrower(s) and subject property are reflected in the Preliminary Report. If not, Borrower(s) will provide Escrow Holder with information to facilitate the pay-off and/or removal of any such items before or at the close of escrow.

The undersigned have received a copy of this acknowledgement as evidenced by the signature below.

Borrower(s):

EXHIBIT "A"
LEGAL DESCRIPTION

Order No.: 19000480317
Escrow No.: 19000480317

The land referred to herein is situated in the State of California, County of Fresno, Unincorporated and described as follows:

That portion of Section 33, Township 20 South, Range 17 East, Mount Diablo Base and Meridian, according to the Official Plat thereof, being more particularly described as follows:

Beginning at a point on the East line of said Section 33, which lies North 00° 12' 32" East, a distance of 2800.00 feet from the Southeast corner of said Section 33, said point being the Northeast corner of that certain parcel described in Quitclaim Deed recorded in [Book 5842, Page 47](#) of Official Records, Fresno County Records; thence North 89° 34' 52" West, along the North line of said Parcel, a distance of 4056.35 feet; thence North 00° 32' 04" East, a distance of 2471.48 feet to a point on the North line of said Section 33, thence South 89° 37' 26" East, along said North line, a distance of 4042.30 feet to the Northeast corner of said Section 33; thence South 00° 12' 32" West, along the East line of said Section 33, a distance of 2474.51 feet to the point of beginning.

EXCEPTING THEREFROM all of the minerals and mineral ores of every kind and character now known to exist or hereafter discovered upon, within or underlying the hereinabove described property or that may be produced therefrom, including, without limited the generality of the foregoing, all oil, natural gas and hydrocarbon substances, geothermal steam, brines and minerals in solution, and sand, gravel and aggregates, and products derived therefrom, as granted to Bravo Oil Company in Deeds recorded December 29, 1965, as Document No. 104215 in [Book 5257 Page 19](#), Official Records.

APN: [075-060-67](#)

APN: 075-060-67S

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: March 26, 2019

Escrow No.: 19000480317

Property: APN 075-060-67S, Fresno, CA

From: Stewart Title Guaranty Company - Commercial Services

This is to give you notice that Stewart Title Guaranty Company - Commercial Services ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and Stewart Title of California. Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

<i>Stewart Insurance Settlement Service</i>	<i>Charge or range of charges</i>
Hazard Insurance	\$400.00 to \$6,500.00
Home Warranty	\$255.00 to \$ 780.00
Natural Hazard Disclosure Report	\$ 42.50 to \$ 149.50

**CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990
EXCLUSIONS FROM COVERAGE**

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
(b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
(b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
(a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
(b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
(c) resulting in no loss or damage to the insured claimant;
(d) attaching or created subsequent to Date of Policy; or
(e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
 - a. building;
 - b. zoning;
 - c. land use;
 - d. improvements on the Land;
 - e. land division;
 - f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
 - a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
 - b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
 - c. that result in no loss to You; or
 - d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
 - a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
 - b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A. The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or \$2,500.00 (whichever is less)	\$10,000.00
Covered Risk 18:	1% of Policy Amount or \$5,000.00 (whichever is less)	\$25,000.00
Covered Risk 19:	1% of Policy Amount or \$5,000.00 (whichever is less)	\$25,000.00
Covered Risk 21:	1% of Policy Amount or \$2,500.00 (whichever is less)	\$5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
 - (i) the occupancy, use, or enjoyment of the Land;
 - (ii) the character, dimensions, or location of any improvement erected on the Land;
 - (iii) the subdivision of land; or
 - (iv) environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
(b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
 - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
 - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
 - (c) resulting in no loss or damage to the Insured Claimant;
 - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
 - (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
 - (a) a fraudulent conveyance or fraudulent transfer, or
 - (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
 - (i) the occupancy, use, or enjoyment of the Land;
 - (ii) the character, dimensions, or location of any improvement erected on the Land;
 - (iii) the subdivision of land; or
 - (iv) environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
- (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
 - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
 - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
 - (c) resulting in no loss or damage to the Insured Claimant;
 - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
 - (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
 - (a) a fraudulent conveyance or fraudulent transfer; or
 - (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

STG Privacy Notice

Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes — to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes — to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes — information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. <i>Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company</i>	Yes	No
For our affiliates' everyday business purposes — information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you <ul style="list-style-type: none">request insurance-related servicesprovide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056

REGULATORY DATABASE



On time. On target. In touch.™

Radius Report

[GeoLens by GeoSearch](#)

Target Property:

Gates North

Huron, Fresno County, California 93234

Prepared For:

Mathis & Associates Inc

Order #: 142985

Job #: 342301

Project #: 25901

Date: 03/23/2020

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Disclaimer

This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR § 312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal, state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR § 312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.

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Target Property Summary

Target Property Information

Gates North
Huron, California 93234

Coordinates

Area centroid (-120.12536, 36.1457425)
399 feet above sea level

USGS Quadrangle

Guijaral Hills, CA
Huron, CA

Geographic Coverage Information

County/Parish: Fresno (CA)

ZipCode(s):

Huron CA: 93234

Database Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSCA	0	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR	RCRAGR09	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR	RCRANGR09	0	0	0.1250
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	SEMS	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	SEMSARCH	0	0	0.5000
NATIONAL PRIORITIES LIST	NPL	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	1.0000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	0	0	TP/AP
BIENNIAL REPORTING SYSTEM	BRS	0	0	TP/AP
CERCLIS LIENS	SFLIENS	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	0	0	TP/AP
ENFORCEMENT AND COMPLIANCE HISTORY INFORMATION	ECHOR09	0	0	TP/AP
FACILITY REGISTRY SYSTEM	FRSCA	0	0	TP/AP

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR09	0	0	TP/AP
HAZARDOUS WASTE COMPLIANCE DOCKET FACILITIES	HWCD	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	ICIS	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	ICISNPDES	0	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR09	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	PADS	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR09	0	0	TP/AP
SEMS LIEN ON PROPERTY	SEMSLIENS	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	SSTS	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
TOXICS RELEASE INVENTORY	TRI	0	0	TP/AP
ALTERNATIVE FUELING STATIONS	ALTFUELS	0	0	0.2500
FEMA OWNED STORAGE TANKS	FEMAUST	0	0	0.2500
HISTORICAL GAS STATIONS	HISTPST	0	0	0.2500
INTEGRATED COMPLIANCE INFORMATION SYSTEM DRYCLEANERS	ICISCLEANERS	0	0	0.2500
MINE SAFETY AND HEALTH ADMINISTRATION MASTER INDEX FILE	MSHA	0	0	0.2500
MINERAL RESOURCE DATA SYSTEM	MRDS	0	0	0.2500
OPEN DUMP INVENTORY	ODI	0	0	0.5000
SURFACE MINING CONTROL AND RECLAMATION ACT SITES	SMCRA	0	0	0.5000
URANIUM MILL TAILINGS RADIATION CONTROL ACT SITES	USUMTRCA	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	DOD	0	0	1.0000
FORMER MILITARY NIKE MISSILE SITES	NMS	0	0	1.0000
FORMERLY USED DEFENSE SITES	FUDS	0	0	1.0000
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM	FUSRAP	0	0	1.0000
RECORD OF DECISION SYSTEM	RODS	0	0	1.0000
SUB-TOTAL		0	0	

Database Summary

STATE (CA) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
DTSC DEED RESTRICTIONS	DTSCDR	0	0	TP/AP
ABOVE GROUND STORAGE TANKS	ABST	0	0	0.2500
ABOVEGROUND STORAGE TANKS PRIOR TO JANUARY 2008	AST2007	1	0	0.2500
HISTORICAL UNDERGROUND STORAGE TANKS	HISTUST	0	0	0.2500
STATEWIDE ENVIRONMENTAL EVALUATION AND PLANNING SYSTEM	SWEEPS	0	0	0.2500
UNDERGROUND STORAGE TANKS	USTCUPA	0	0	0.2500
BROWNFIELD SITES	BF	0	0	0.5000
CALSITES DATABASE	CALSITES	0	0	0.5000
GEOTRACKER CLEANUP SITES	CLEANUPSITES	0	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS	LUST	0	0	0.5000
SOLID WASTE INFORMATION SYSTEM SITES	SWIS	0	0	0.5000
VOLUNTARY CLEANUP PROGRAM	VCP	0	0	0.5000
ENVIROSTOR CLEANUP SITES	ENVIROSTOR	0	0	1.0000
ENVIROSTOR PERMITTED AND CORRECTIVE ACTION SITES	ENVIROSTORPCA	0	0	1.0000
SUB-TOTAL		1	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CALIFORNIA HAZARDOUS MATERIAL INCIDENT REPORT SYSTEM	CHMIRS	0	0	TP/AP
CLANDESTINE DRUG LABS	CDL	0	0	TP/AP
EMISSIONS INVENTORY DATA	EMI	0	0	TP/AP
HAZARDOUS WASTE TANNER SUMMARY	HWTS	0	0	TP/AP
LAND DISPOSAL SITES	LDS	0	0	TP/AP
MILITARY CLEANUP SITES	MCS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM FACILITIES	NPDES	0	0	TP/AP
RECORDED ENVIRONMENTAL CLEANUP LIENS	LIENS	0	0	TP/AP
CALIFORNIA MEDICAL WASTE MANAGEMENT PROGRAM FACILITY LIST	MWMP	0	0	0.2500
DTSC REGISTERED HAZARDOUS WASTE TRANSPORTERS	DTSCHWT	0	0	0.2500
DRY CLEANER FACILITIES	CLEANER	0	0	0.2500
MINES LISTING	MINES	0	0	0.2500

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
SPILLS, LEAKS, INVESTIGATION & CLEANUP RECOVERY LISTING	SLIC	0	0	0.2500
CORTESE LIST	CORTESE	0	0	0.5000
EXPEDITED REMOVAL ACTION PROGRAM SITES	ERAP	0	0	0.5000
HISTORICAL CORTESE LIST	HISTCORTESE	0	0	0.5000
LISTING OF CERTIFIED DROPOFF, COLLECTION, AND COMMUNITY SERVICE PROGRAMS	DROP	0	0	0.5000
LISTING OF CERTIFIED PROCESSORS	PROC	0	0	0.5000
NO FURTHER ACTION DETERMINATION	NFA	0	0	0.5000
RECYCLING CENTERS	SWRCY	0	0	0.5000
REFERRED TO ANOTHER LOCAL OR STATE AGENCY	REF	0	0	0.5000
SITES NEEDING FURTHER EVALUATION	NFE	0	0	0.5000
WASTE MANAGEMENT UNIT DATABASE	WMUDS	0	0	0.5000
TOXIC PITS CLEANUP ACT SITES	TOXPITS	0	0	1.0000
SUB-TOTAL		0	0	

Database Summary

LOCAL LISTING

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
FRESNO COUNTY CUPA/SOLID WASTE PROGRAMS RESOURCE LIST	FSW	3	0	0.5000
SUB-TOTAL		3	0	

Database Summary

TRIBAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	USTR09	0	0	0.2500
ILLEGAL DUMP SITES ON THE TORRES MARTINEZ RESERVATION	TORRESDUMPSITES	0	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	LUSTR09	0	0	0.5000
OPEN DUMP INVENTORY ON TRIBAL LANDS	ODINDIAN	0	0	0.5000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INDIAN RESERVATIONS	INDIANRES	0	0	1.0000
SUB-TOTAL		0	0	
TOTAL		4	0	

Database Radius Summary

FEDERAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
EC	0.0200	0	NS	NS	NS	NS	NS	0
ECHOR09	0.0200	0	NS	NS	NS	NS	NS	0
ERNSCA	0.0200	0	NS	NS	NS	NS	NS	0
FRSCA	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR09	0.0200	0	NS	NS	NS	NS	NS	0
HWCD	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	0	NS	NS	NS	NS	NS	0
ICISNPDES	0.0200	0	NS	NS	NS	NS	NS	0
LUCIS	0.0200	0	NS	NS	NS	NS	NS	0
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NPDESR09	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR09	0.0200	0	NS	NS	NS	NS	NS	0
RCRASC	0.0200	0	NS	NS	NS	NS	NS	0
SEMSLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	0	NS	NS	NS	NS	NS	0
TRI	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
RCRAGR09	0.1250	0	0	NS	NS	NS	NS	0
RCRANGR09	0.1250	0	0	NS	NS	NS	NS	0
ALTFUELS	0.2500	0	0	0	NS	NS	NS	0
FEMAUST	0.2500	0	0	0	NS	NS	NS	0
HISTPST	0.2500	0	0	0	NS	NS	NS	0
ICISCLEANERS	0.2500	0	0	0	NS	NS	NS	0
MRDS	0.2500	0	0	0	NS	NS	NS	0
MSHA	0.2500	0	0	0	NS	NS	NS	0
BF	0.5000	0	0	0	0	NS	NS	0
DNPL	0.5000	0	0	0	0	NS	NS	0
NLRRCRAT	0.5000	0	0	0	0	NS	NS	0
ODI	0.5000	0	0	0	0	NS	NS	0

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
RCRAT	0.5000	0	0	0	0	NS	NS	0
SEMS	0.5000	0	0	0	0	NS	NS	0
SEMSARCH	0.5000	0	0	0	0	NS	NS	0
SMCRA	0.5000	0	0	0	0	NS	NS	0
USUMTRCA	0.5000	0	0	0	0	NS	NS	0
DOD	1.0000	0	0	0	0	0	NS	0
FUDS	1.0000	0	0	0	0	0	NS	0
FUSRAP	1.0000	0	0	0	0	0	NS	0
NLRRCRAC	1.0000	0	0	0	0	0	NS	0
NMS	1.0000	0	0	0	0	0	NS	0
NPL	1.0000	0	0	0	0	0	NS	0
PNPL	1.0000	0	0	0	0	0	NS	0
RCRAC	1.0000	0	0	0	0	0	NS	0
RCRASUBC	1.0000	0	0	0	0	0	NS	0
RODS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0

Database Radius Summary

STATE (CA) LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
CDL	0.0200	0	NS	NS	NS	NS	NS	0
CHMIRS	0.0200	0	NS	NS	NS	NS	NS	0
DTSCDR	0.0200	0	NS	NS	NS	NS	NS	0
EMI	0.0200	0	NS	NS	NS	NS	NS	0
HWTS	0.0200	0	NS	NS	NS	NS	NS	0
LDS	0.0200	0	NS	NS	NS	NS	NS	0
LIENS	0.0200	0	NS	NS	NS	NS	NS	0
MCS	0.0200	0	NS	NS	NS	NS	NS	0
NPDES	0.0200	0	NS	NS	NS	NS	NS	0
ABST	0.2500	0	0	0	NS	NS	NS	0
AST2007	0.2500	0	1	0	NS	NS	NS	1
CLEANER	0.2500	0	0	0	NS	NS	NS	0
DTSCHWT	0.2500	0	0	0	NS	NS	NS	0
HISTUST	0.2500	0	0	0	NS	NS	NS	0
MINES	0.2500	0	0	0	NS	NS	NS	0
MWMP	0.2500	0	0	0	NS	NS	NS	0
SLIC	0.2500	0	0	0	NS	NS	NS	0
SWEEPS	0.2500	0	0	0	NS	NS	NS	0
USTCUPA	0.2500	0	0	0	NS	NS	NS	0
BF	0.5000	0	0	0	0	NS	NS	0
CALSITES	0.5000	0	0	0	0	NS	NS	0
CLEANUPSITES	0.5000	0	0	0	0	NS	NS	0
CORTESE	0.5000	0	0	0	0	NS	NS	0
DROP	0.5000	0	0	0	0	NS	NS	0
ERAP	0.5000	0	0	0	0	NS	NS	0
HISTCORTESE	0.5000	0	0	0	0	NS	NS	0
LUST	0.5000	0	0	0	0	NS	NS	0
NFA	0.5000	0	0	0	0	NS	NS	0
NFE	0.5000	0	0	0	0	NS	NS	0
PROC	0.5000	0	0	0	0	NS	NS	0
REF	0.5000	0	0	0	0	NS	NS	0
SWIS	0.5000	0	0	0	0	NS	NS	0
SWRCY	0.5000	0	0	0	0	NS	NS	0
VCP	0.5000	0	0	0	0	NS	NS	0
WMUDS	0.5000	0	0	0	0	NS	NS	0

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
ENVIROSTOR	1.0000	0	0	0	0	0	NS	0
ENVIROSTORPCA	1.0000	0	0	0	0	0	NS	0
TOXPITS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	1	0	0	0	0	1

Database Radius Summary

LOCAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
FSW	0.5000	0	1	2	0	NS	NS	3
SUB-TOTAL		0	1	2	0	0	0	3

Database Radius Summary

TRIBAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
USTR09	0.2500	0	0	0	NS	NS	NS	0
LUSTR09	0.5000	0	0	0	0	NS	NS	0
ODINDIAN	0.5000	0	0	0	0	NS	NS	0
TORRESDUMPSITES	0.5000	0	0	0	0	NS	NS	0
INDIANRES	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0

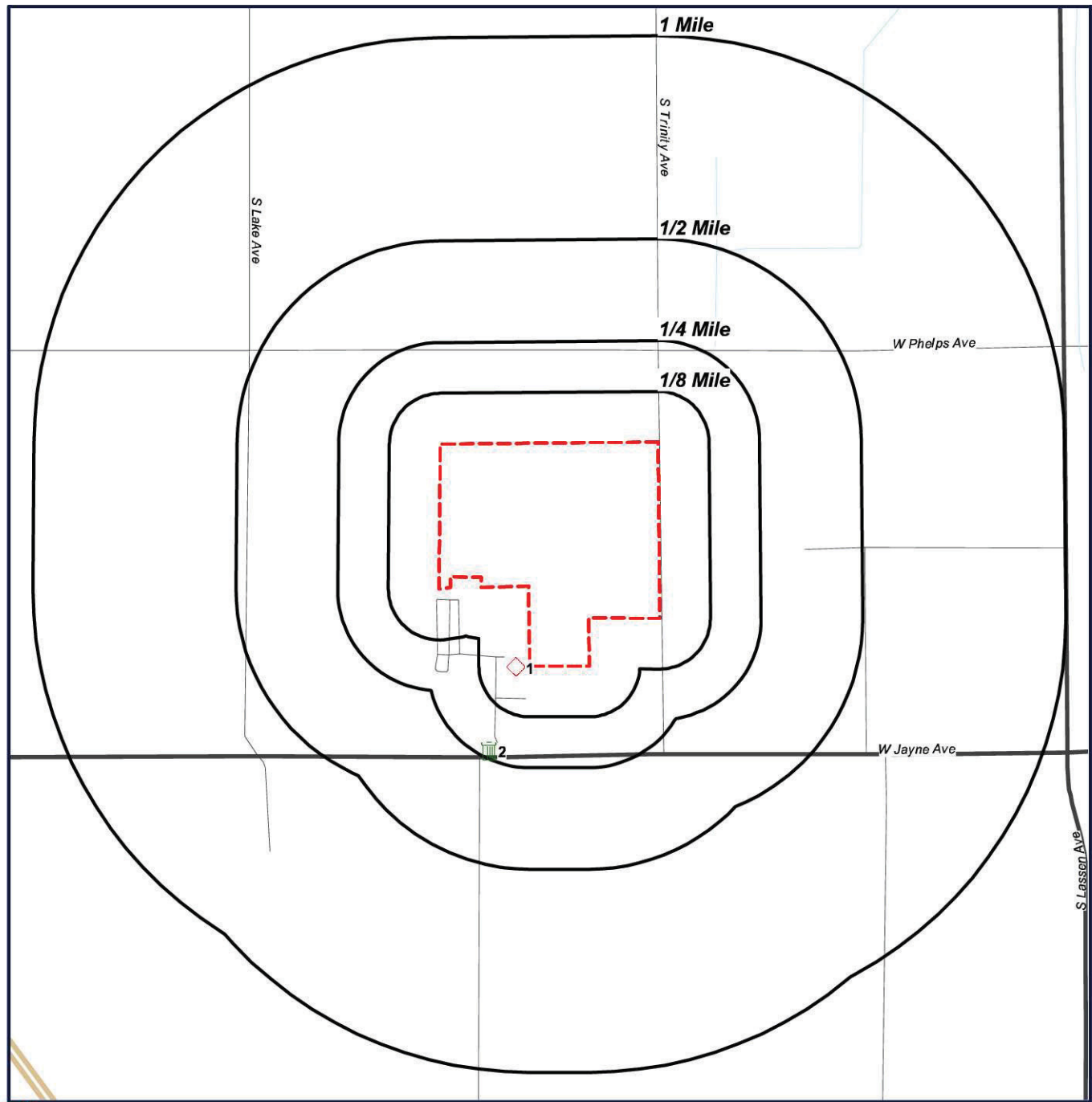
TOTAL		0	2	2	0	0	0	4
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NOTES:

NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Radius Map 1



- Target Property (TP)
- AST2007
- FSW

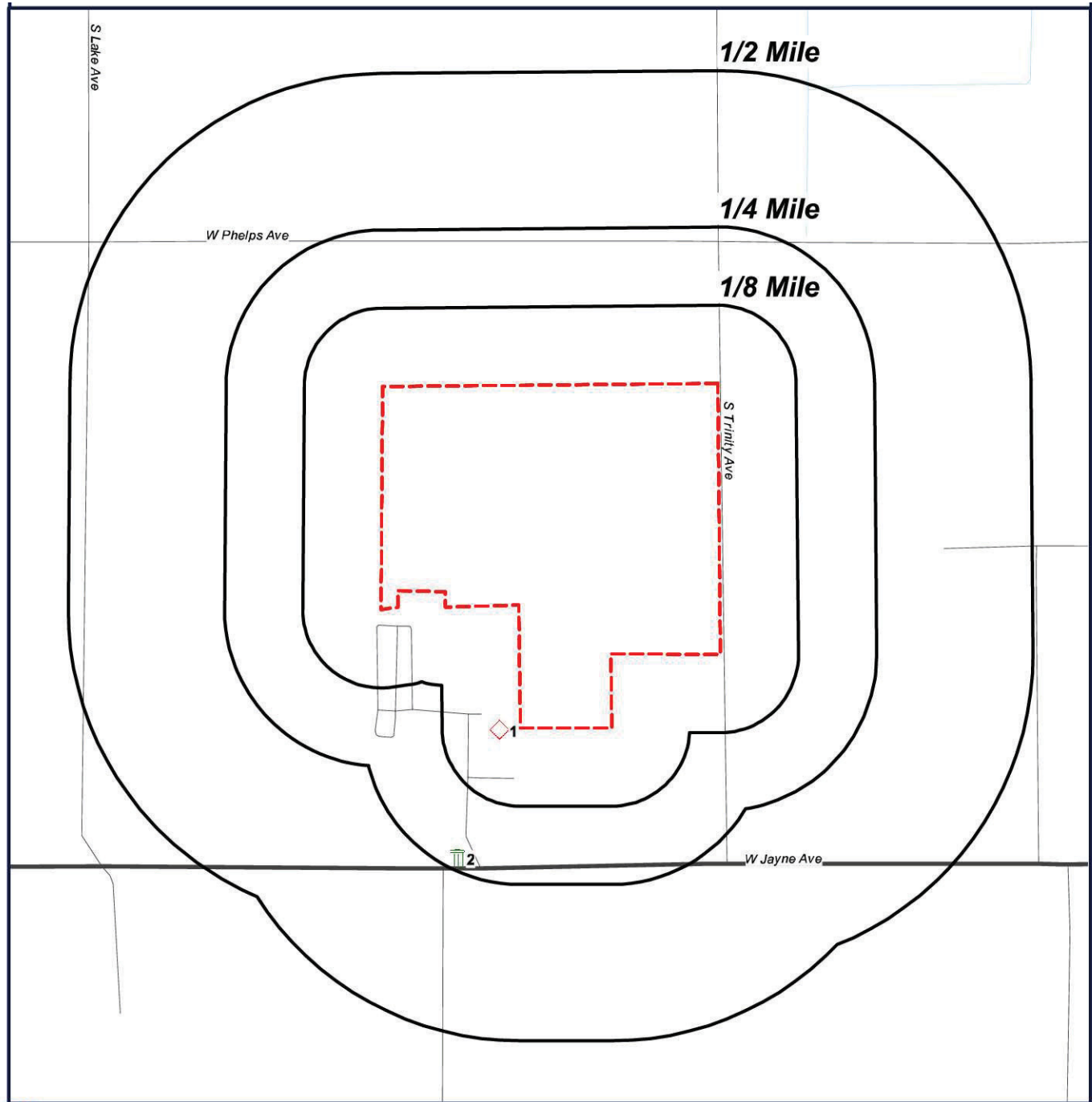
Gates North
Huron, California
93234



0' 1000' 2000' 3000'

SCALE: 1" = 2000'

Radius Map 2



- Target Property (TP)
- AST2007
- FSW

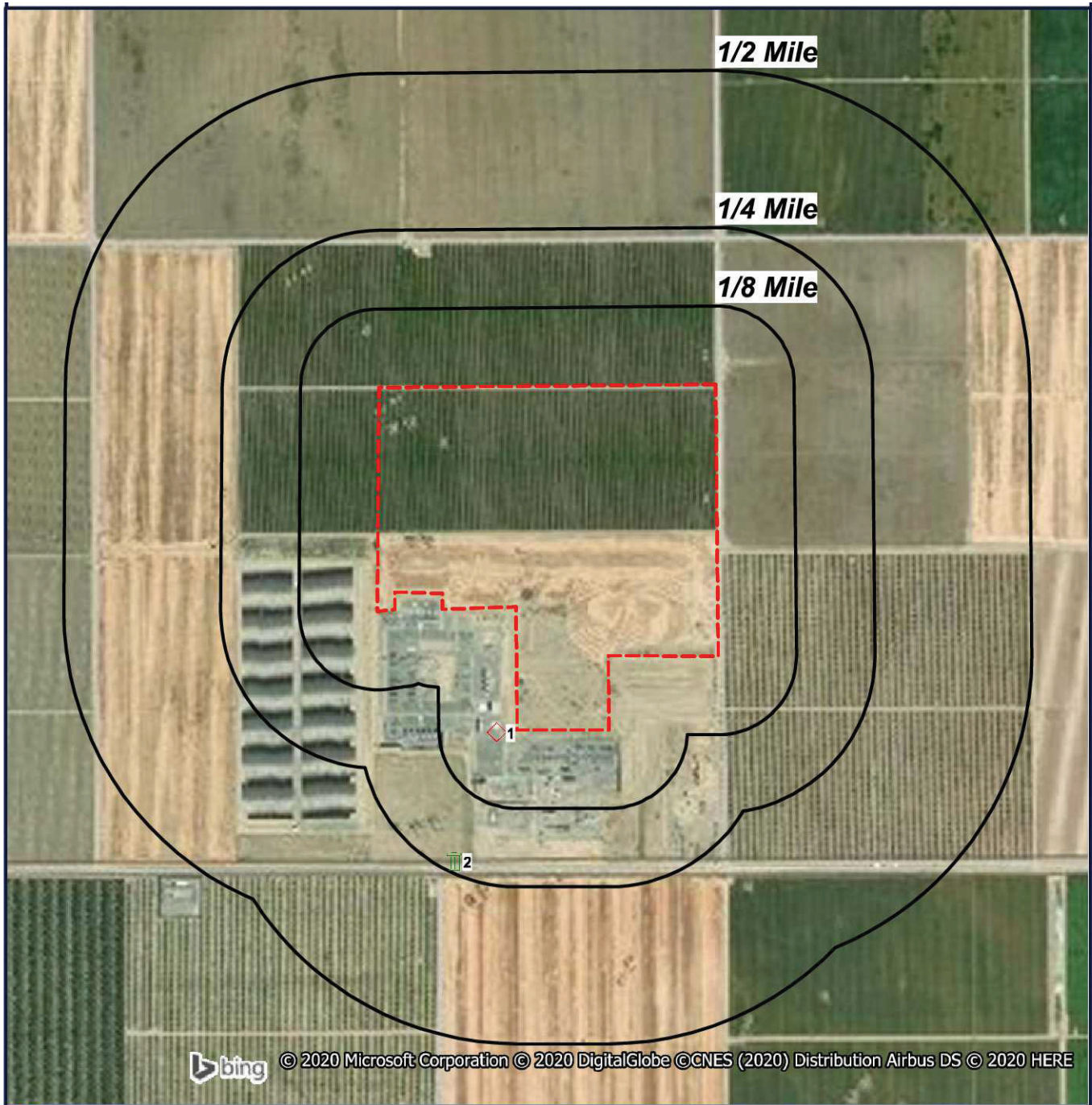
Gates North
Huron, California
93234



0' 650' 1300' 1950'

SCALE: 1" = 1300'

Ortho Map



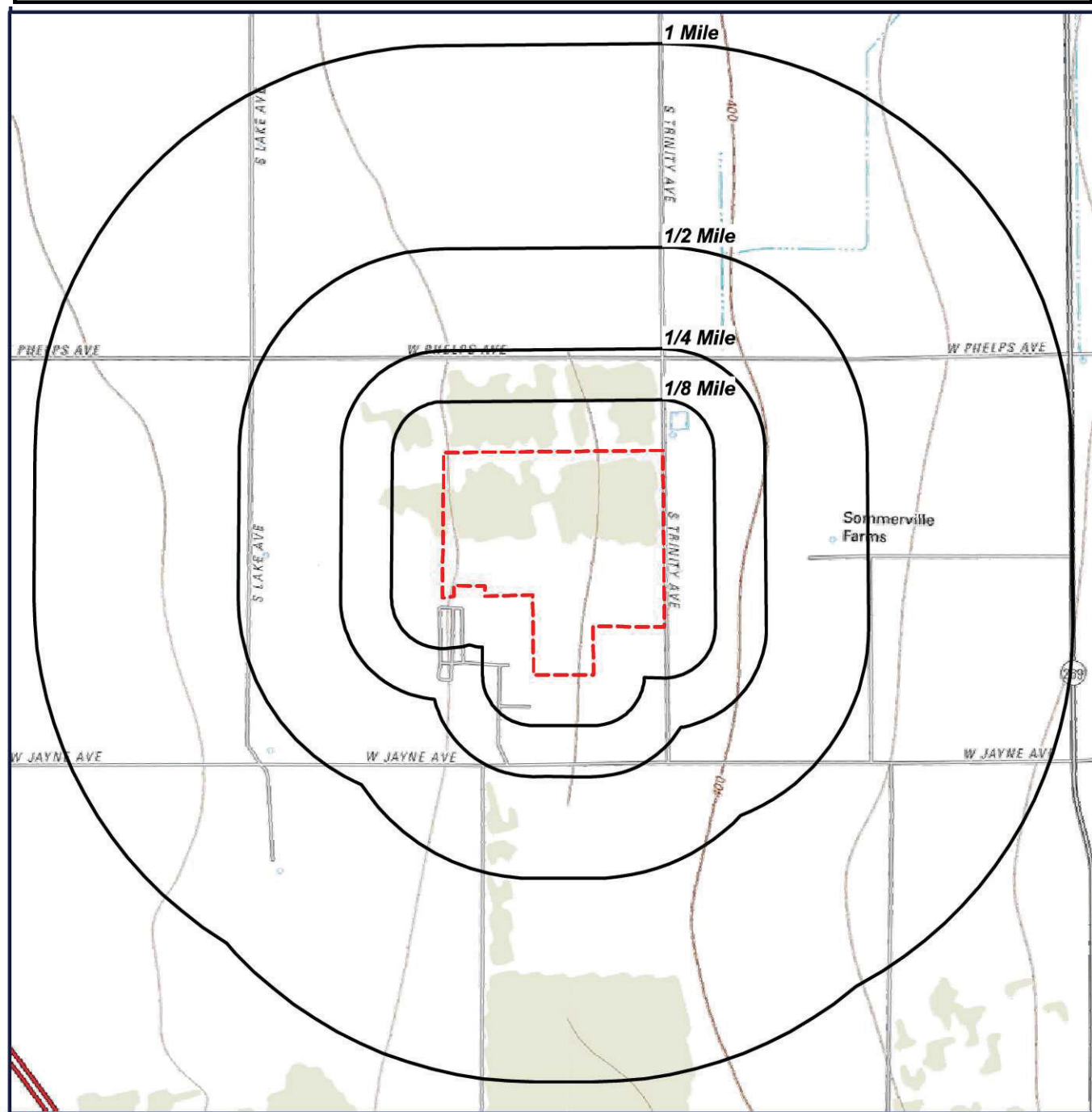
- Target Property (TP)
- AST2007
- FSW

**Quadrangle(s): Guijarral
Hills, Huron
Gates North
Huron, California
93234**



0' 650' 1300' 1950'
SCALE: 1" = 1300'

Topographic Map



 Target Property (TP)

Quadrangle(s):
Gujarral
Hills, Huron
Source: USGS,
02/22/2012
Gates North
Huron, California
93234



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

Located Sites Summary

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
1	AST2007	1252234452	Higher (406 ft.)	0.033 mi. W (174 ft.)	GATES SUBSTATION	18336 W. JAYNE AVE., HURON, CA 93234	21
1	FSW	FA0270175	Higher (406 ft.)	0.033 mi. W (174 ft.)	PG&E GATES SUBSTATION & MAINT HQ	18336 W JAYNE AVE, COALINGA, CA 93210	22
2	FSW	FA0278134	Higher (409 ft.)	0.232 mi. SSW (1225 ft.)	CENTURY LINK-HURON CA03	18364 W JAYNE AVE, HURON, CA 93234	23
2	FSW	FA0283130	Higher (409 ft.)	0.232 mi. SSW (1225 ft.)	PG&E WEST GATES SOLAR STATION	18364 W JAYNE AVE, HURON, CA 93234	24

Site Summary By Database

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address
1	AST2007	1252234452	Higher (406 ft.)	0.033 mi. W (174 ft.)	GATES SUBSTATION	18336 W. JAYNE AVE., HURON, CA 93234
1	FSW	FA0270175	Higher (406 ft.)	0.033 mi. W (174 ft.)	PG&E GATES SUBSTATION & MAINT HQ	18336 W JAYNE AVE, COALINGA, CA 93210
2	FSW	FA0278134	Higher (409 ft.)	0.232 mi. SSW (1225 ft.)	CENTURY LINK-HURON CA03	18364 W JAYNE AVE, HURON, CA 93234
2	FSW	FA0283130	Higher (409 ft.)	0.232 mi. SSW (1225 ft.)	PG&E WEST GATES SOLAR STATION	18364 W JAYNE AVE, HURON, CA 93234

Elevation Summary

Elevations are collected from the USGS 3D Elevation Program 1/3 arc-second (approximately 10 meters) layer hosted at the NGTOC. .

Target Property Elevation: 399 ft.

NOTE: Standard environmental records are displayed in **bold**.

EQUAL/HIGHER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
1	AST2007	406 ft.	GATES SUBSTATION	18336 W. JAYNE AVE., HURON, CA 93234	21
1	FSW	406 ft.	PG&E GATES SUBSTATION & MAINT HQ	18336 W JAYNE AVE, COALINGA, CA 93210	22
2	FSW	409 ft.	CENTURY LINK-HURON CA03	18364 W JAYNE AVE, HURON, CA 93234	23
2	FSW	409 ft.	PG&E WEST GATES SOLAR STATION	18364 W JAYNE AVE, HURON, CA 93234	24

LOWER ELEVATION

No Records Found

Aboveground Storage Tanks Prior to January 2008 (AST2007)

[MAP ID# 1](#)

Distance from Property: 0.033 mi. (174 ft.) W

Elevation: 406 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID#: 1252234452

NAME: GATES SUBSTATION

ADDRESS: 18336 W. JAYNE AVE.

HURON, CA 93234

TOTAL GALLONS: 3000

OWNER INFORMATION

OWNER NAME: PG & E

[Back to Report Summary](#)

Fresno County CUPA/Solid Waste Programs Resource List (FSW)

[MAP ID# 1](#)

Distance from Property: 0.033 mi. (174 ft.) W
Elevation: 406 ft. (Higher than TP)

SITE INFORMATION

ID#: FA0270175

CERS ID: 10137718

SWIS NUMBER: NOT REPORTED

NAME: PG&E GATES SUBSTATION & MAINT HQ

ADDRESS: 18336 W JAYNE AVE
COALINGA, CA 93210

COUNTY: FRESNO

APN: 07506018&45SU

SITE DETAILS

DESCRIPTION: AST STORAGE CAPACITY 10,000 TO 99,999 GAL

PROGRAM IDENTIFIER: NOT REPORTED

DESCRIPTION: HAZARDOUS WASTE GENERATOR (SQG)

PROGRAM IDENTIFIER: CONSOLIDATION FACILITY

DESCRIPTION: AUTO REPAIR/MAINTENANCE MODEL PLAN

PROGRAM IDENTIFIER: EPCRA BATTERIES

[Back to Report Summary](#)

Fresno County CUPA/Solid Waste Programs Resource List (FSW)

MAP ID# 2

Distance from Property: 0.232 mi. (1,225 ft.) SSW

Elevation: 409 ft. (Higher than TP)

SITE INFORMATION

ID#: **FA0278134**

CERS ID: **10669456**

SWIS NUMBER: **NOT REPORTED**

NAME: **CENTURY LINK-HURON CA03**

ADDRESS: **18364 W JAYNE AVE
HURON, CA 93234**

COUNTY: **FRESNO**

APN: **07506018SU**

SITE DETAILS

DESCRIPTION: **SMALL HAZARDOUS MATERIALS HANDLER**

PROGRAM IDENTIFIER: **NOT REPORTED**

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Fresno County CUPA/Solid Waste Programs Resource List (FSW)

MAP ID# 2

Distance from Property: 0.232 mi. (1,225 ft.) SSW
Elevation: 409 ft. (Higher than TP)

SITE INFORMATION

ID#: **FA0283130**

CERS ID: **10449898**

SWIS NUMBER: **NOT REPORTED**

NAME: **PG&E WEST GATES SOLAR STATION**

ADDRESS: **18364 W JAYNE AVE
HURON, CA 93234**

COUNTY: **FRESNO**

APN: **07506045SU**

SITE DETAILS

DESCRIPTION: **SMALL HAZARDOUS MATERIALS HANDLER**

PROGRAM IDENTIFIER: **NOT REPORTED**

[Back to Report Summary](#)

Unlocated Sites Summary

This list contains sites that could not be mapped due to limited or incomplete address information.

No Records Found

Environmental Records Definitions - FEDERAL

AIRSAFS

Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance.

BRS

Biennial Reporting System

VERSION DATE: 12/31/15

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

CDL

Clandestine Drug Laboratory Locations

VERSION DATE: 11/26/19

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

DOCKETS

EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

EC

Federal Engineering Institutional Control Sites

VERSION DATE: 02/26/20

This database includes site locations where Engineering and/or Institutional Controls have been identified as part

Environmental Records Definitions - FEDERAL

of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. The data displays remedy component information for Superfund decision documents issued in fiscal years 1982-2017, and it includes final and deleted NPL sites as well as sites with a Superfund Alternative Approach (SAA) agreement in place. The only sites included that are not on the NPL, proposed for NPL, or removed from proposed NPL, are those with an SAA Agreement in place. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination.

ECHOR09 Enforcement and Compliance History Information

VERSION DATE: 10/27/19

The U.S. Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database, provides compliance and enforcement information for facilities nationwide. This database includes facilities regulated as Clean Air Act stationary sources, Clean Water Act direct dischargers, Resource Conservation and Recovery Act hazardous waste handlers, Safe Drinking Water Act public water systems along with other data, such as Toxics Release Inventory releases.

ERNSCA Emergency Response Notification System

VERSION DATE: 10/06/19

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

FRSCA Facility Registry System

VERSION DATE: 10/09/19

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

HMIRSR09 Hazardous Materials Incident Reporting System

VERSION DATE: 11/20/19

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

Environmental Records Definitions - FEDERAL

HWCD Hazardous Waste Compliance Docket Facilities

VERSION DATE: 04/29/19

This list of the Federal Agency Hazardous Waste Compliance Docket Facilities is maintained by the United States Environmental Protection Agency (EPA). According to the EPA, Section 120(c) of CERCLA requires EPA to establish a listing, known as the Federal Facility Hazardous Waste Compliance Docket (Docket), of Federal facilities which are managing or have managed hazardous waste; or have had a release of hazardous waste. Thus, the Docket identifies all Federal facilities that must be evaluated to determine whether they pose a risk to human health and the environment and it makes this information available to the public. In order for the Docket to remain current and accurate it requires periodic updating.

ICIS Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 09/21/19

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

ICISNPDES Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 09/22/19

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. This database is provided by the U.S. Environmental Protection Agency.

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

MLTS Material Licensing Tracking System

VERSION DATE: 06/29/17

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements. Disclaimer: Due to agency regulations and policies, this database contains applicant/licensee location information which may or may not be related to the physical location per MLTS site.

Environmental Records Definitions - FEDERAL

NPDES09 National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The NPDES database was collected from the U.S. Environmental Protection Agency (EPA) from December 2002 through April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data. This database includes permitted facilities located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

PADS PCB Activity Database System

VERSION DATE: 10/09/19

PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of Polychlorinated Biphenyls (PCB) who are required to notify the U.S. Environmental Protection Agency of such activities.

PCSR09 Permit Compliance System

VERSION DATE: 08/01/12

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

RCRASC RCRA Sites with Controls

VERSION DATE: 02/21/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with institutional controls in place.

SEMSLIENS SEMS Lien on Property

VERSION DATE: 10/18/19

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of

Environmental Records Definitions - FEDERAL

Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs. This is a listing of SEMS sites with a lien on the property.

SFLIENS

CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete. Please refer to the SEMSLIENS database as source of current data.

SSTS

Section Seven Tracking System

VERSION DATE: 02/01/17

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. ("Production" includes formulation, packaging, repackaging, and relabeling.)

TRI

Toxics Release Inventory

VERSION DATE: 12/31/17

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

TSCA

Toxic Substance Control Act Inventory

VERSION DATE: 12/31/16

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and

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importer site.

RCRAGR09

Resource Conservation & Recovery Act - Generator

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities currently generating hazardous waste. EPA Region 9 includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

RCRANGR09

Resource Conservation & Recovery Act - Non-Generator

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities classified as non-generators. Non-Generators do not presently generate hazardous waste. EPA Region 9 includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

ALTFUELS

Alternative Fueling Stations

VERSION DATE: 09/24/19

Nationwide list of alternative fueling stations made available by the U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Bio-diesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE).

FEMAUST

FEMA Owned Storage Tanks

VERSION DATE: 12/01/16

This is a listing of FEMA owned underground and aboveground storage tank sites. For security reasons, address information is not released to the public according to the U.S. Department of Homeland Security.

HISTPST

Historical Gas Stations

VERSION DATE: NR

Environmental Records Definitions - FEDERAL

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

ICISCLEANERS

Integrated Compliance Information System Drycleaners

VERSION DATE: 09/21/19

This is a listing of drycleaner facilities from the Integrated Compliance Information System (ICIS). The U.S. Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments. The following Primary SIC Codes are included in this data: 7211, 7212, 7213, 7215, 7216, 7217, 7218, and/or 7219; the following Primary NAICS Codes are included in this data: 812320, 812331, and/or 812332.

MRDS

Mineral Resource Data System

VERSION DATE: 03/15/16

MRDS (Mineral Resource Data System) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS.

MSHA

Mine Safety and Health Administration Master Index File

VERSION DATE: 09/20/19

The Mine dataset lists all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970. It includes such information as the current status of each mine (Active, Abandoned, NonProducing, etc.), the current owner and operating company, commodity codes and physical attributes of the mine. Mine ID is the unique key for this data. This information is provided by the United States Department of Labor - Mine Safety and Health Administration (MSHA).

BF

Brownfields Management System

VERSION DATE: 10/15/19

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

DNPL

Delisted National Priorities List

VERSION DATE: 01/27/20

Environmental Records Definitions - FEDERAL

This database includes sites from the United States Environmental Protection Agency's Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

NLRRCRAT No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 12/30/19

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

ODI Open Dump Inventory

VERSION DATE: 06/01/85

The open dump inventory was published by the United States Environmental Protection Agency. An "open dump" is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

RCRAT Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities recognized as hazardous waste treatment, storage, and disposal sites (TSD).

SEMS Superfund Enterprise Management System

VERSION DATE: 01/27/20

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs.

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SEMSARCH

Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 01/27/20

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System Archived Site Inventory (List 8R Archived) replaced the CERCLIS NFRAP reporting system in 2015. This listing reflects sites at which the EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program.

SMCRA

Surface Mining Control and Reclamation Act Sites

VERSION DATE: 11/26/19

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

USUMTRCA

Uranium Mill Tailings Radiation Control Act Sites

VERSION DATE: 03/04/17

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

DOD

Department of Defense Sites

VERSION DATE: 12/01/14

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

FUDS

Formerly Used Defense Sites

VERSION DATE: 12/31/18

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not all properties currently have polygon data available. **DISCLAIMER:** This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to

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insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

FUSRAP Formerly Utilized Sites Remedial Action Program

VERSION DATE: 03/04/17

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 12/30/19

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

NMS Former Military Nike Missile Sites

VERSION DATE: 12/01/84

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

NPL National Priorities List

VERSION DATE: 01/27/20

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

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PNPL Proposed National Priorities List

VERSION DATE: 01/27/20

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with corrective action activity.

RCRASUBC Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities subject to corrective actions.

RODS Record of Decision System

VERSION DATE: 01/27/20

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

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CDL Clandestine Drug Labs

VERSION DATE: 12/31/18

The California Department of Toxic Substance Control (DTSC) maintains this listing of illegal drug laboratories. DTSC maintains a limited cost-tracking database to manage and pay appropriate contractor invoices for removal costs. The data source is an expenditure report with the contractors' invoice information and the reported removal action locations. The reported location information may or may not include the actual location of the illegal drug lab for several reasons. First, DTSC receives the location information verbally from law enforcement or local environmental health officials in the initial request for emergency support. Second, DTSC does not verify the information received and does not perform "data cleaning" or other measures to ensure data quality. Third, the location information may not be the actual location of an illegal drug lab or any hazardous substance release to the environment. The initial report may have provided the location of the nearest identifiable address to an illegal drug lab or mobile lab or abandonment of illegal drug lab wastes, or a nearby meeting location for the contractor. Please note the DTSC does not guarantee the accuracy of the address or location information or the condition of the location listed. The listing of an address or location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the address or location either requires or does not require additional cleanup work or mitigation action.

CHMIRS California Hazardous Material Incident Report System

VERSION DATE: 12/24/19

The California Hazardous Material Incident Report System list is maintained by the California Governor's Office of Emergency Services (OES). This list contains all spills called in to the California OES Warning Center for a specific year since 1993.

DTSCDR DTSC Deed Restrictions

VERSION DATE: 12/25/19

The California Department of Toxic Substances Control (DTSC) maintains this list of sites with deed restrictions. According to the DTSC, restricted land use indicates whether the site or area within the site has an environmental restriction recorded and/or other institutional control preventing certain types of land use or activities. The land use restrictions listed under the site management requirements are only an abbreviated summary of the land use restrictions, and may not encompass all restrictions and notification requirements placed on a property. For complete land use restriction information please contact the DTSC to review associated Land Use Restriction documents.

EMI Emissions Inventory Data

VERSION DATE: 12/31/17

This list of Emissions Inventory Data is maintained by the California Environmental Protection Agency California Environmental Agency Air Resources Board. This list includes criteria pollutant data and toxic data. Please note gas stations, print shops, autobody shops, and dry cleaners are not included in this list.

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HWTS Hazardous Waste Tanner Summary

VERSION DATE: 12/31/17

The Hazardous Waste Tanner Summary is maintained by the California Department of Toxic Substances Control (DTSC). This list includes data extracted from the copies of hazardous waste manifests received each year by the DTSC.

LDS Land Disposal Sites

VERSION DATE: 01/02/20

This list of Land Disposal sites (Landfills) is a subset of the GeoTracker Cleanup Sites database, maintained by the California State Water Resources Control Board. Sites are queried from GeoTracker by case type = Land Disposal Site.

LIENS Recorded Environmental Cleanup Liens

VERSION DATE: 11/18/19

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

MCS Military Cleanup Sites

VERSION DATE: 01/02/20

This list of Military sites is a subset of the GeoTracker Cleanup Sites database maintained by the California State Water Resources Control Board. Sites are queried from GeoTracker by case type = Military Cleanup Sites. This list includes : Military UST sites; Military Privatized sites; and Military Cleanup sites (formerly known as DoD non UST).

NPDES National Pollutant Discharge Elimination System Facilities

VERSION DATE: 02/19/20

This list of active, historical, and terminated National Pollutant Discharge Elimination System Facilities permits is maintained by the California Environmental Protection Agency State Water Resources Control Board. This data includes storm water general permit enrollees that are active or have been active within the past three years. Please note there can be multiple listings for a single permit due to multiple dischargers, multiple facilities, and/or multiple address listings. Please use the Regulatory Measure ID to identify duplicates, as this is a unique identifier for each permit.

ABST Above Ground Storage Tanks

VERSION DATE: 03/02/20

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This database, provided by the California Environmental Protection Agency's (CalEPA) Regulated Site Portal, contains aboveground petroleum storage tank facilities originating from the California Environmental Reporting System (CERS). These facilities store petroleum in aboveground storage tanks with oversight by local agencies. As of January 1, 2008, Assembly Bill No. 1130 of the Aboveground Petroleum Storage Act (APSA) authorized the Certified Unified Program Agencies to implement and administer the requirements of the APSA. CalEPA Data Disclaimer: Information displayed in the portal is collected from separate agency databases and displayed unaltered. Information that is considered confidential, trade secret, or is otherwise protected by the agency that manages the database is not loaded into the portal. For more detail about information displayed in the portal, please visit the data source sites. Please refer to AST2007 database for aboveground storage tank information obtained from the California State Water Resources Control Board prior to 2008 APSA requirements.

AST2007 Aboveground Storage Tanks Prior to January 2008

VERSION DATE: 12/01/07

This database contains aboveground storage tank facilities registered with the California State Water Resources Control Board (SWRCB) between 2007 and 2003. Since 2006, tanks were required to contain a minimum (even as cumulative) of 1320 gallons to be in the program. As of January 1, 2008, the SWRCB no longer maintains a list of registered aboveground storage tanks, due to effective Assembly Bill No. 1130 (Laird) of the Aboveground Petroleum Storage Act (APSA). This Bill authorized the Certified Unified Program Agencies to implement and administer the requirements of the APSA. Please refer to ABST database as a current source for aboveground petroleum storage tank data.

CLEANER Dry Cleaner Facilities

VERSION DATE: 06/13/19

This list of dry cleaners is maintained by the California Department of Toxic Substances Control (DTSC). Data is extracted from the DTSC Hazardous Waste Tracking System. This list includes dry cleaner facilities that have registered EPA identification numbers. These facilities are categorized by SIC codes (7211, 7212, 7213, 7215, 7216, 7217, 7218, 7219). This database may also include facilities other than dry cleaners who also register with these same NAICS Codes. Not all companies report their NAICS/SIC Codes to the DTSC, therefore this database may exclude registered dry cleaner facilities with incomplete classification information.

DTSCHWT DTSC Registered Hazardous Waste Transporters

VERSION DATE: 01/26/20

The California Department of Toxic Substances Control maintains this list of Registered Hazardous Waste Transporters.

HISTUST Historical Underground Storage Tanks

VERSION DATE: 12/31/87

The Hazardous Substance Storage Container Database is a historical list of Underground Storage Tank sites,

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compiled from tank survey and registration information collected at one time between 1984 and 1987 by the State Water Resources Control Board. The hazardous substances stored within these tanks includes, but not restricted to, petroleum products, industrial solvents, and other materials.

MINES Mines Listing

VERSION DATE: 01/20/20

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

MWMP California Medical Waste Management Program Facility List

VERSION DATE: 10/04/19

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

SLIC Spills, Leaks, Investigation & Cleanup Recovery Listing

VERSION DATE: 02/12/20

This list of Spills, Leaks, Investigation & Cleanup Recovery sites is maintained by the California Regional Water Quality Control Board (RWQCB). This list all "non-federally owned" sites that are regulated under the State Water Resources Control Board's Site Cleanup Program and/or similar programs conducted by each of the nine Regional Water Quality Control Boards. Cleanup Program Sites are also commonly referred to as "Site Cleanup Program sites". Cleanup Program Sites are varied and include but are not limited to pesticide and fertilizer facilities, rail yards, ports, equipment supply facilities, metals facilities, industrial manufacturing and maintenance sites, dry cleaners, bulk transfer facilities, refineries, mine sites, landfills, RCRA/CERCLA cleanups, and some brownfields. Unauthorized releases detected at Cleanup Program Sites are highly variable and include but are not limited to hydrocarbon solvents, pesticides, perchlorate, nitrate, heavy metals, and petroleum constituents, to name a few.

SWEEPS Statewide Environmental Evaluation and Planning System

VERSION DATE: 10/01/94

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The Statewide Environmental Evaluation and Planning System (SWEEPS) contains a historical listing of active and inactive underground storage tank locations from the State Water Resources Control Board. The hazardous substances stored within these tanks includes, but not restricted to, petroleum products, industrial solvents, and other materials. Refer to CUPA listing for source of current data.

USTCUPA Underground Storage Tanks

VERSION DATE: 01/15/20

The California State Water Resources Control Board maintains this list of permitted underground storage tanks. Permitted Underground Storage Tank (UST) Facilities includes facilities at which the owner or operator has been issued a permit to operate one or more USTs by the local permitting agency. Permitted UST Facilities are imported weekly from the California Environmental Reporting System (CERS).

BF Brownfield Sites

VERSION DATE: 02/18/20

This database of Brownfield Memorandum of Agreement (MOA) sites is maintained by the California Environmental Protection Agency. The California Department of Toxic Substances Control (CTSC), the State Water Resources Control Board, and the Regional Water Quality Control Boards (RWQCBs) agreed to a Brownfield Memorandum of Agreement (MOA). The MOA limits the oversight of a brownfields site to one agency, establishes procedures and guidelines for identifying the lead agency, calls for a single uniform site assessment procedure, requires all cleanups to address the requirements of the agencies, defines roles and responsibilities, provides for ample opportunity for public involvement, commits agencies to review time frames, and commits agencies to coordinate and communicate on brownfields issues. The Brownfield MOA site list is obtained from the State Water Resources Control Board GeoTracker online database. This list contains both open and completed sites.

CALSITES CALSITES Database

VERSION DATE: 05/01/04

This historical database was maintained by the Department of Toxic Substance Control for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

CLEANUPSITES GeoTracker Cleanup Sites

VERSION DATE: 01/02/20

This list of GeoTracker Cleanup Sites is maintained by the California State Water Resources Control Board. The database contains contaminated sites that impact groundwater or have the potential to impact ground water, including sites that require cleanup, such as Leaking Underground Storage Tank Sites, Department of Defense Sites, and Cleanup Program Sites. GeoTracker also contains records for various unregulated projects as well as permitted facilities including: Irrigated Lands, Oil and Gas production, operating Permitted USTs, and Land Disposal Sites. GeoTracker portals retrieve records and view integrated data sets from multiple State Water

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Board programs and other agencies.

CORTESE Cortese List

VERSION DATE: 01/13/20

This list of hazardous waste and substances sites (Cortese List) is maintained by the California Department of Toxic Substances Control (DTSC). DTSC's Brownfields and Environmental Restoration Program (Cleanup Program) EnviroStor database provides DTSC's component of Cortese List data by identifying Annual Workplan (now referred to State Response and/or Federal Superfund), and Backlog sites listed under Health and Safety Code section 25356. In addition, DTSC's Cortese List includes Certified with Operation and Maintenance sites. The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act (CEQA). Because this statute was enacted over twenty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist.

DROP Listing of Certified Dropoff, Collection, and Community Service Programs

VERSION DATE: 12/29/19

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

ERAP Expedited Removal Action Program Sites

VERSION DATE: 01/09/20

This list of Expedited Removal Action Program Sites is a subset of the EnviroStor database, maintained by the California Department of the Toxic Substance Control. Sites are queried from Envirostor by site type = State Response ERAP.

HISTCORTESE Historical Cortese List

VERSION DATE: 11/02/02

This historical listing includes hazardous waste and substances sites designated by the State Water Resources Control Board, the Integrated Waste Board, and the Department of Toxic Substance Control. The Cortese List was utilized by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. See CACORTESE for an updated version of this database.

LUST Leaking Underground Storage Tanks

VERSION DATE: 01/02/20

This list of leaking underground storage tanks is a subset of the GeoTracker Cleanup Sites database maintained

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by the California State Water Resources Control Board. Sites are queried from GeoTracker by case type = LUST Cleanup Site.

NFA No Further Action Determination

VERSION DATE: 09/09/19

This list of No Further Action (NFA) sites is maintained by the California Department of Toxic Substances Control. NFA identifies sites where a Phase I Environmental Assessment was completed and resulted in a no action required determination. Please refer to ENVIROSTOR for current No Further Action sites.

NFE Sites Needing Further Evaluation

VERSION DATE: 03/03/20

This list of Inactive - Needs Evaluation sites is maintained by the California Department of Toxic Substances Control. These are unconfirmed contaminated properties that need further assessment. This data is queried from the Department of Toxic Substances Control Envirostor online database.

PROC Listing of Certified Processors

VERSION DATE: 02/03/20

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

REF Referred to Another Local or State Agency

VERSION DATE: 03/06/20

This Referred to Another Local or State Agency list, maintained by the California Department of Toxic Substances Control (DTSC), contains properties where contamination has not been confirmed and which were determined as not requiring direct Department of Toxic Substance Control Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency. This data is extracted from the DTSC Envirostor online database and is queried by Status = "Refer state and local agencies".

SWIS Solid Waste Information System Sites

VERSION DATE: 12/30/19

This list of Solid Waste Information System Sites is extracted from the Solid Waste Information System (SWIS) database, maintained by the California Department of Resources Recycling and Recovery. The SWIS database includes information on solid waste facilities, operations, and disposal sites located in California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

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SWRCY Recycling Centers

VERSION DATE: 02/05/20

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

VCP Voluntary Cleanup Program

VERSION DATE: 01/09/20

This list of Voluntary Cleanup Sites is a subset of the Envirostor database maintained by the California Department of Toxic Substance Control. Sites are queried from Envirostor by site type = Voluntary Cleanup.

WMUDS Waste Management Unit Database

VERSION DATE: 01/01/00

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

ENVIROSTOR EnviroStor Cleanup Sites

VERSION DATE: 01/09/20

This list of Envirostor Cleanup Sites is maintained by the California Department of Toxic Substances Control (DTSC). DTSC has developed the EnviroStor database system to evaluate and track sites with confirmed or potential contamination and sites where further investigation may be necessary. This EnviroStor database of cleanup sites contains the following: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

ENVIROSTORPCA EnviroStor Permitted and Corrective Action Sites

VERSION DATE: 01/16/20

The California Department of Toxic Substance Control maintains this list of Hazardous Waste sites in their Envirostor online database. This list contains: 1) data pertaining to the Hazardous Waste Sites tracked in Envirostor; 2) the completed activities for Hazardous Waste Units; 3) the completed activities for Hazardous Waste Units undergoing closure; 4) completed maintenance activities; 5) the various "aliases" for a project (Some examples are: alt project name, alt address, EPA ID, etc.).

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TOXPITS

Toxic Pits Cleanup Act Sites

VERSION DATE: 07/01/95

Toxic Pits are sites with possible contamination of hazardous substances where cleanup is necessary. This listing is no longer updated by the State Water Resources Control Board.

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FSW

Fresno County CUPA/Solid Waste Programs Resource List

VERSION DATE: 01/10/20

This list of CUPA/Solid Waste Programs Resources is maintained by the County of Fresno Public Health. The Fresno County Certified Unified Program Agency (CUPA) is responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. This agency provides oversight of businesses that operate underground storage tanks or aboveground storage tanks as well as other hazardous material sites.

Environmental Records Definitions - TRIBAL

USTR09 Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/04/19

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

LUSTR09 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/04/19

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

ODINDIAN Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

TORRESDUMPSITES Illegal Dump Sites on the Torres Martinez Reservation

VERSION DATE: 10/29/07

This listing of illegal dump site locations on the Torres Martinez Reservation is maintained by the United States Environmental Protection Agency, Region IX. These dump sites contain unlawfully discarded household waste such as landscaping and wood wastes with no known soil or groundwater contamination. A majority of the sites have already been cleaned up through the collaborative efforts of the EPA, The California Integrated Waste Management Board and the Torres Martinez Tribe.

INDIANRES Indian Reservations

VERSION DATE: 01/01/00

The Department of Interior and Bureau of Indian Affairs maintains this database that includes American Indian Reservations, off-reservation trust lands, public domain allotments, Alaska Native Regional Corporations and Recognized State Reservations.

HISTORICAL AERIAL PHOTOGRAPHS

Historical Aerial Photographs

[NEW: GeoLens by Geosearch](#)

Target Property:

Gates North

Huron, Fresno, California 93234

Prepared For:

Mathis & Associates Inc

Order #: 142985

Job #: 342302

Project #: 25901

Date: 3/13/2020

Target Property Summary

Gates North

Huron, Fresno, California 93234

USGS Quadrangle: **Guijarral Hills, Huron**

Target Property Geometry: **Area**

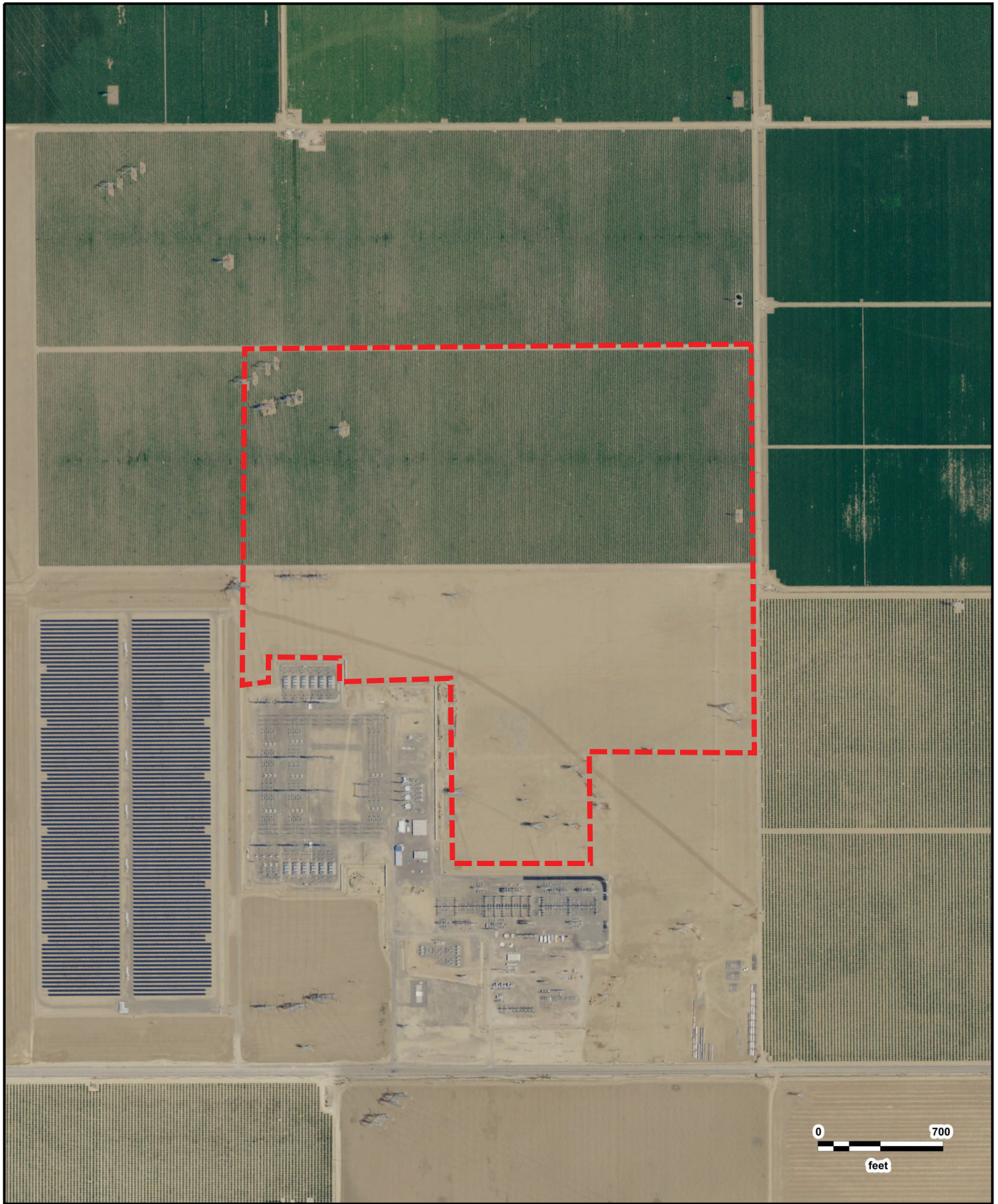
Target Property Longitude(s)/Latitude(s):

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(-120.123883794, 36.141022328), (-120.126501630, 36.141022328), (-120.126544545, 36.143864155),
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Aerial Research Summary

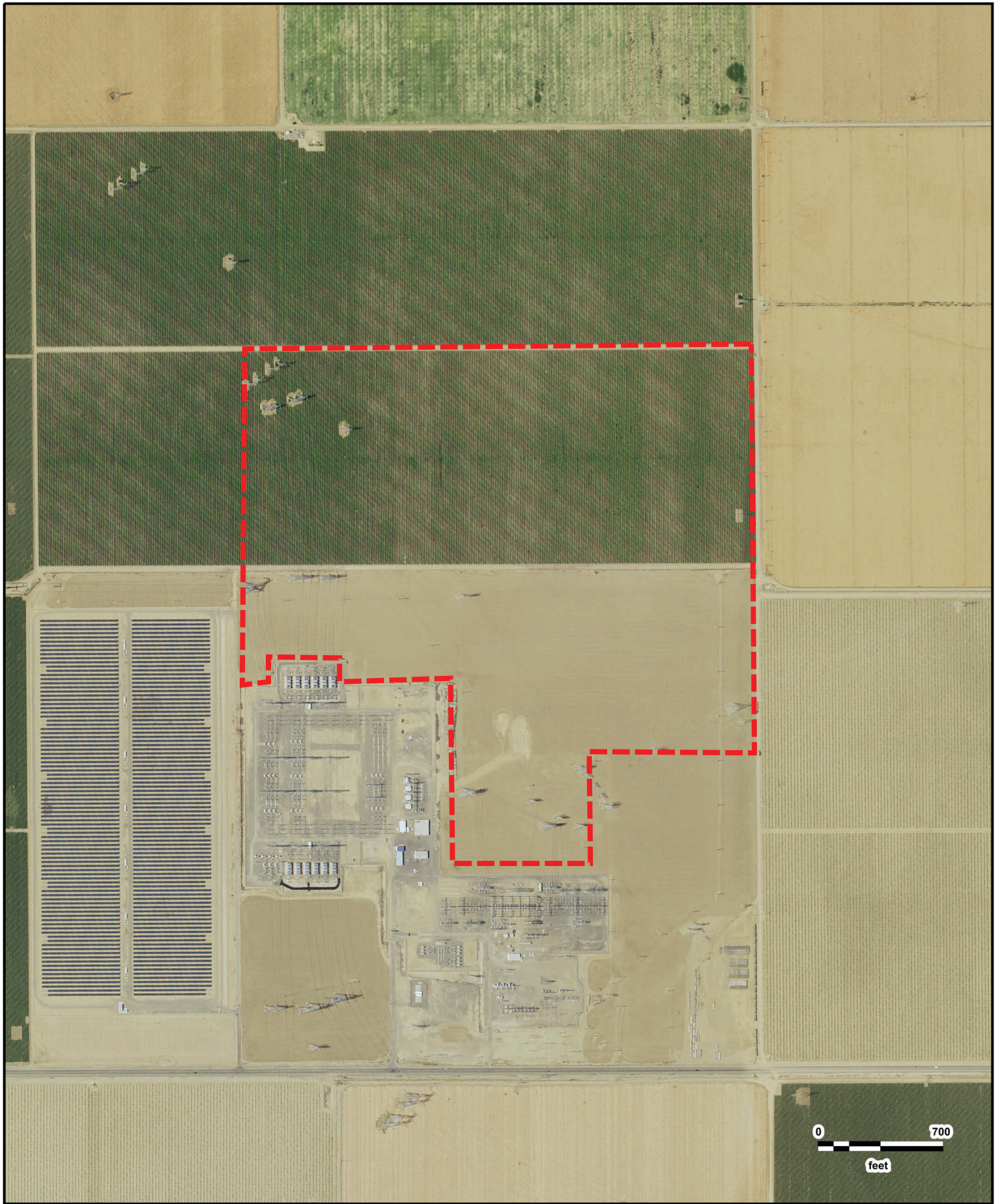
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2014	USDA	1" = 700'	N/A
2012	USDA	1" = 700'	N/A
2010	USDA	1" = 700'	N/A
2009	USDA	1" = 700'	N/A
2006	USDA	1" = 700'	N/A
2005	USDA	1" = 700'	N/A
2004	USDA	1" = 700'	N/A
04/21/1994	USGS	1" = 700'	N/A
06/10/1989	USGS	1" = 1320'	1881-156
08/01/1981	USGS	1" = 700'	443-94
08/10/1974	USGS	1" = 700'	1-76
06/01/1971	USGS	1" = 700'	3-17
06/29/1965	CAS	1" = 700'	3-37
06/23/1955	USGS	1" = 700'	3-64
05/18/1942	ASCS	1" = 700'	5-51
09/07/1937	ASCS	1" = 700'	44-34

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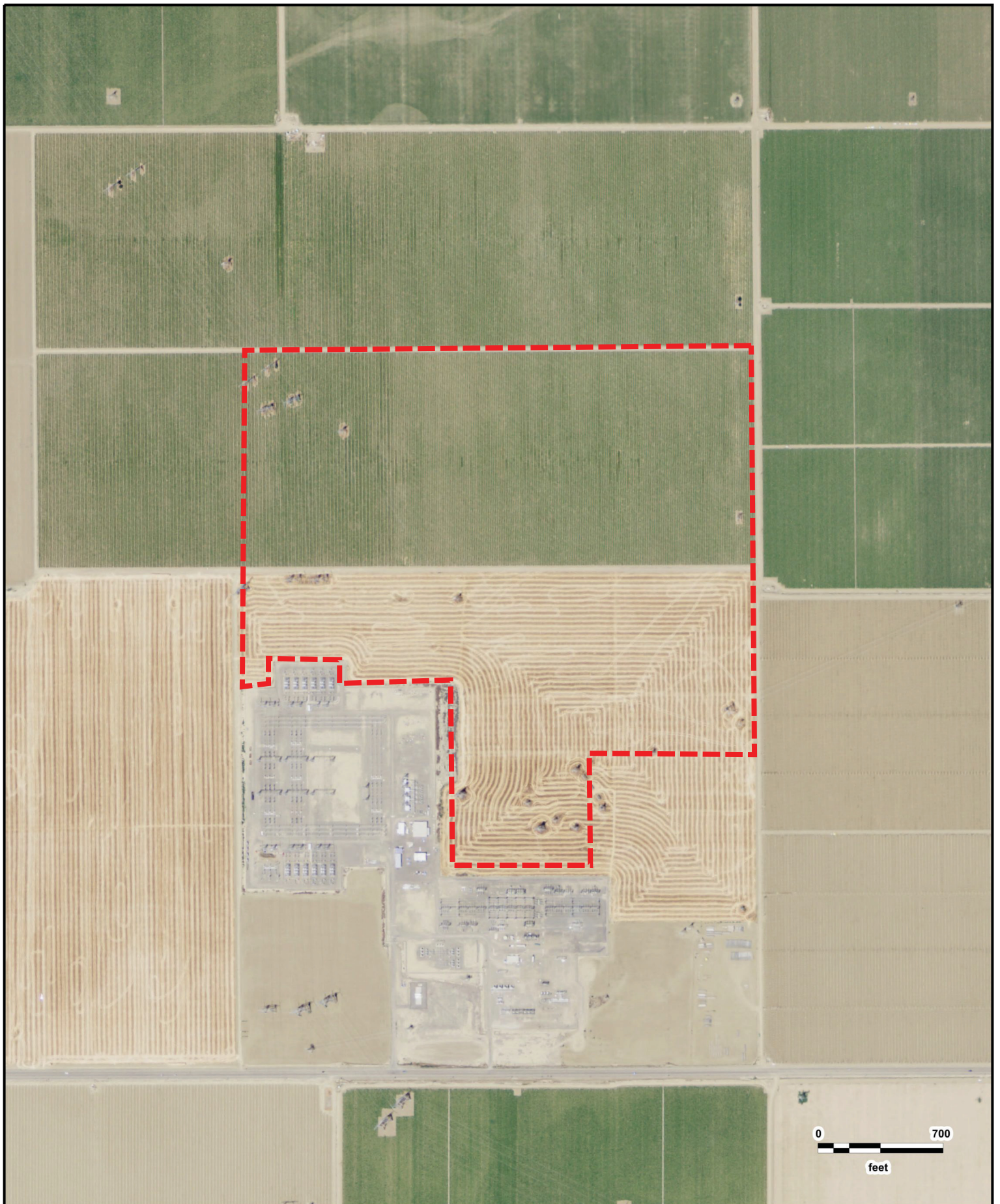
Gates North
USDA
2016

GeoSearch



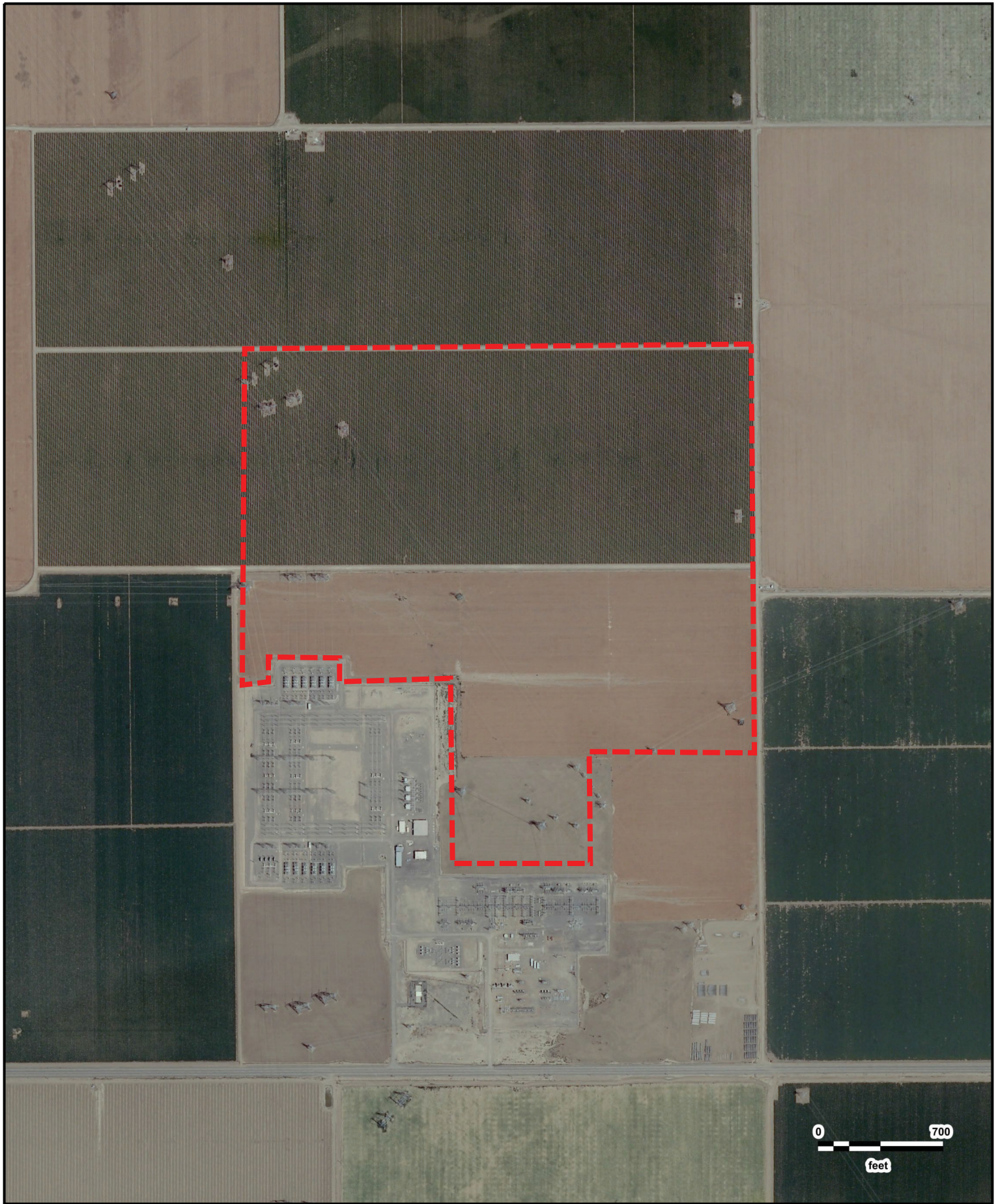
Gates North
USDA
2014

GeoSearch



Gates North
USDA
2012

GeoSearch

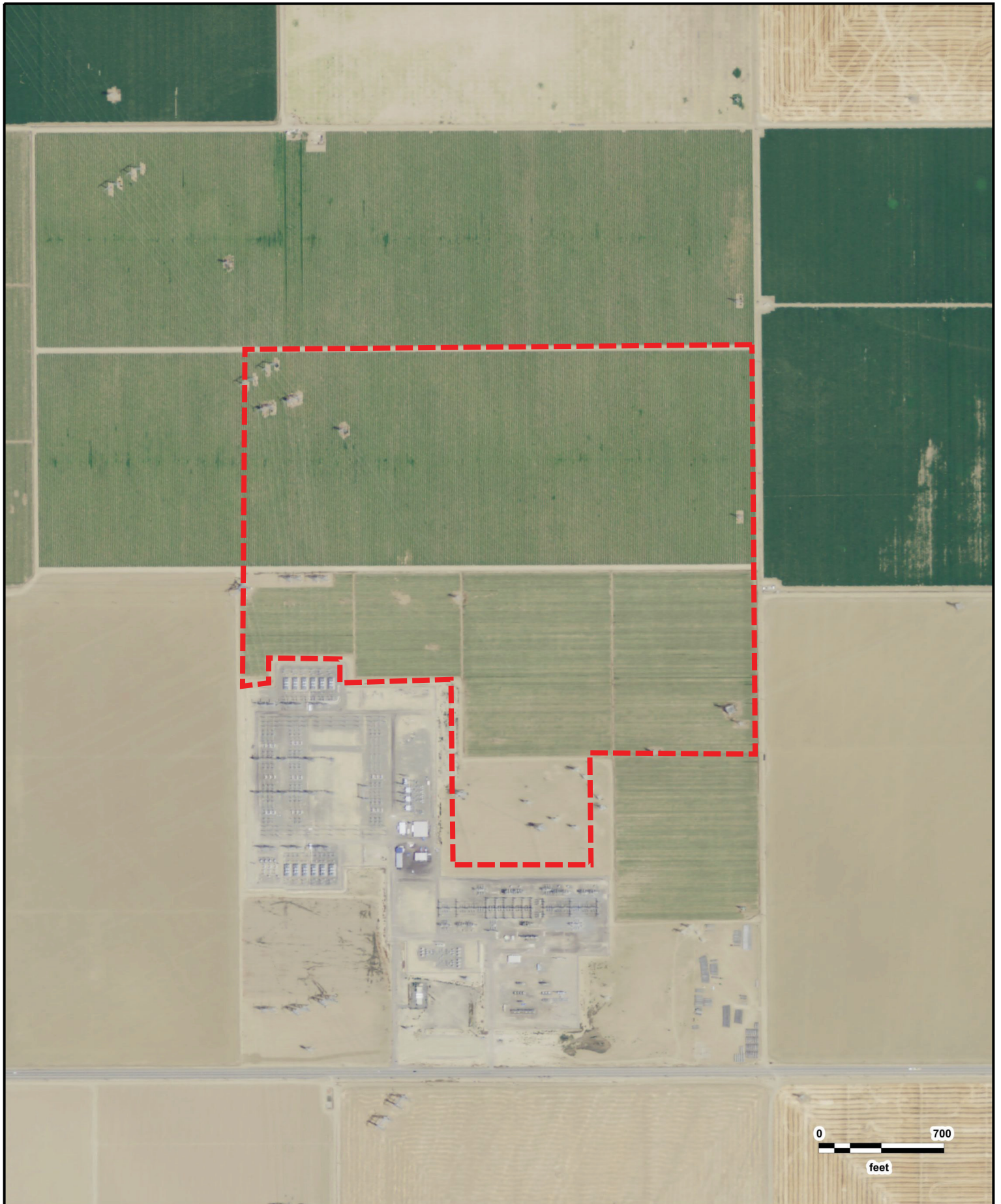


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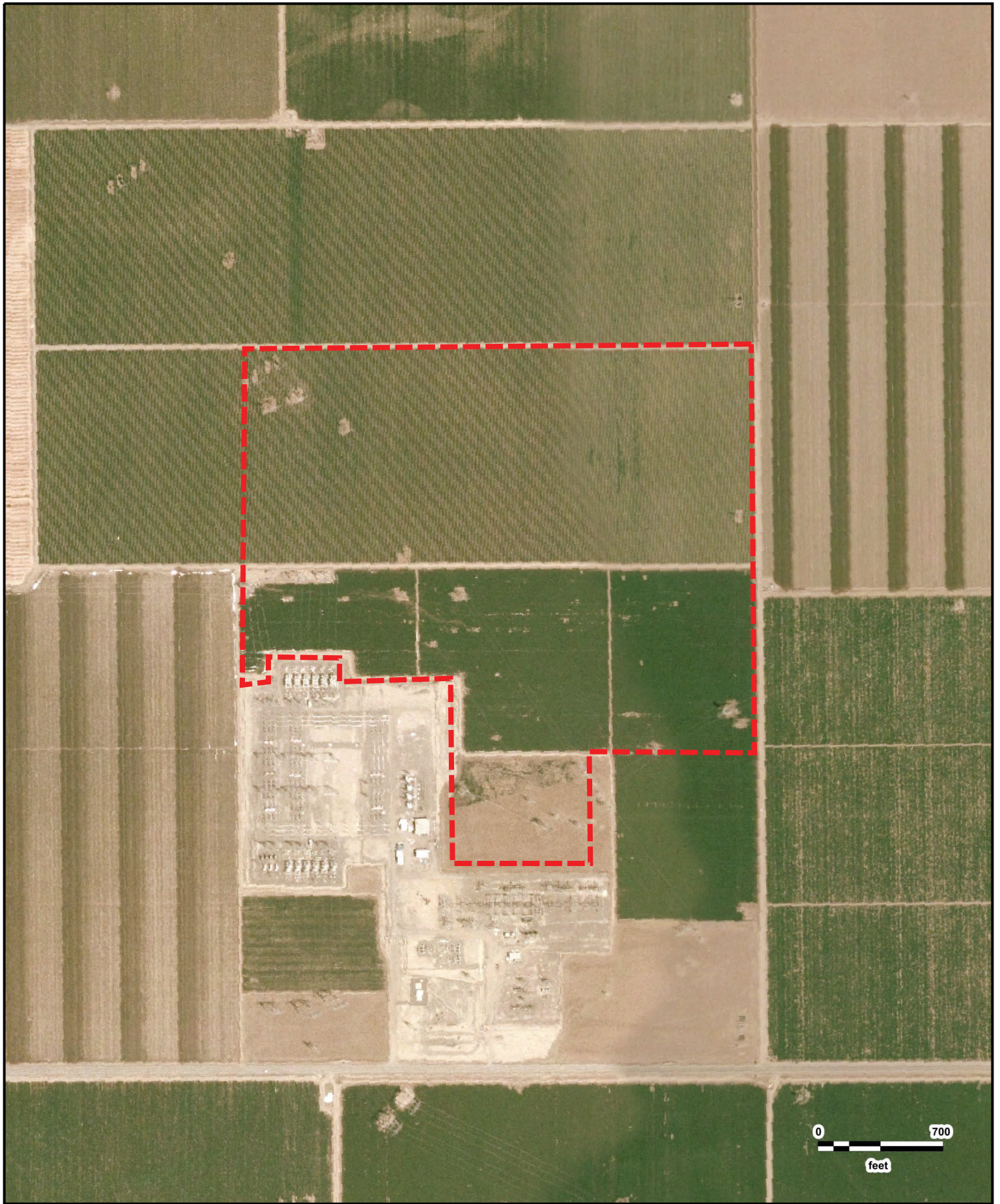
Gates North
USDA
2010

GeoSearch



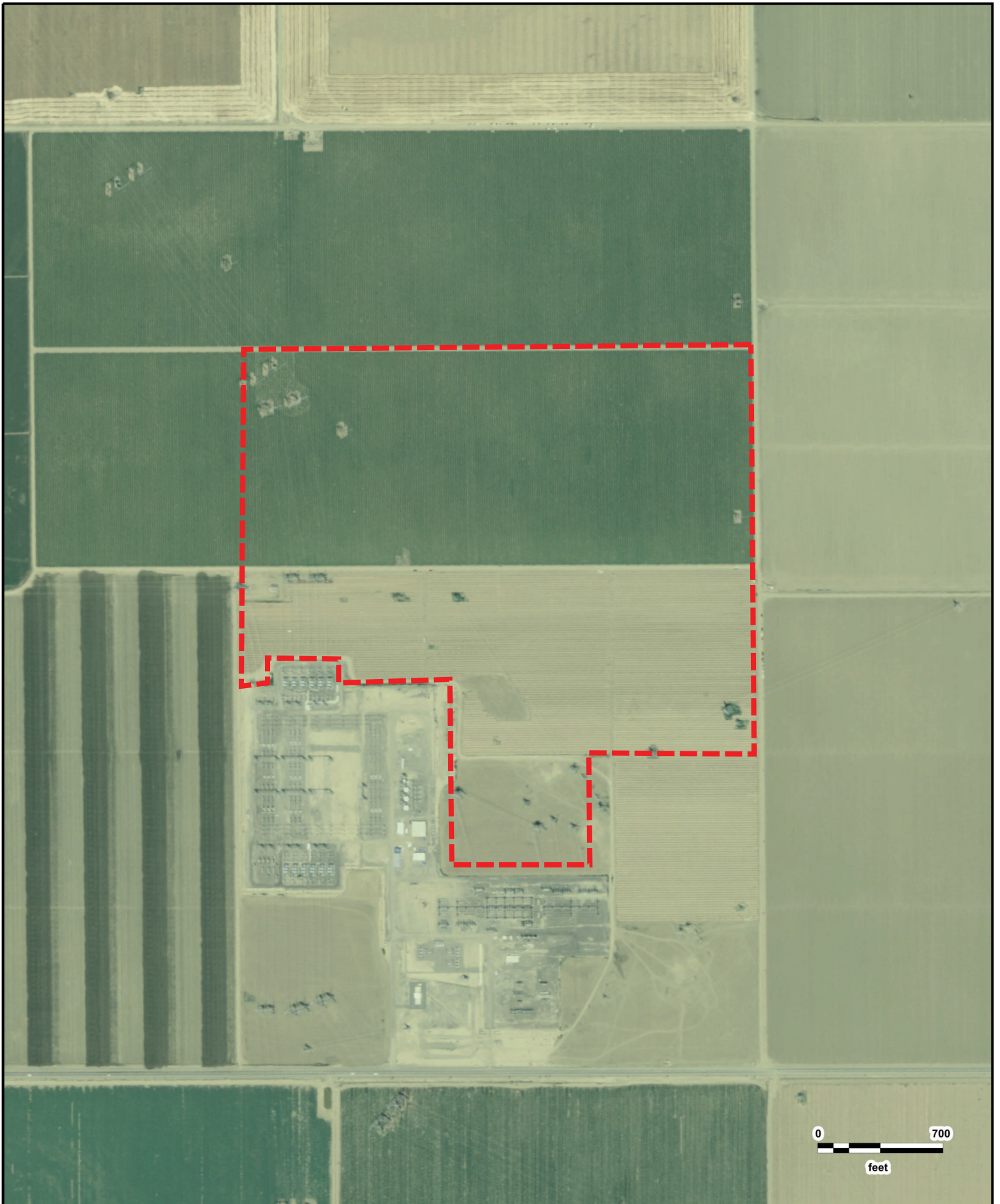
Gates North
USDA
2009

GeoSearch



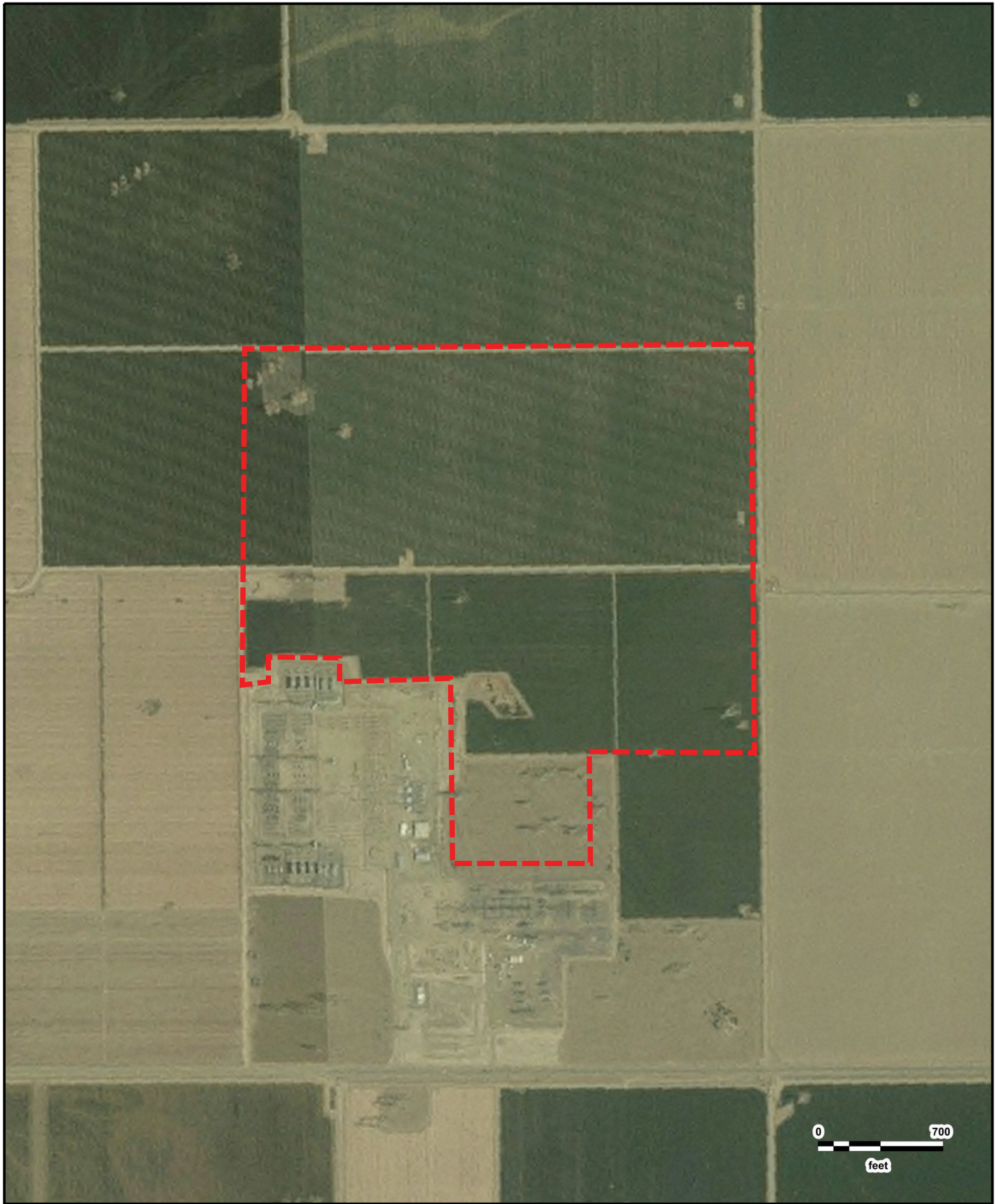
Gates North
USDA
2006

GeoSearch



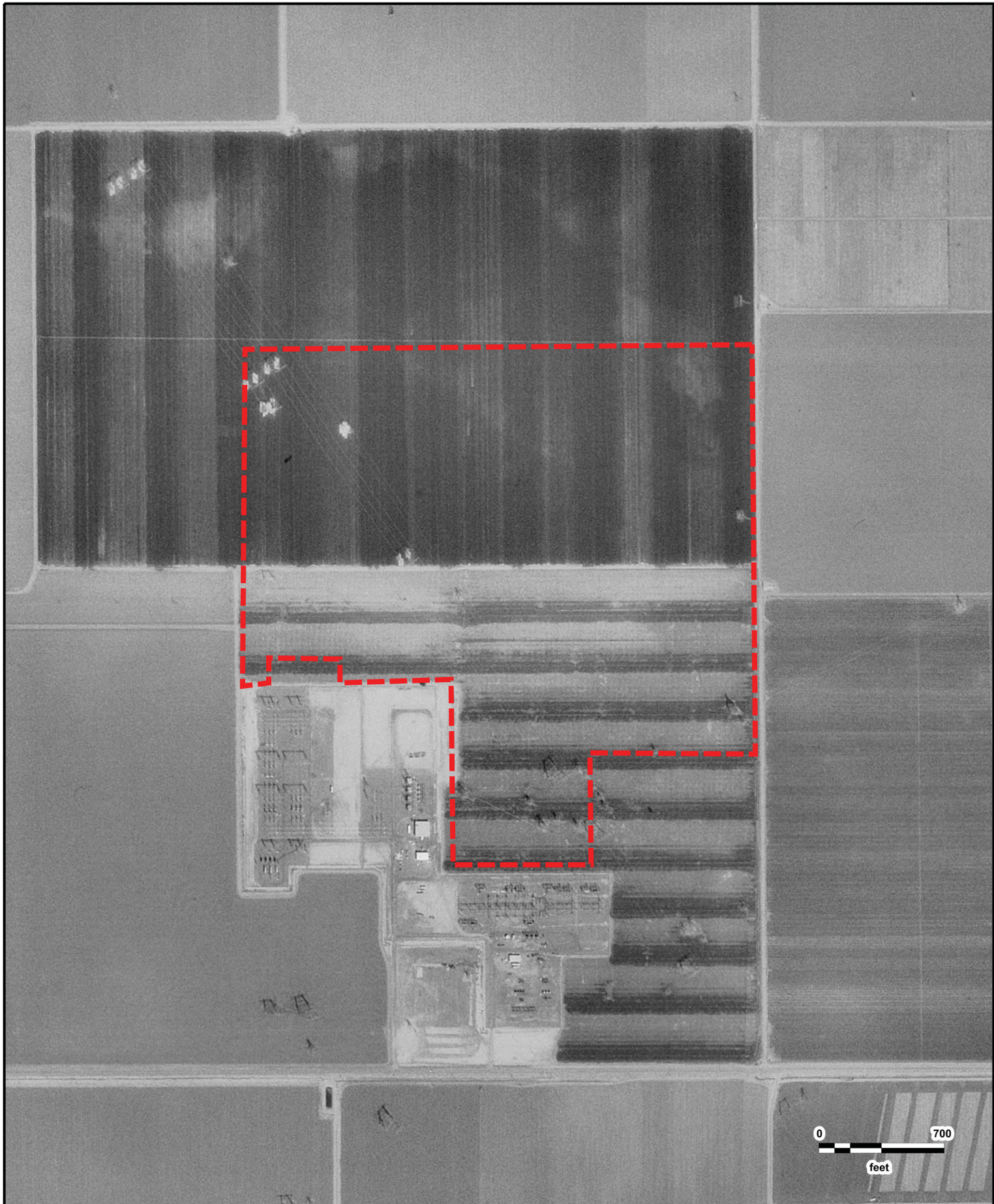
Gates North
USDA
2005

GeoSearch



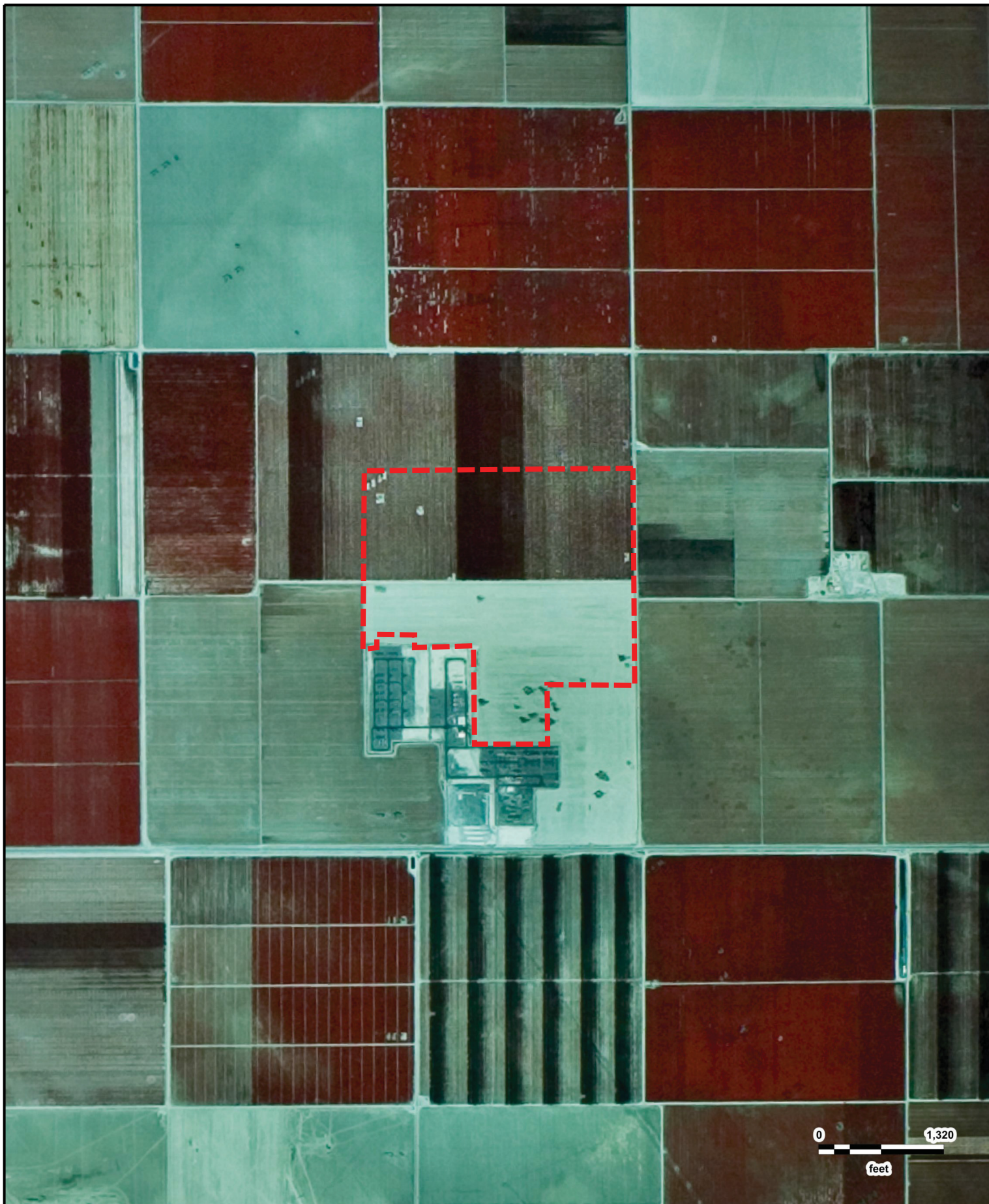
Gates North
USDA
2004

GeoSearch



Gates North
USGS
04/21/1994

GeoSearch

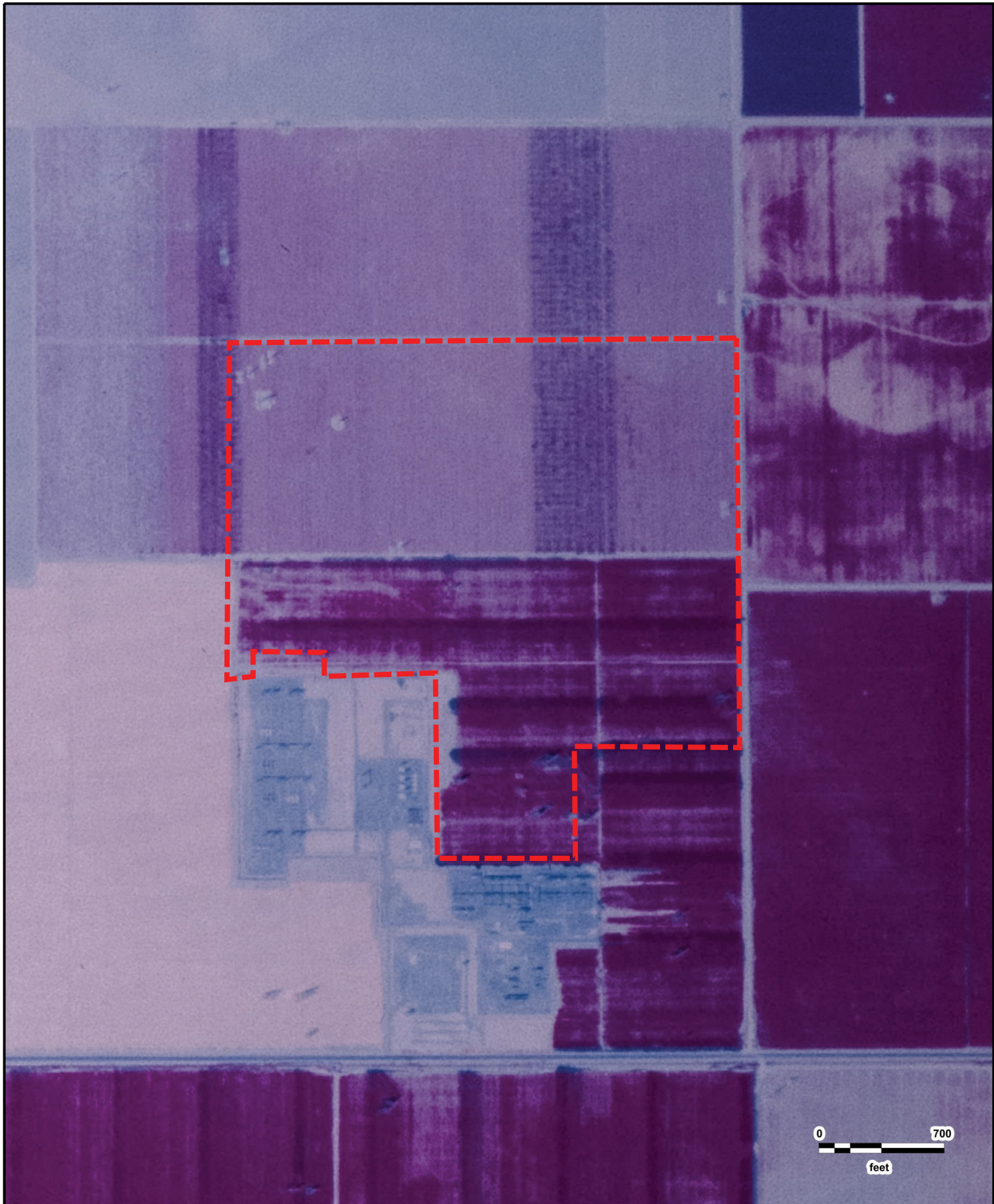


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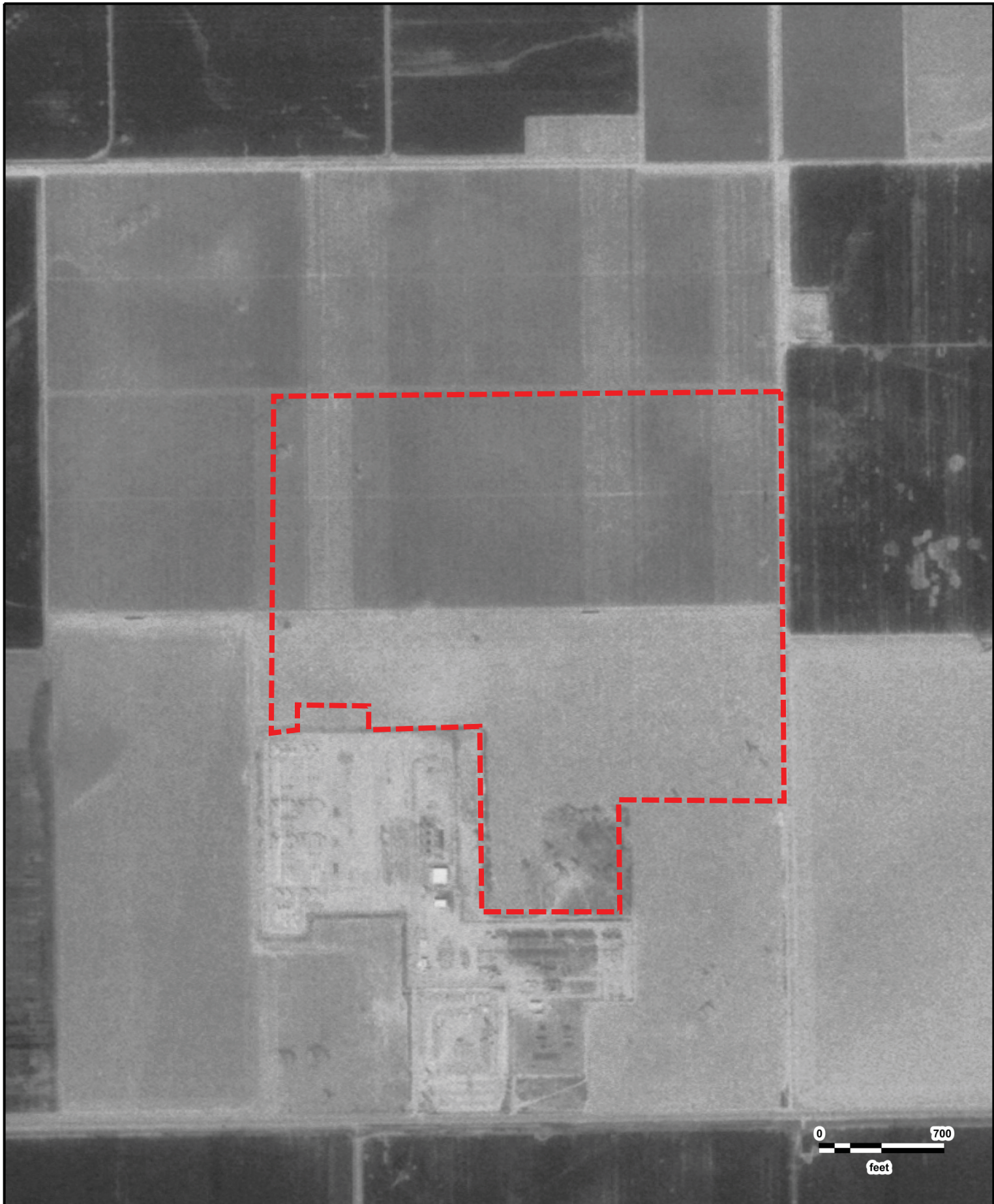
Gates North
USGS
06/10/1989

GeoSearch



Gates North
USGS
08/01/1981

GeoSearch



0 700
feet



Gates North
USGS
08/10/1974

GeoSearch



Gates North
USGS
06/01/1971

GeoSearch



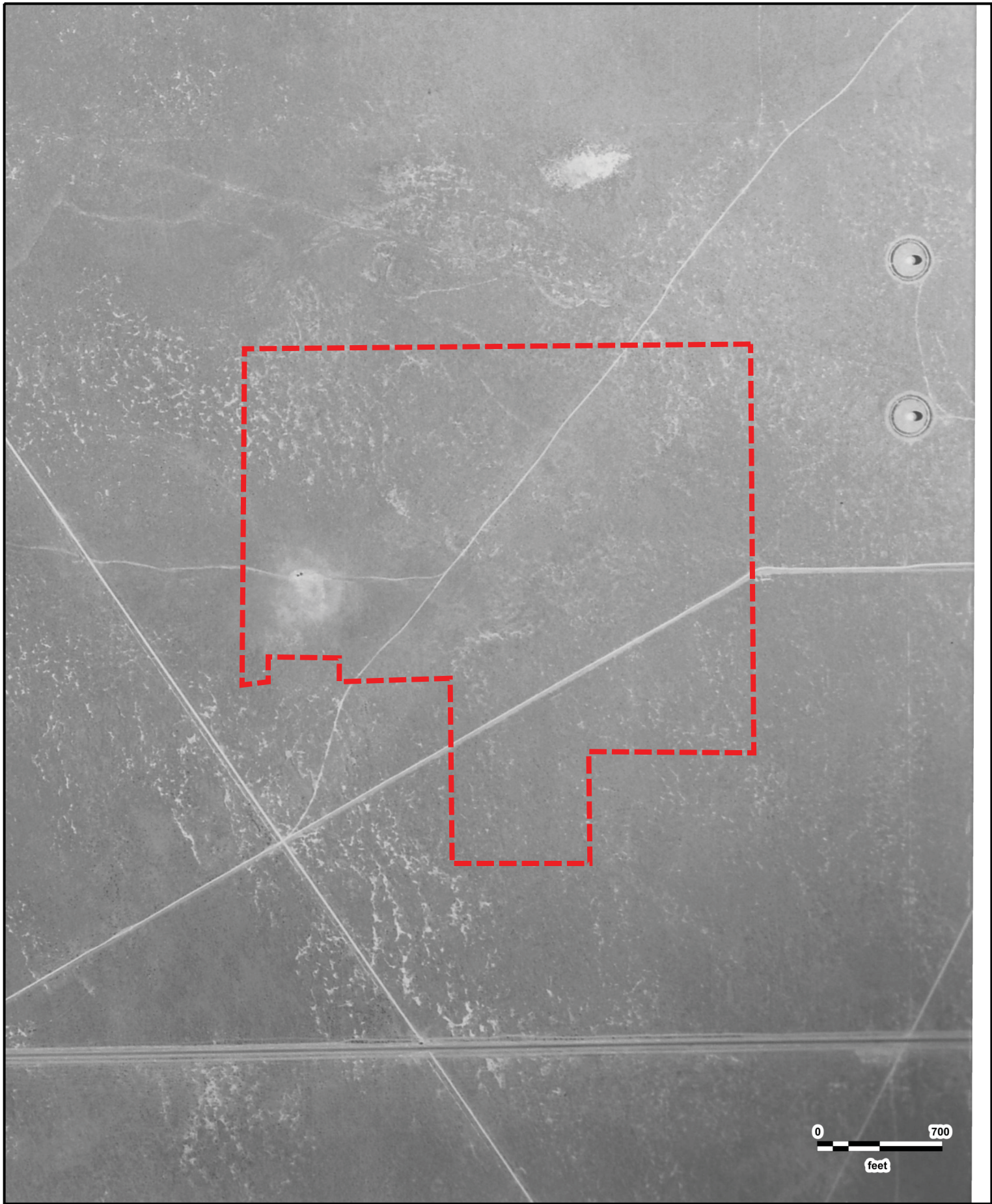
Gates North
CAS
06/29/1965

GeoSearch



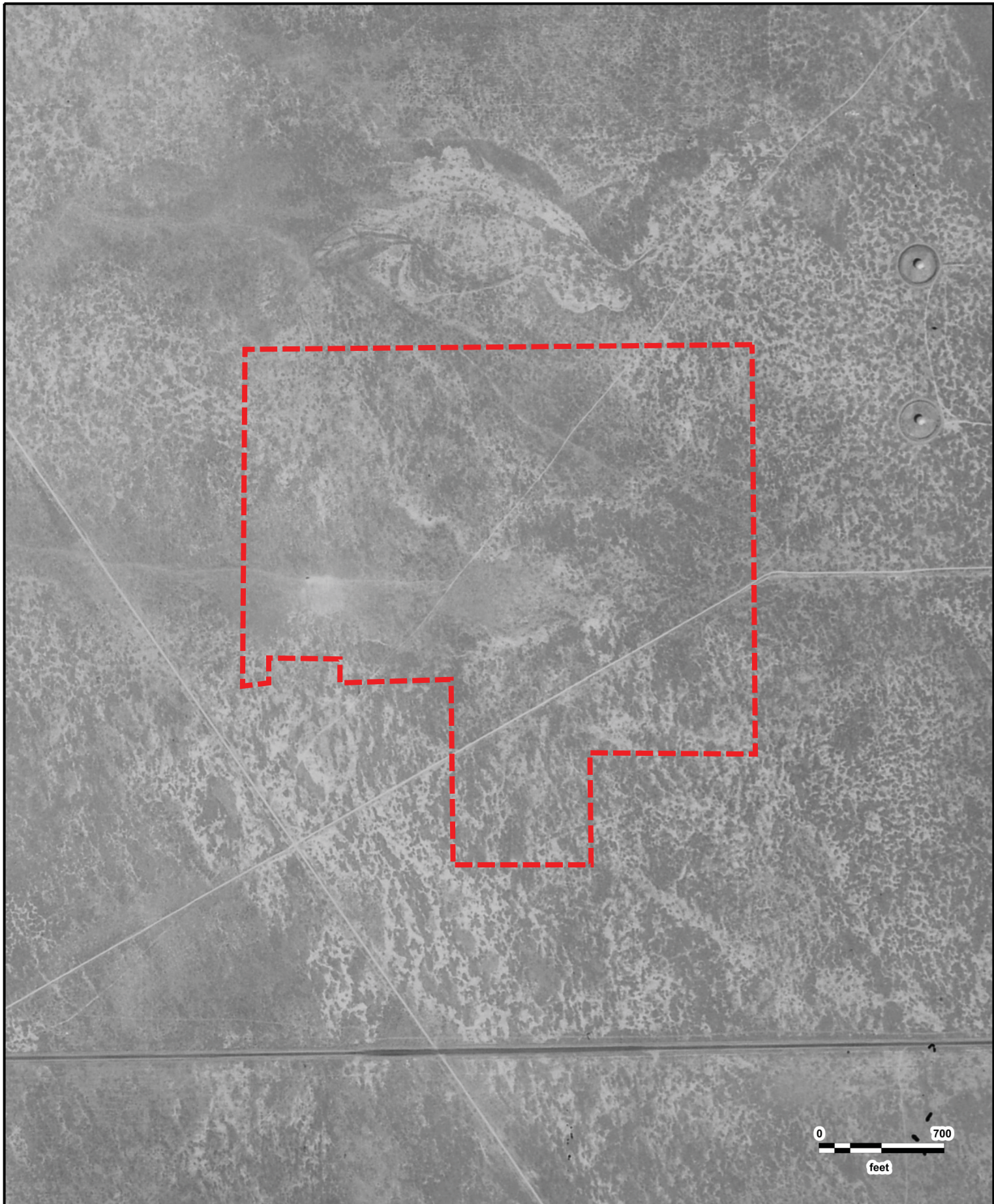
Gates North
USGS
06/23/1955





Gates North
ASCS
05/18/1942





Gates North
ASCS
09/07/1937

GeoSearch

SITE PHOTOGRAPHS



Photo 1. The western portion of the PG&E parcel looking northeast.



Photo 2. The western portion of the PG&E parcel looking north.



Photo 3. The southern portion of the PG&E parcel looking northeast.



Photo 4. The southwestern portion of the PG&E parcel looking west.



Photo 5. The western portion of the PG&E parcel looking northeast.



Photo 6. The western portion of the PG&E parcel looking north.



Photo 7. The central portion of the PG&E parcel looking south toward the PG&E substation.



Photo 8. The southeastern portion of the PG&E parcel looking southeast.



Photo 9. The eastern portion of the PG&E parcel looking northeast.



Photo10. Stock-piled soil and the south-central portion of the PG&E parcel looking southeast.



Photo 11. The central portion of the PG&E parcel looking east.



Photo 12. The eastern portion of the PG&E parcel looking north.



Photo 13. The eastern portion of the PG&E parcel looking northwest.



Photo14. The northeastern portion of the PG&E parcel looking southwest.



Photo 15. The northern portion of the PG&E parcel looking west.



Photo 16. The central portion of the Coelho parcel looking north.



Photo 17. The southwestern portion of the Coelho parcel looking northeast.



Photo18. The southern portion of the Coelho parcel and northern portion of the PG&E parcel looking east.



Photo 19. The Coelho parcel looking northwest.



Photo 20. Farm equipment located on the southern portion of the Coelho parcel.



Photo 21. The southeastern portion of the Coelho parcel looking northwest.



Photo 22. The eastern portion of the Coelho parcel looking north.



Photo 23. The central portion of the Coelho parcel looking south toward the PG&E substation.



Photo 24. The northwestern portion of the of the Coelho parcel looking southeast.



Photo 25. Owl box located near the northwestern portion of the Coelho parcel.



Photo 26. The western portion of the Coelho parcel looking south.



Photo 27. The northern portion of the Coelho parcel looking east.



Photo 28. The northwestern portion of the of the Coelho parcel looking southeast.

Appendix 4.18-A – Sacred Lands File Search Results



NATIVE AMERICAN HERITAGE COMMISSION

July 1, 2020

Douglas Mengers

PanGis Inc.

Via Email to: dmengers@pangis.com

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

Re: LSPGC –Gates 500kv Dynamic Reactive Support Project, Fresno County

Dear Mr. Mengers:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Cultural Resources Analyst

Attachment

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Appendix 4.18-B – NAHC Contacts List

**Native American Heritage Commission
Native American Contacts List
July 1, 2020**

Big Sandy Rancheria of Western Mono Indians Elizabeth D. Kipp, Chairperson PO. Box 337 Auberry, CA 93602 lkipp@bsrnation.com (559) 374-0066 (559) 374-0055	Western Mono	Kings River Choinumni Farm Tribe Stan Alec 3515 East Fedora Avenue Fresno, CA 93726 (559) 647-3227 Cell	Foothill Yokuts Choinumni
Cold Springs Rancheria Carol Bill, Chairperson P.O. Box 209 Tollhouse, CA 93667 coldsprgstrib@netptc.net (559) 855-5043 (559) 855-4445 Fax	Mono	North Fork Mono Tribe Ron Goode, Chairperson 13396 Tollhouse Road Clovis, CA 93619 rwgoode911@hotmail.com (559) 299-3729 Home (559) 355-1774 - cell	Mono
Dumna Wo-Wah Tribal Goverment Robert Ledger Sr., Chairperson 2191 West Pico Ave. Fresno, CA 93705 ledgerrobert@ymail.com (559) 540-6346	Dumna/Foothill Yokuts Mono	Santa Rosa Rancheria Tachi Yokut Tribe Leo Sisco, Chairperson P.O. Box 8 Lemoore, CA 93245 (559) 924-1278 (559) 924-3583 Fax	Tache Tachi Yokut
Dunlap Band of Mono Indians Benjamin Charley Jr., Tribal Chair P.O. Box 14 Dunlap, CA 93621 ben.charley@yahoo.com (760) 258-5244	Mono	Table Mountain Rancheria Leanne Walker-Grant, Chairperson P.O. Box 410 Friant, CA 93626 rpennell@tmr.org (559) 822-2587 (559) 822-2693 Fax	Yokuts
Dunlap Band of Mono Indians Dirk Charley, Tribal Secretary 5509 E. McKenzie Avenue Fresno, CA 93727 dcharley2016@gmail.com (559) 554-5433	Mono	Table Mountain Rancheria Bob Pennell, Cultural Resources Director P.O. Box 410 Friant, CA 93626 rpennell@tmr.org (559) 325-0351 (559) 325-0394 Fax	Yokuts

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
LSPGC –Gates 500kv Dynamic Reactive Support Project, Fresno County.

**Native American Heritage Commission
Native American Contacts List
July 1, 2020**

Traditional Choinumni Tribe David Alvarez, Chairperson 2415 E. Houston Avenue Fresno CA 93720 davealvarez@sbcglobal.net (559) 217-0396 Cell	Choinumni
--	-----------

Traditional Choinumni Tribe Rick Osborne, Cultural Resources 2415 E. Houston Avenue Fresno CA 93720 (559) 324-8764 lemek@att.net	Choinumni
---	-----------

Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas CA 93906 kwood8934@aol.com (831) 443-9702	Foothill Yokuts Mono Wuksache
---	-------------------------------------

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

**This list is only applicable for contacting local Native Americans Tribes for the proposed:
LSPGC –Gates 500kv Dynamic Reactive Support Project, Fresno County.**

Appendix 4.18-C – Tribal Communication



July 1, 2020
Elizabeth D. Kipp, Chairperson
PO. Box 337
Auberry, CA, 93602

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Kipp,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

PanGIS, Inc., is providing cultural resources services for the project's planning process, including: a records search at the Southern San Joaquin Valley Information Center (SSJVIC), Sacred Lands File Search with the Native American Heritage Commission (NAHC), and a cultural resources technical report.

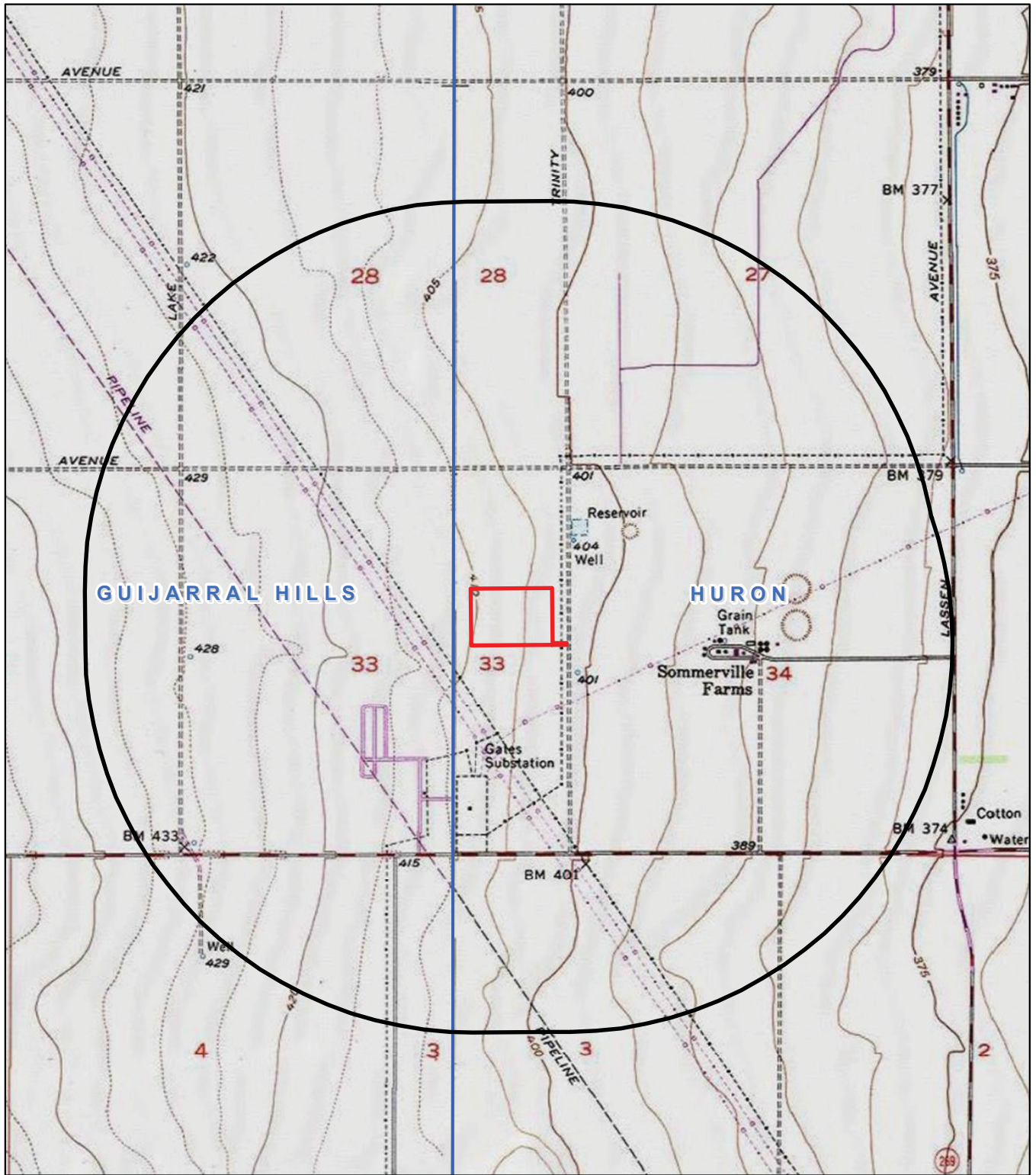
A records search of the NAHC Sacred Lands File was conducted on June 29, 2020, for the project area; the results were negative. The NAHC suggested you may be able to supply information pertinent to the project area or might recommend others with specific knowledge. Any sensitive cultural information you provide will be protected and will not be disclosed in public documentation. **This is an information request only and is not associated with any official consultation.**

Thank you for your consideration of this matter and please do not hesitate to contact me at (619)218-9724 or dmengers@pangis.com should you have any questions or need additional information.




Sincerely,
Douglas Mengers, M.A. RPA, DPPH
Senior Archaeologist/Historian
PanGIS, Inc.
(619) 218-9724
dmengers@pangis.com

Attachment 1: LSPGC- Gates 500kV Dynamic Reactive Support Project Location Map

*8555 Aero Drive, Suite 200
San Diego, California 92123
Phone: 760.683.8335 Fax: 760.884.3763*

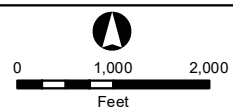


Legend

-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020
Carol Bill, Chairperson
P.O. Box 209
Tollhouse, CA, 93667

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Bill,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

PanGIS, Inc., is providing cultural resources services for the project's planning process, including: a records search at the Southern San Joaquin Valley Information Center (SSJVIC), Sacred Lands File Search with the Native American Heritage Commission (NAHC), and a cultural resources technical report.

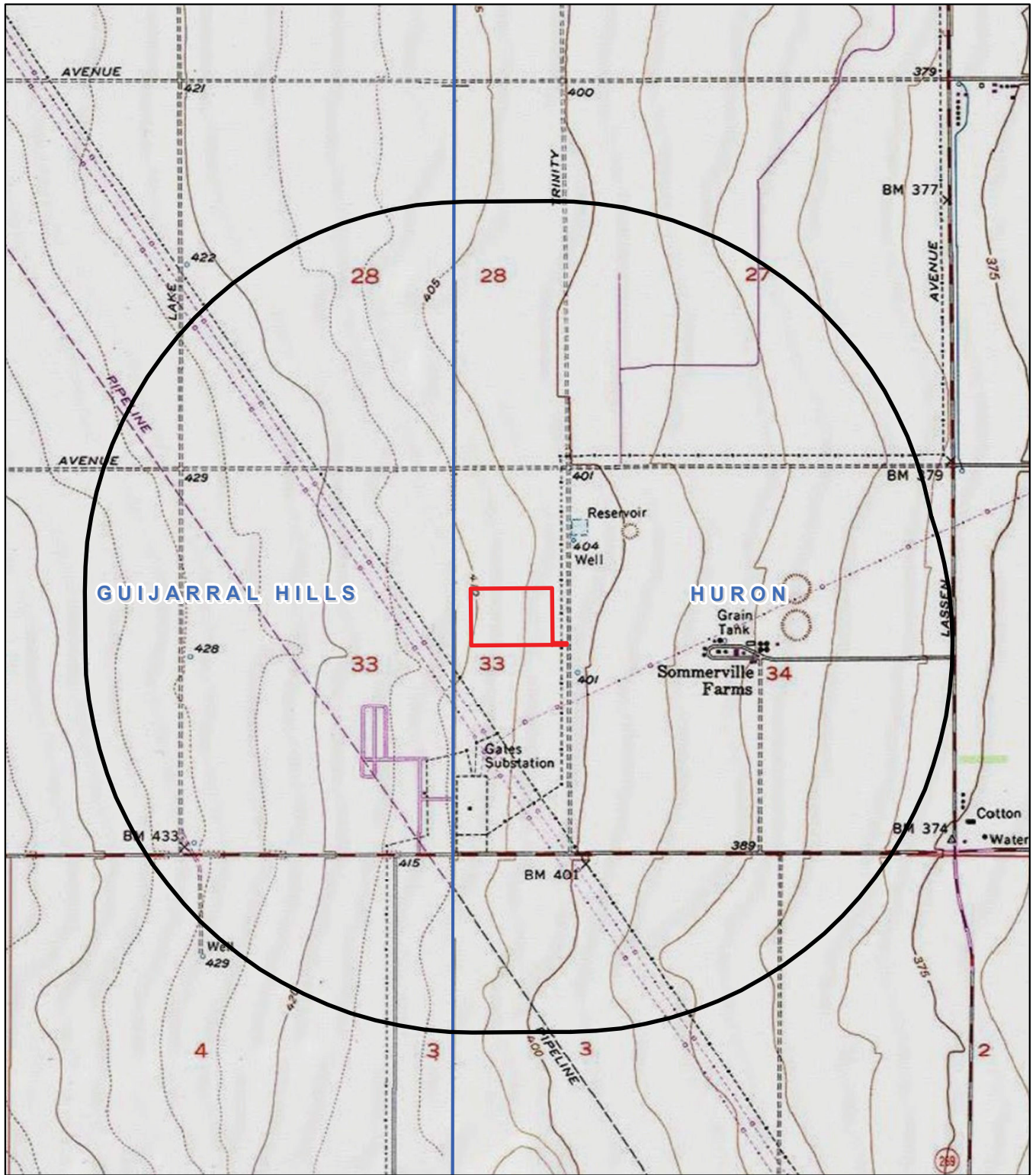
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Senior Archaeologist/Historian
PanGIS, Inc.
(619) 218-9724
dmengers@pangis.com

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San Diego, California 92123
Phone: 760.683.8335 Fax: 760.884.3763*

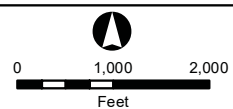


Legend

-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020

Robert Ledger Sr., Chairperson

2191 West Pico Ave.

Fresno, CA, 93705

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Ledger Sr.,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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Sincerely,

Douglas Mengers, M.A. RPA, DPPH

Senior Archaeologist/Historian

PanGIS, Inc.

(619) 218-9724

dmengers@pangis.com

Attachment 1: LSPGC- Gates 500kV Dynamic Reactive Support Project Location Map

*8555 Aero Drive, Suite 200
San Diego, California 92123
Phone: 760.683.8335 Fax: 760.884.3763*



July 1, 2020

Benjamin Charley Jr., Tribal Chair

P.O. Box 14

Dunlap, CA 93621

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Tribal Chair Charley Jr.,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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Sincerely,

Douglas Mengers, M.A. RPA, DPPH

Senior Archaeologist/Historian

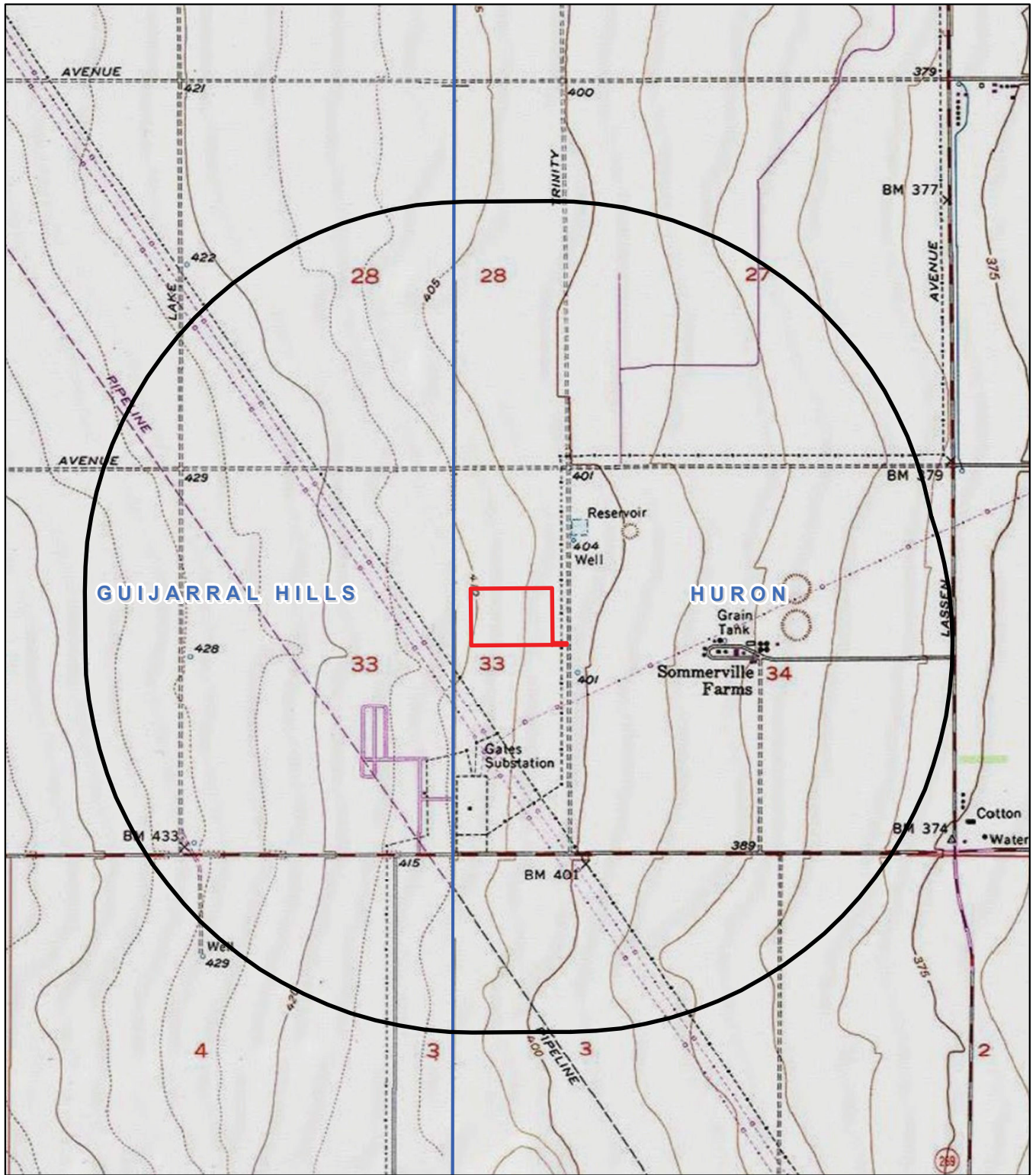
PanGIS, Inc.

(619) 218-9724




dmengers@pangis.com

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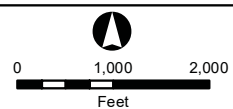


Legend

-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020

Dirk Charley, Tribal Secretary
5509 E. McKenzie Avenue
Fresno, CA, 93727

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Tribal Secretary Charley,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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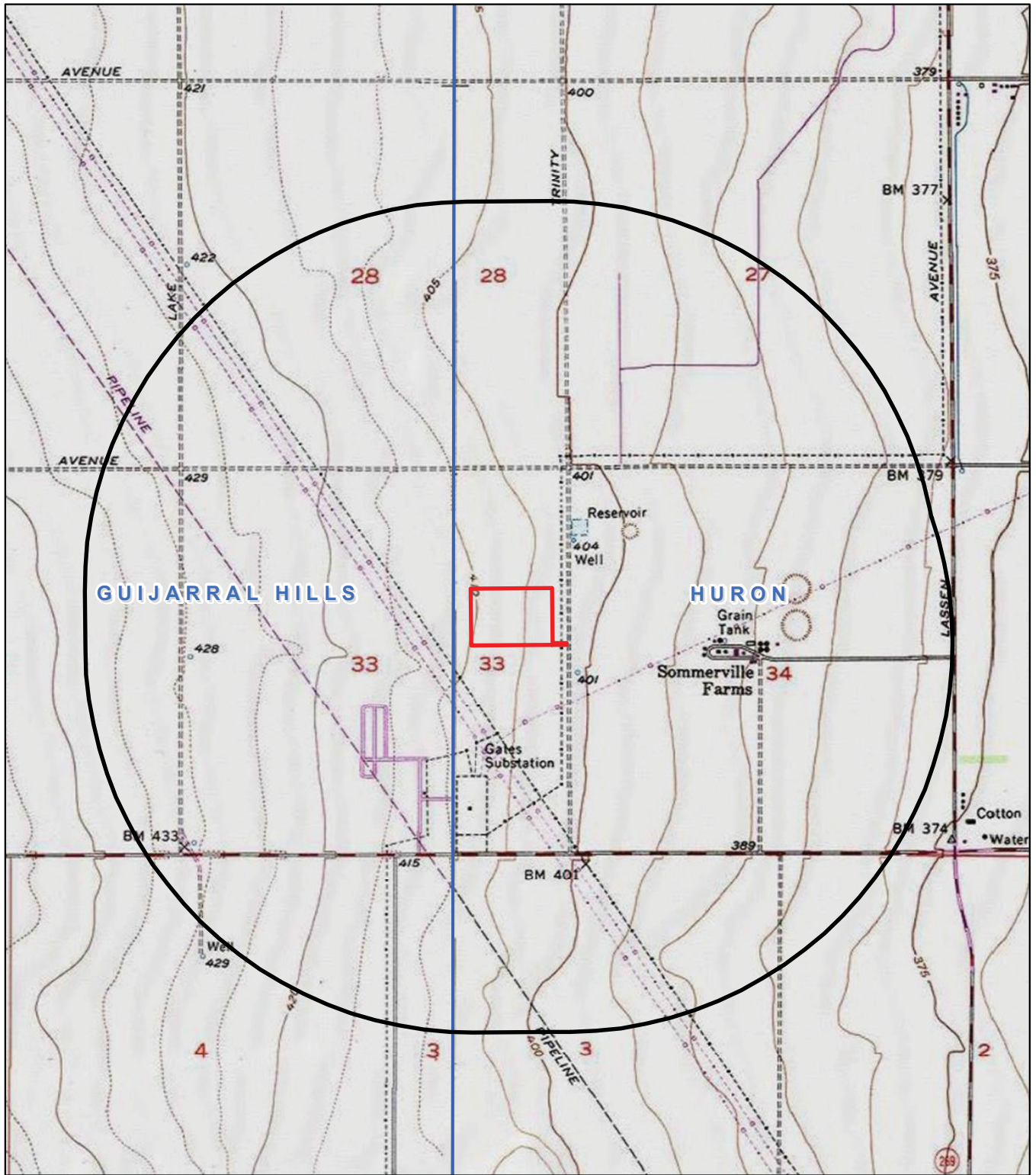
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San Diego, California 92123
Phone: 760.683.8335 Fax: 760.884.3763*

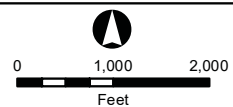


Legend

-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020

David Alvarez, Chairperson

2415 E. Houston Avenue

Fresno, CA, 93720

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Alvarez,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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Thank you for your consideration of this matter and please do not hesitate to contact me at (619)218-9724 or dmengers@pangis.com should you have any questions or need additional information.

Sincerely,

Douglas Mengers, M.A. RPA, DPPH

Senior Archaeologist/Historian

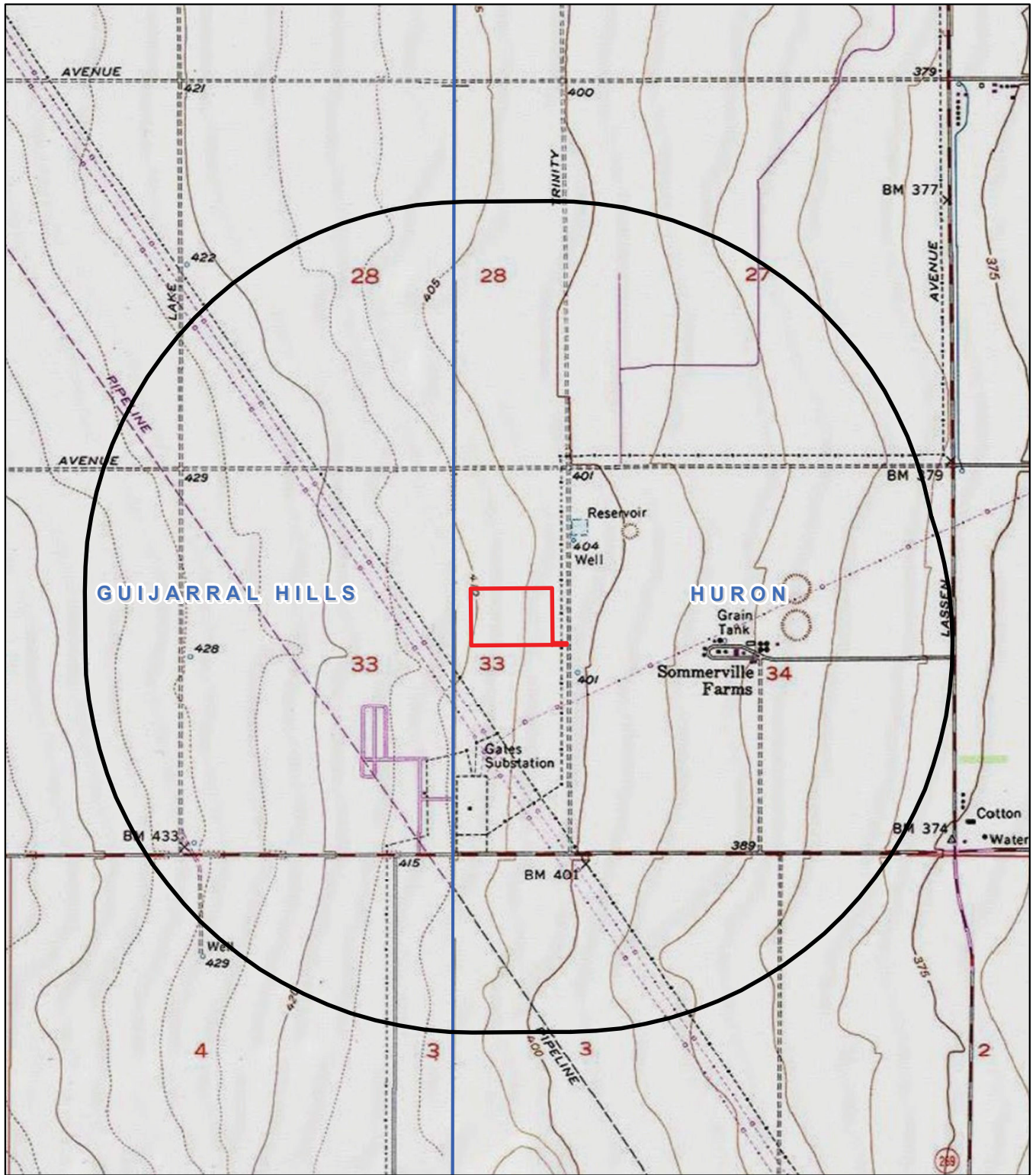
PanGIS, Inc.

(619) 218-9724




dmengers@pangis.com

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San Diego, California 92123
Phone: 760.683.8335 Fax: 760.884.3763*

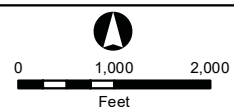


Legend

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-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020
Rick Osborne, Cultural Resources
2415 E. Houston Avenue
Fresno 93720

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Cultural Resources Osborne,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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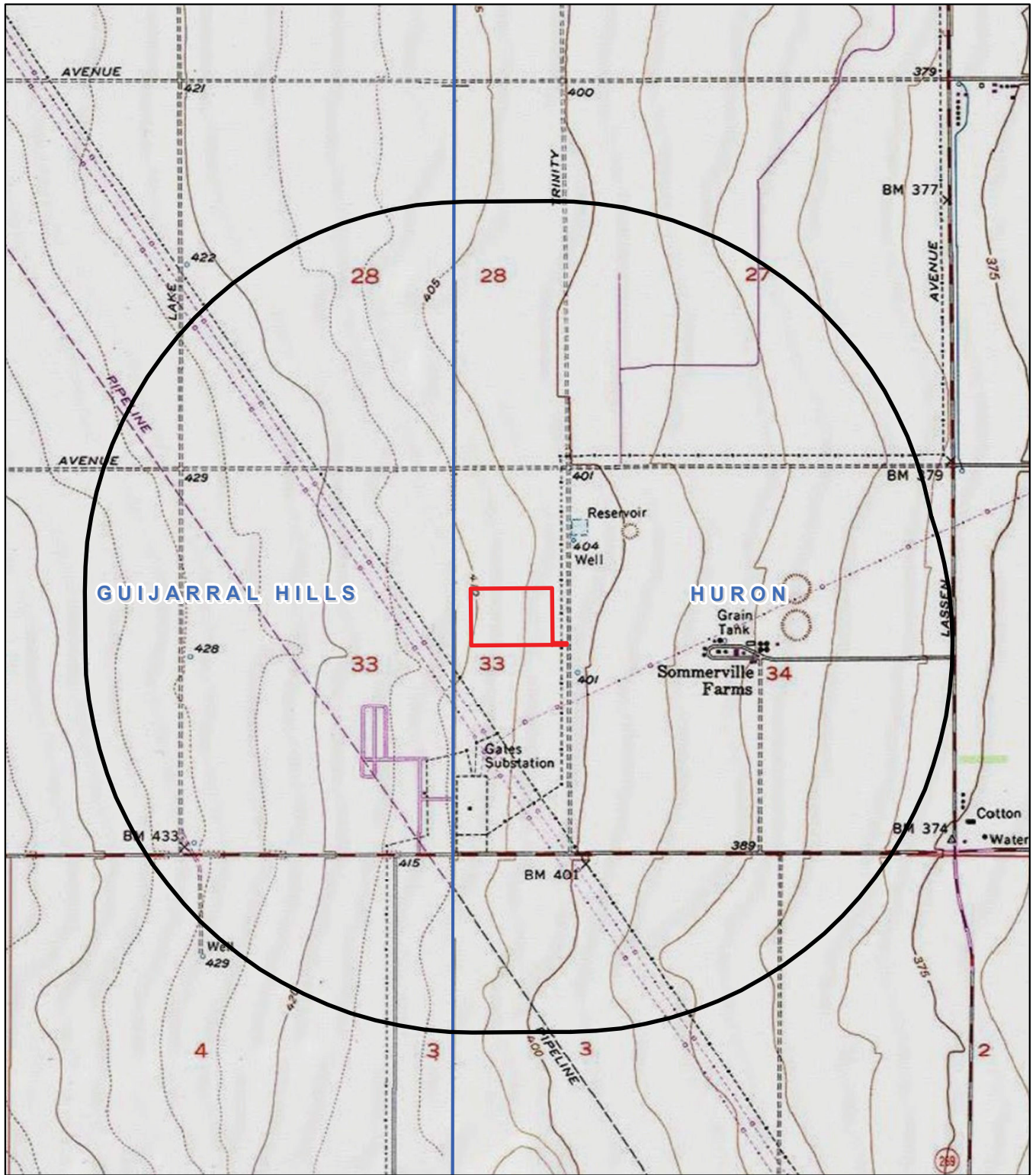
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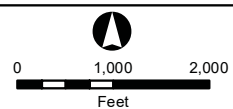


Legend

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-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020

Kenneth Woodrow, Chairperson

1179 Rock Haven Ct.

Salinas, CA, 93906

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Woodrow,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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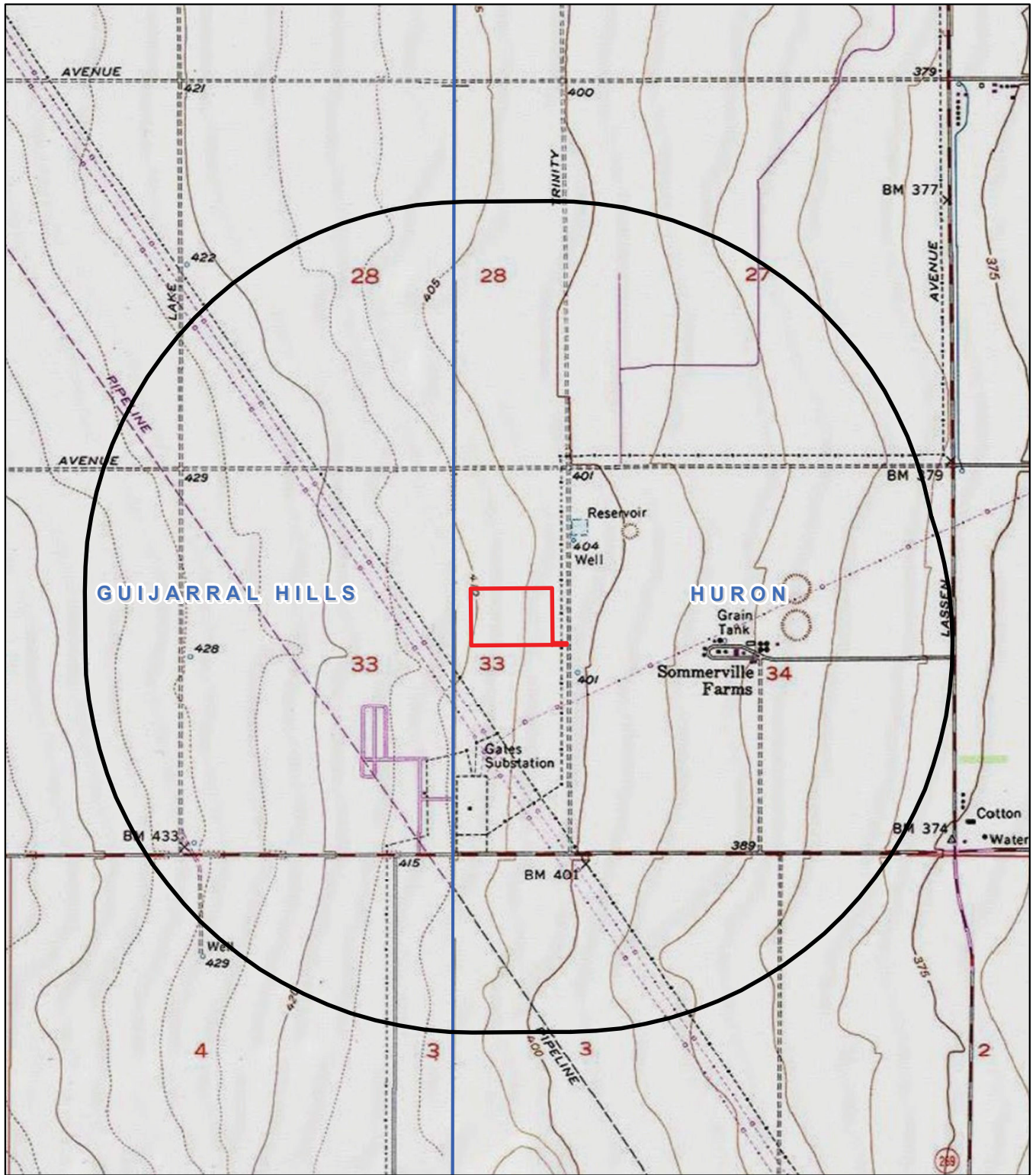
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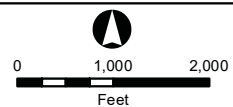


Legend

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-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020
Stan Alec
3515 East Fedora Avenue
Fresno, CA, 93726

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Stan Alec,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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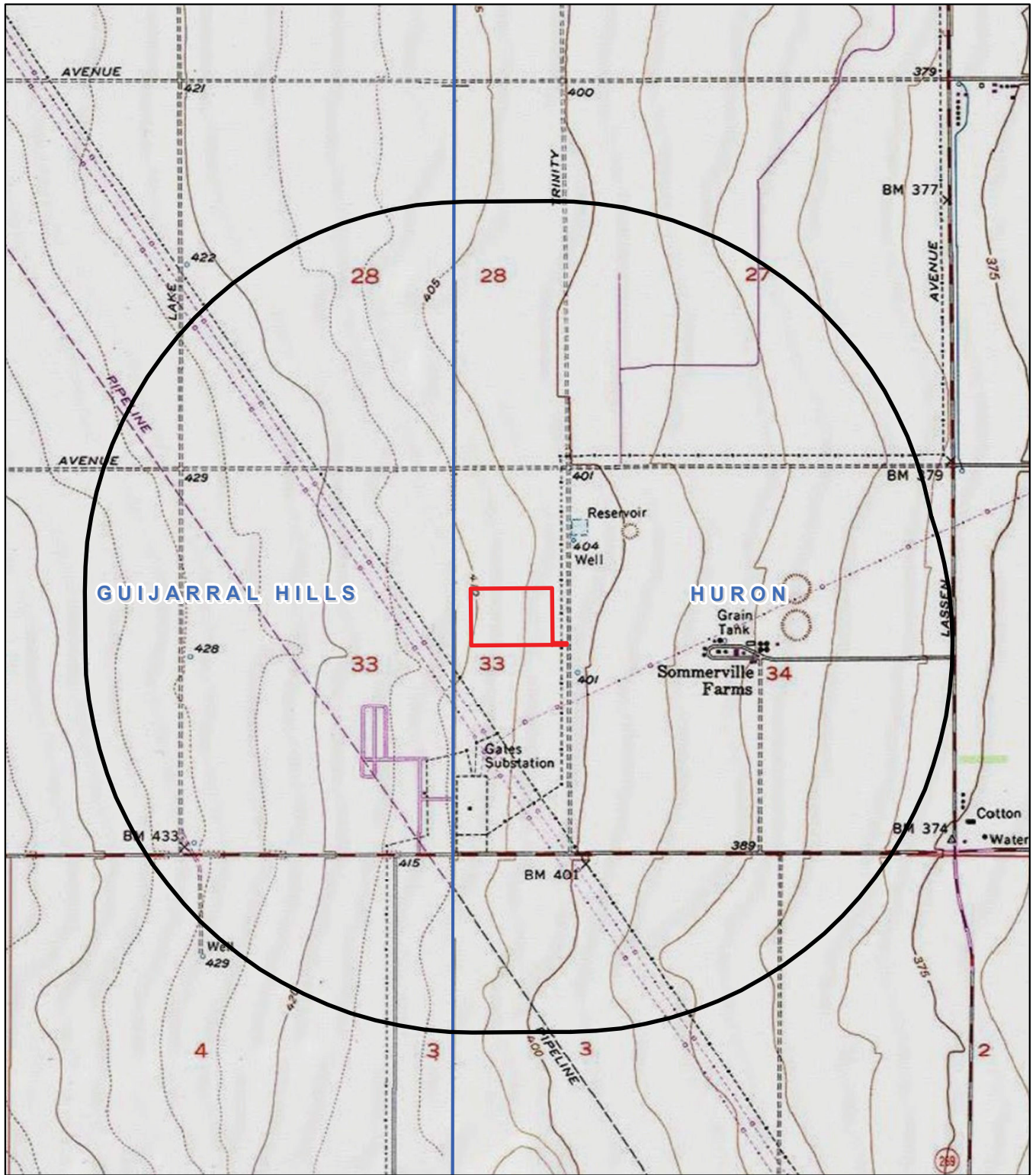
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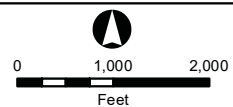


Legend

-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020
Ron Goode, Chairperson
13396 Tollhouse Road
Clovis 93619

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Goode,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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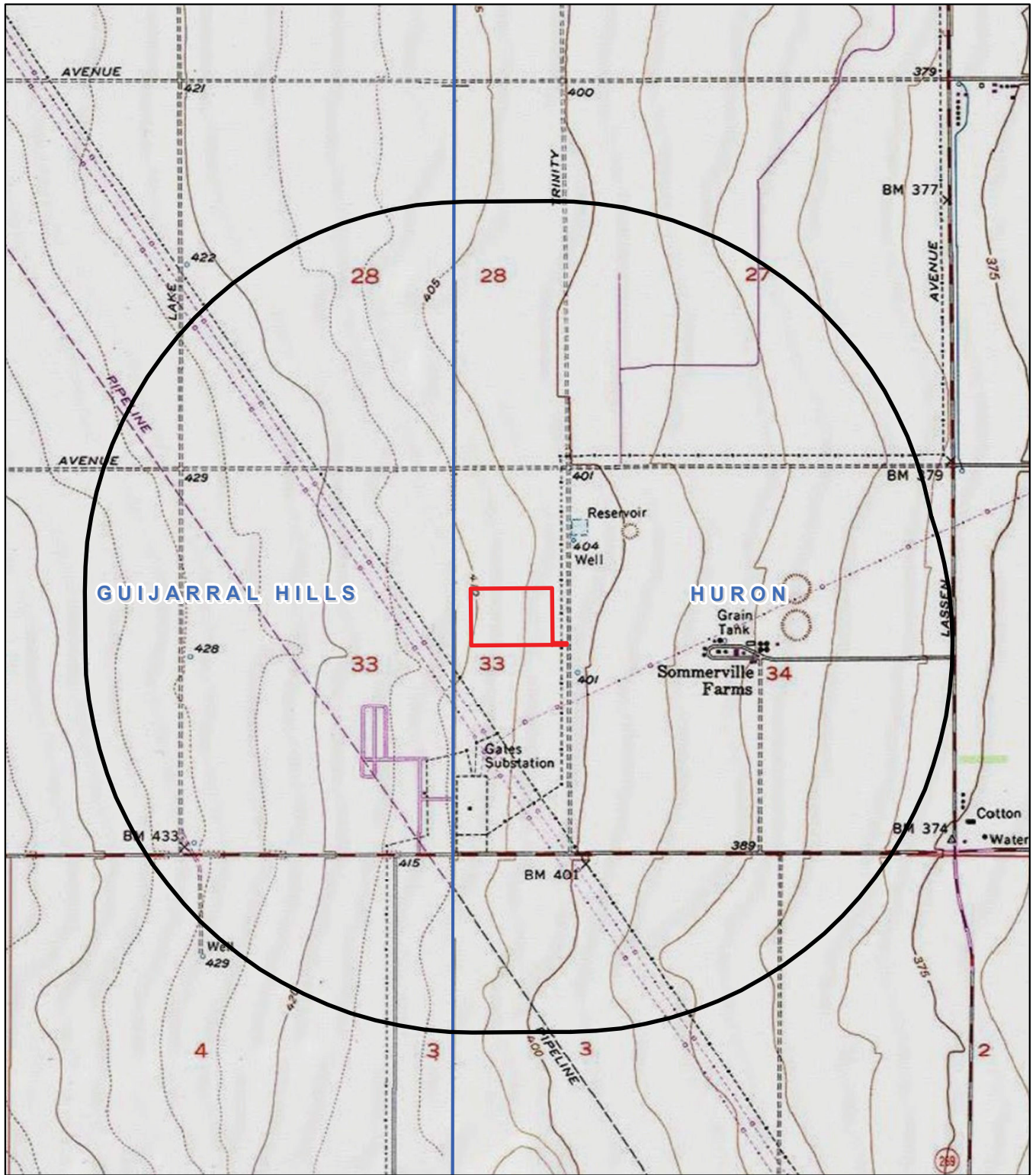
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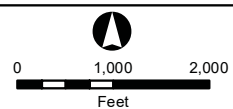


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-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020
Leo Sisco, Chairperson
P.O. Box 8
Lemoore, CA, 93245

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Sisco,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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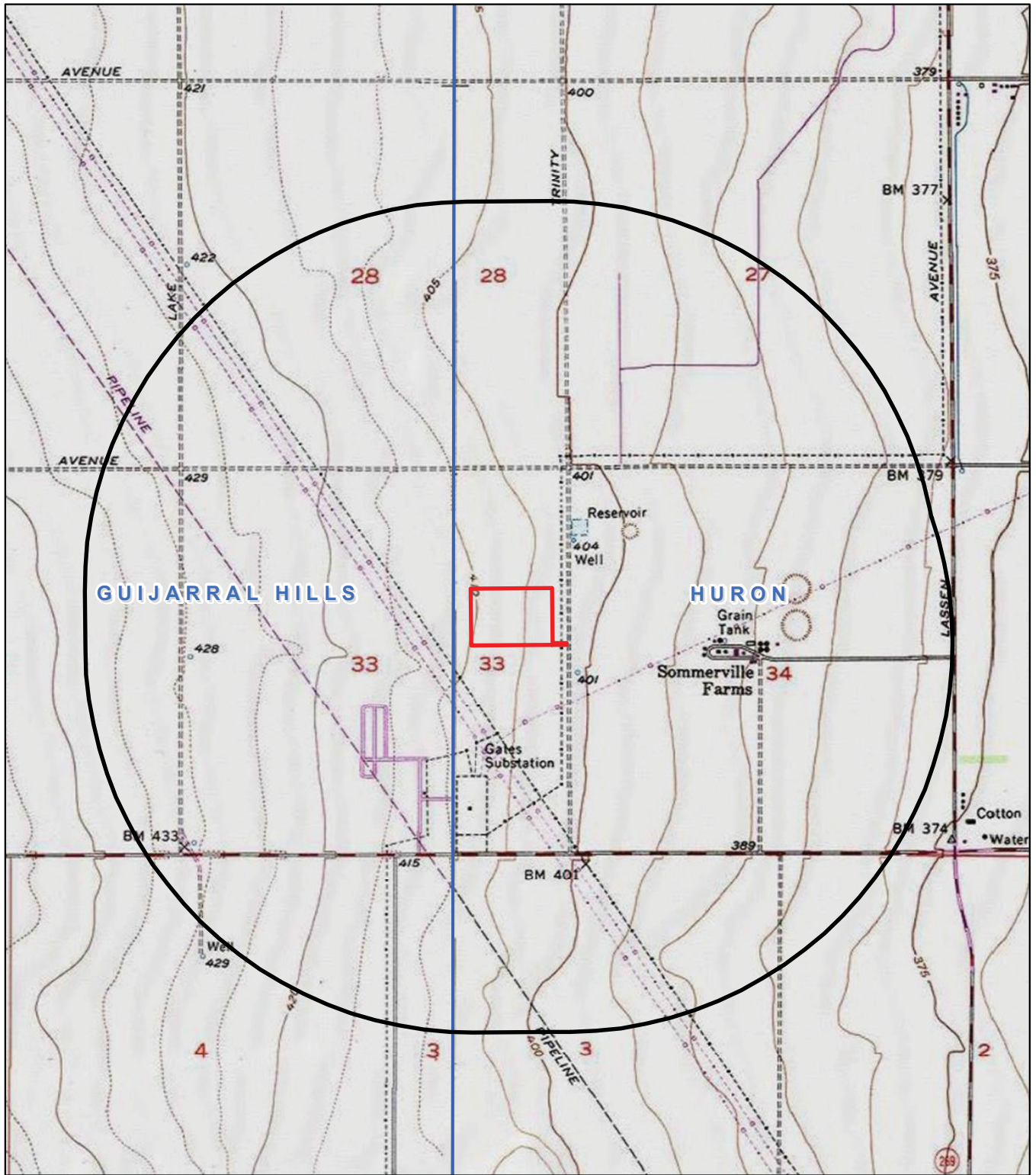
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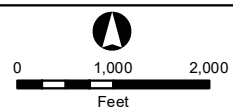


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-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020

Leanne Walker-Grant, Chairperson

P.O. Box 410

Friant, CA, 93626

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Chairperson Walker-Grant,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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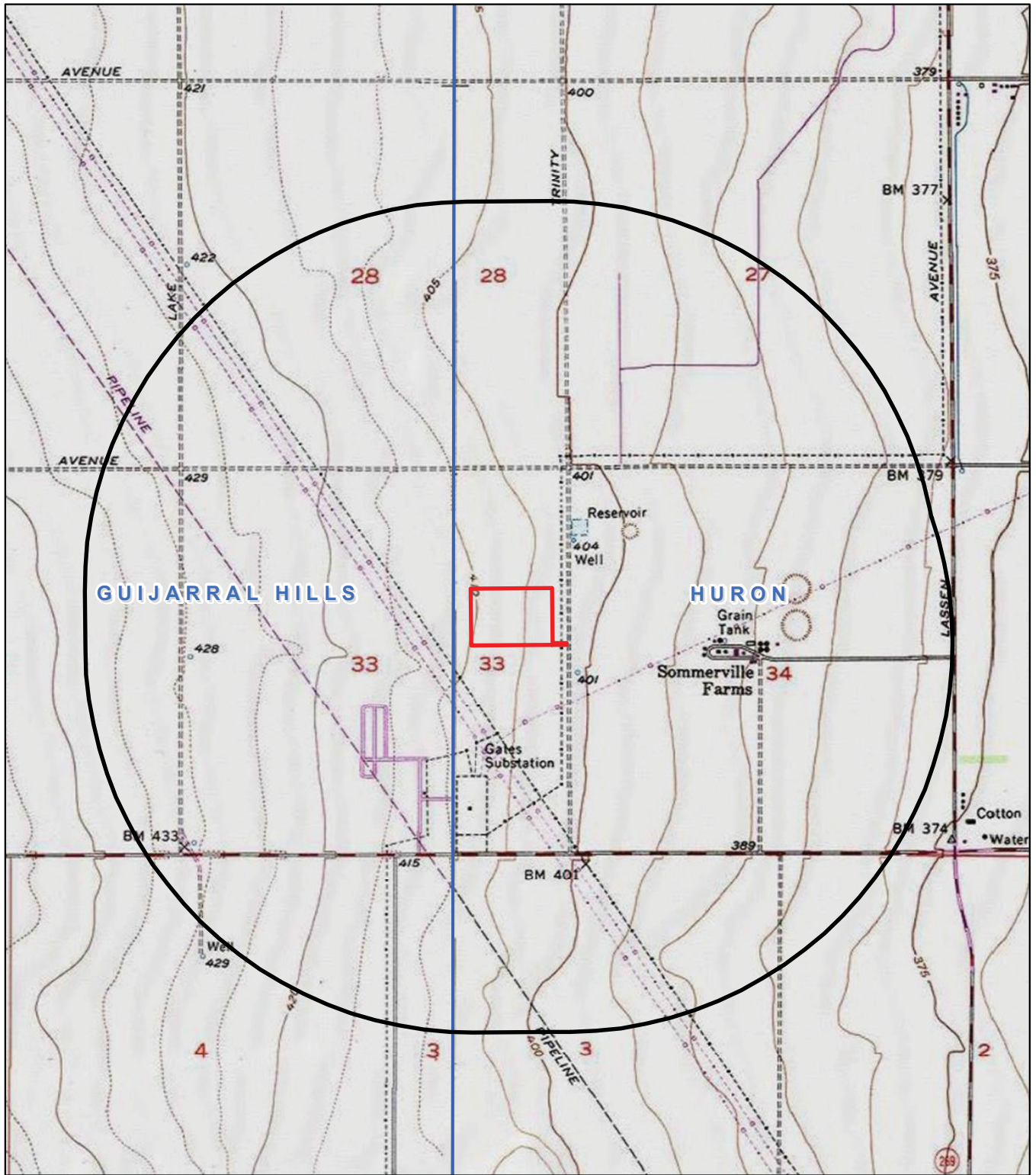
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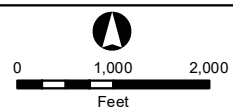


Legend

-  1 Mile Record Search Boundary
-  Project Area
-  USGS 7.5' Quad Boundaries

Gates Substation Expansion

Record Search Area





July 1, 2020

Bob Pennell, Cultural Resources Director

P.O. Box 410

Friant, CA, 93626

Re: LSPGC- Gates 500kV Dynamic Reactive Support Project

Dear Cultural Resources Director Pennell,

For the LSPGC- Gates 500kV Dynamic Reactive Support Project, located approximately 3.5 miles southwest of the City of Huron in Fresno County, CA, the project area is being considered for the development of a reactive power support substation expansion. The site, currently being utilized as farmland, is approximately 15 acres in size located within an approximately 72-acre parcel directly north and adjacent to the Pacific Gas and Electric (PG&E) owned Gates substation. The project would interconnect to the Gates Substation via two 500 kilovolt (kV) transmission lines.

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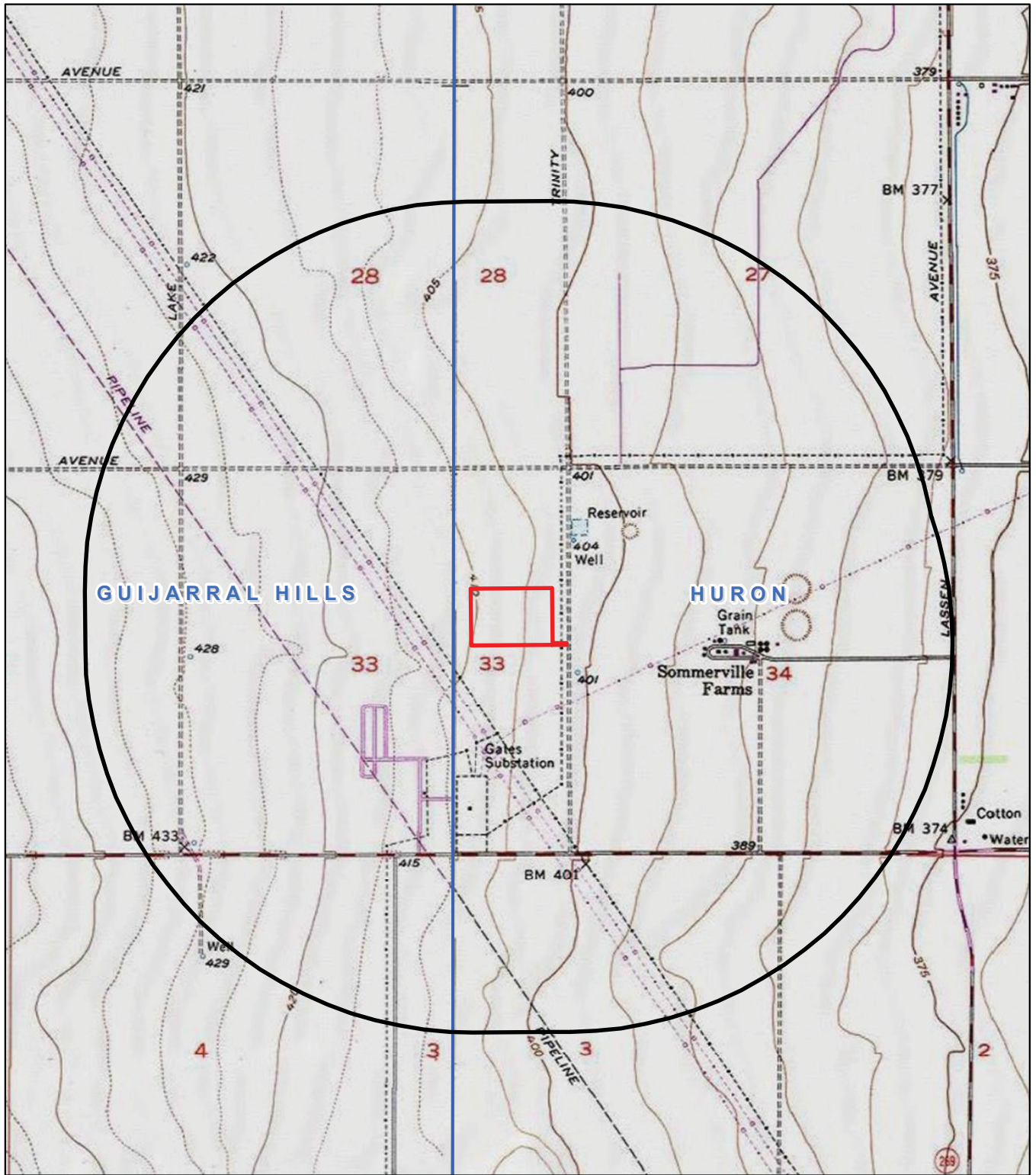
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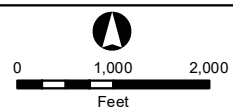


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Gates Substation Expansion

Record Search Area



APPENDIX E

APPENDIX E

FIELD MANAGEMENT PLAN

Gates 500 kV Dynamic Reactive Support Project

LS Power Grid California, LLC

February 2021

1.1 INTRODUCTION

In 1993, the California Public Utilities Commission (CPUC) adopted an electromagnetic field (EMF) policy for electric utility facilities and power lines.¹ Because the CPUC concluded there was no reliable scientific basis for adverse health effects from power grid frequency EMF, the CPUC declined to adopt a specific numerical standard for EMF exposure.² In 2004, the Commission opened a rulemaking docket to determine whether there were improvements that should be made to the EMF policy established in 1993.

In 2006, the Commission issued Decision 06-01-042, which affirmed the prior finding that no direct link between exposure to EMF and adverse health effects had been proven, despite numerous studies, including a research program ordered by the Commission and conducted by the Department of Health Services.³ The decision also addressed the mitigation measures to be required in different land use contexts and determined that low-cost measures were not required in agricultural or undeveloped areas. Only no-cost mitigation measures are required in those areas.⁴

The CPUC adopted *EMF Design Guidelines for Electrical Facilities* dated July 21, 2006 (the “FMP Guidelines”), which require preparation of a substation field management plan (FMP) in the form of a checklist for construction of any new substation rated 50 kilovolts (kV) or above. The FMP Guidelines also state that magnetic field modeling for a new substation project is not required.

This FMP document, which was developed in accordance with the FMP Guidelines, provides a description of the measures proposed to reduce the potential for exposure to EMF generated by the proposed Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project).

1.2 PROJECT DESCRIPTION

The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of the CAISO controlled grid. This would be accomplished through the construction of a dynamic reactive device between two equally sized blocks. The Proposed Project is being proposed by LSPGC, a Delaware limited liability company established to own transmission projects in California.

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 be independently connected to the existing Pacific Gas and Electric Company’s (PG&E) Gates 500 kV Substation via two new single-circuit 500 kV interconnection transmission lines.

The Proposed Project site is approximately 20 acres in size, located directly north and adjacent to the PG&E Gates Substation in Fresno County, California. 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 3.3 miles southwest of the city of Huron

¹ Decision 93-11-013, pp. 10-11.

² *Id.* at p. 11.

³ Decision 06-01-042 at 19.

⁴ *Id.* at pp. 9, 20 (Finding of Fact 18).

and approximately 2.2 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.

1.3 FMP INFORMATION

Per the FMP Guidelines, construction of a new substation rated 50 kV or above requires the preparation of a substation FMP in a form of a checklist. As discussed above, Decision 06-01-042 determined that low-cost field reduction measures are not required in agricultural areas. As such, the checklist provided in Table 1 below evaluates only no-cost field reduction measures.

Table 1. Checklist Evaluation of No-Cost Field Reduction Measures

No.	Magnetic Field Reduction Measures Evaluated for the Proposed Project	Measure Adopted? (Yes/No)	Reason(s) if not Adopted
1	Locate high-current devices, transformers, capacitors, and reactors away from the substation property lines.	Yes	--
2	For underground duct banks, the minimum distance should be 12 feet from the adjacent property lines or as close to 12 feet as practical.	Yes	--
3	Locate new substations close to existing power lines to the extent practical.	Yes	--
4	Increase the substation property boundary to the extent practical.	Yes	--
5	Locate the Proposed Project close to existing substations to the extent practical.	Yes	--

3787/003/X224450.v1

APPENDIX F

**NOTICE OF APPLICATION FOR A
PERMIT TO CONSTRUCT
GATES 500 KILOVOLT DYNAMIC REACTIVE SUPPORT PROJECT**

Proposed Project: LS Power Grid California, LLC (LSPGC) has filed an application with the California Public Utilities Commission (CPUC) for a Permit to Construct the Gates 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project). The Proposed Project would:

- Ensure the reliability of electric service to a major portion of the California electric grid;
- Provide cost-effective voltage control and other electric transmission grid benefits;
- Support the provision of safe, reliable, and adequate electricity service to customers in the service territory of Pacific Gas and Electric Company (PG&E);
- Facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals by ensuring reliable operation of the grid.

Project Description: The Proposed Project will be constructed on approximately 10 acres of a 20-acre parcel adjacent to PG&E's Gates Substation in Fresno County, approximately 3.5 miles southwest of the City of Huron. The Proposed Project consists of a dynamic reactive support substation and two 500 kV tie lines. The substation component will include two blocks of a minimum of ± 424 million volt-amperes, reactive (MVAR) (for a total of a minimum of ± 848 MVAR) dynamic reactive capability to be installed in a minimum of two, equally sized Static Synchronous Compensator (STATCOM) units. Each STATCOM unit will be independently connected to the PG&E Gates Substation 500 kV bus by two, new single circuit overhead 500 kV interconnection transmission lines, to be constructed and owned by PG&E, each approximately 550 feet in length.

Electric and Magnetic Fields (EMF) Compliance: The CPUC requires substation developers to implement "no-cost" measures to reduce public exposure to magnetic fields. In compliance with the CPUC's requirements, LSPGC has filed an EMF Management Plan for the Proposed Project. LSPGC will implement the following EMF reduction measures for the Proposed Project:

1. Locate high-current devices, transformers, capacitors, and reactors away from substation property lines;
2. Locate new substations close to existing power lines to the extent practical;
3. Increase the substation property boundary to the extent practical.

Environmental Review: LSPGC has prepared a Proponent's Environmental Assessment (PEA) of potential environmental impacts created by the construction and operation of the Proposed Project. The PEA concludes that with implementation of Applicant-Proposed Measures, the potential significant environmental effects associated with the Proposed Project would be reduced to less than significant levels.

Pursuant to the California Environmental Quality Act (CEQA), the CPUC's Energy Division will conduct an independent review of the Proposed Project's environmental impacts.

Depending on the results of that review, the Energy Division is expected to issue either a Mitigated Negative Declaration based on its conclusion that the Proposed Project will not result in any significant environmental impacts if adopted mitigation measures are implemented, or an Environmental Impact Report (EIR) identifying the significant environmental impacts and specifying the mitigation measures or alternatives that will avoid or reduce the environmental impacts.

Public Participation: The public may participate in the environmental review by submitting comments on the Notice of Intent to a Adopt a Mitigated Negative Declaration, or the Notice of Preparation of an EIR and draft EIR, and by participating in any scoping meetings or public meetings that may be conducted. For information about the environmental review, contact the CPUC's Energy Division at enviroteam@cpuc.ca.gov or (415) 703-2126.

Persons wishing to present testimony in evidentiary hearings or legal briefing on all other issues, including the need for and cost of the Proposed Project, compliance with EMF requirements, or whether the EIR (if one is prepared) complies with CEQA, need to obtain party status. Persons may obtain party status by filing a protest to the application by March 24, 2021, in compliance with Rule 2.6, or by making a motion for party status at any time in compliance with Rule 1.4 of the CPUC's Rules of Practice and Procedure (available at www.cpuc.ca.gov).

Members of the public may communicate their views regarding the Proposed Project by writing to the CPUC at 505 Van Ness Avenue, San Francisco, CA 94102 or by emailing the Public Advisor at public.advisor@cpuc.ca.gov. In addition, the CPUC may, at its discretion, hold a public participation hearing to take oral public comments.

Document Subscription Service: The CPUC's free online subscription service sends subscribers an email notification when any document meeting the subscriber's criteria is published on the CPUC's website, such as documents filed in a CPUC proceeding (e.g., notices of hearings, rulings, briefs, and decisions). To sign up to receive notification of documents filed in this proceeding (or other CPUC matters), visit www.cpuc.ca.gov/subscription.

Assistance in Filing a Protest: If you need assistance in filing a protest, please contact the Public Advisor by email at public.advisor@cpuc.ca.gov or call 1-866-849-8390 (toll-free) or (415) 703-2074 or TYY (415) 703-5258.

To review a copy of LSPGC's application, or to request further information about the Proposed Project, please contact David Wilson of LSPGC at DWilson@LSPower.com or call (636) 532-2200.

APPENDIX G

Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "LS POWER GRID CALIFORNIA, LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE FIRST DAY OF MARCH, A.D. 2019.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "LS POWER GRID CALIFORNIA, LLC" WAS FORMED ON THE FIFTEENTH DAY OF AUGUST, A.D. 2008.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.




Jeffrey W. Bullock, Secretary of State

4588352 8300

SR# 20191685691

You may verify this certificate online at corp.delaware.gov/authver.shtml

Authentication: 202357007

Date: 03-01-19

201906310046

Delaware

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Page 1

*I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF
DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT
COPY OF THE CERTIFICATE OF AMENDMENT OF "CALIFORNIA
TRANSMISSION DEVELOPMENT, LLC", CHANGING ITS NAME FROM
"CALIFORNIA TRANSMISSION DEVELOPMENT, LLC" TO "LS POWER GRID
CALIFORNIA, LLC", FILED IN THIS OFFICE ON THE TWENTY-EIGHTH DAY
OF FEBRUARY, A.D. 2019, AT 12:37 O`CLOCK P.M.*




Jeffrey W. Bullock, Secretary of State

4588352 8100
SR# 20191569171

Authentication: 202351089
Date: 03-01-19

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STATE OF DELAWARE
CERTIFICATE OF AMENDMENT

1. Name of Limited Liability Company: California Transmission Development, LLC
2. The Certificate of Formation of the limited liability company is hereby amended as follows:

The new name of the Company is LS Power Grid
California, LLC

IN WITNESS WHEREOF, the undersigned have executed this Certificate on
the 28th day of February, A.D. 2019.

By: Michelle Genieczko
Authorized Person(s)

Name: Michelle Genieczko

Print or Type

Delaware

PAGE 1

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF FORMATION OF "CALIFORNIA TRANSMISSION DEVELOPMENT, LLC", FILED IN THIS OFFICE ON THE FIFTEENTH DAY OF AUGUST, A.D. 2008, AT 12:23 O'CLOCK P.M.



4588352 8100

080876299

You may verify this certificate online
at corp.delaware.gov/authver.shtml

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

AUTHENTICATION: 6796849

DATE: 08-18-08

CERTIFICATE OF FORMATION
OF
CALIFORNIA TRANSMISSION DEVELOPMENT, LLC

The undersigned, an authorized natural person, for the purpose of forming a limited liability company under the provisions and subject to the requirements of the Delaware limited Liability Company Act, hereby certifies that:

1. **Name.** The name of the limited liability company is

CALIFORNIA TRANSMISSION DEVELOPMENT, LLC

2. **Registered Office.** The address of the registered office of the Company in the State of Delaware is c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, County of New Castle, Delaware 19801.

3. **Registered Agent.** The name and address of the registered agent for service of process on the Company in the State of Delaware is c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, County of New Castle, Delaware 19801.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Formation of CALIFORNIA TRANSMISSION DEVELOPMENT, LLC this 15th day of August 2008.



By: _____
David J. Sass, Organizer

State of California
Secretary of State

CERTIFICATE OF REGISTRATION

I, ALEX PADILLA, Secretary of State of the State of California, hereby certify:

That on the **1ST** day of **MARCH, 2019**, **LS POWER GRID CALIFORNIA, LLC**, complied with the requirements of California law in effect on that date for the purpose of registering to transact intrastate business in the State of California; and further purports to be a limited liability company organized and existing under the laws of **DELAWARE** as **LS POWER GRID CALIFORNIA, LLC** and that as of said date said limited liability company became and now is duly registered and authorized to transact intrastate business in the State of California, subject, however, to any licensing requirements otherwise imposed by the laws of this State.

IN WITNESS WHEREOF, I execute
this certificate and affix the Great Seal
of the State of California this day of
March 4, 2019.



ALEX PADILLA
Secretary of State

EDA

**Secretary of State****LLC-5****Application to Register a Foreign Limited Liability Company (LLC)**

201906310046

FILED CSD
Secretary of State
State of California

MAR - 1 2019

IMPORTANT — Read Instructions before completing this form.

Must be submitted with a current Certificate of Good Standing issued by the government agency where the LLC was formed. See Instructions.

Filing Fee — \$70.00**Copy Fees** — First page \$1.00; each attachment page \$0.50;
Certification Fee — \$5.00*Note:* Registered LLCs in California may have to pay minimum \$800 tax to the California Franchise Tax Board each year. For more information, go to <https://www.ftb.ca.gov>.

/cc This Space For Office Use Only

1a. LLC Name (Enter the exact name of the LLC as listed on your attached Certificate of Good Standing.)

LS Power Grid California, LLC

1b. California Alternate Name, if Required (See Instructions — Only enter an alternate name if the LLC name in 1a not available in California.)**2. LLC History** (See Instructions — Ensure that the formation date and jurisdiction match the attached Certificate of Good Standing.)**a. Date LLC was formed in home jurisdiction (MM/DD/YYYY)**

8 / 15 / 2008

b. Jurisdiction (State, foreign country or place where this LLC is formed.)

Delaware

c. Authority Statement (Do not alter Authority Statement)

This LLC currently has powers and privileges to conduct business in the state, foreign country or place entered in Item 2b.

3. Business Addresses (Enter the **complete** business addresses. Items 3a and 3b cannot be a P.O. Box or "in care of" an individual or entity.)

a. Street Address of Principal Executive Office - Do not enter a P.O. Box One Tower Center Blvd., FL 21	City (no abbreviations) East Brunswick	State NJ	Zip Code 08816
b. Street Address of Principal Office in California, if any - Do not enter a P.O. Box	City (no abbreviations)	State CA	Zip Code
c. Mailing Address of Principal Executive Office, if different than item 3a	City (no abbreviations)	State	Zip Code

4. Service of Process (Must provide either Individual OR Corporation.)**INDIVIDUAL** — Complete Items 4a and 4b only. Must include agent's full name and California street address.

a. California Agent's First Name (if agent is not a corporation)	Middle Name	Last Name	Suffix
b. Street Address (if agent is not a corporation) - Do not enter a P.O. Box	City (no abbreviations)	State CA	Zip Code

CORPORATION — Complete Item 4c only. Only include the name of the registered agent Corporation.**c. California Registered Corporate Agent's Name** (if agent is a corporation) — Do not complete Item 4a or 4b

Corporation Service Company Which Will Do Business In California As CSC - Lawyers Incorporating Service

5. Read and Sign Below (See Instructions. Title not required.)

I am authorized to sign on behalf of the foreign LLC.

Signature

David J. Sass

Type or Print Name

Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "LS POWER GRID CALIFORNIA, LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE FIRST DAY OF MARCH, A.D. 2019.

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AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.




Jeffrey W. Bullock, Secretary of State

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Date: 03-01-19

201906310046



I hereby certify that the foregoing transcript of 2 page(s) is a full, true and correct copy of the original record in the custody of the California Secretary of State's office.

MAR 0, 4 2019

Date:

Alex Padilla
ALEX PADILLA, Secretary of State