Draft
Initial Study and
Mitigated Negative Declaration

Lambert Substation Project • May 2019

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Initial Study and
Mitigated Negative Declaration

Lambert Substation Project • May 2019

Prepared for:

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ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
AB	assembly bill
ACOE	U.S. Army Corps of Engineers
APCD	Air Pollution Control District
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	Code California Green Building Standards Code
CAL/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Sacramento Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Standards Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CFGC	California Fish and Game Code
CEC	California Energy Commission
Central Basin	Sacramento Central Groundwater Basin
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide

CO_2	carbon dioxide
CO_2e	CO_2-equivalent
Corps	U.S. Army Corps of Engineers
County	County of Sacramento
County General Plan	Sacramento County General Plan of 2005–2030 or 2030 General Plan
CPUC	California Public Utilities Commission
CUPA	certified unified program agency
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
DOC	California Department of Conservation
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EMF	electric and magnetic field
EPA	U.S. Environmental Protection Agency
EO	Executive Order
ERCS	Energy Resources Customer Services
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
GHG	greenhouse gas
gpm	gallons per minute
GWP	global warming potential
HCP	habitat conservation plan
HFC	hydrofluorocarbon
HMBP	hazardous materials business plan
I-5	Interstate 5
IS	Initial Study
kV	kilovolt
lb/day	pounds per day
L_{dn}	day-night average level
L_{eq}	noise-level equivalent
L_{max}	maximum sound level
LHMP	Sacramento County Local-Hazard Mitigation Plan
LOS	level of service
MHMP	Sacramento County, California Multi-Hazard Mitigation Plan

MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MS4	permit Municipal Separate Storm Sewer System NPDES permit
MT	metric ton(s)
$MTCO_2e$/year	metric tons of CO_2 equivalent per year
MVA	megavolt-ampere
ND	negative declaration
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NEHRPA	National Earthquake Hazards Reduction Program Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
O&M	operations and maintenance
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PAWS	Performing Animal Welfare Society
PFC	perfluorocarbon
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppm	parts per million
Ppv	peak particle velocity
PRC	California Public Resources Code
Project	Lambert Substation Project
RCRA	Resource Conservation and Recovery Act
RDM	residual dry matter
ROG	reactive organic gasses
RPS	Renewable Portfolio Standard

SACOG	Sacramento Area Council of Governments
SARA	Superfund Amendments and Reauthorization Act of 1986
SASD	Sacramento Area Sewer District
SB	Senate Bill
Scoping Plan	Climate Change Scoping Plan
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SO_2	sulfur dioxide
SPCC	spill prevention, control, and countermeasures
SR	State Route
SRCSD	Sacramento Regional County Sanitation District
SRHP	State Register of Historic Places
SVAB	Sacramento Valley Air Basin
SVC	Sacramento Valley Conservancy
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	tribal cultural resource
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
USGS	U.S. Geological Survey
Williamson Act	California Land Conservation Act
WDR	Waste Discharge Requirements
yd^3	cubic yards

EXECUTIVE SUMMARY

Introduction

This Draft Initial Study (IS) and Mitigated Negative Declaration (MND) has been prepared to evaluate Sacramento Municipal Utility District's (SMUD) proposed project for compliance under the California Environmental Quality Act (CEQA). SMUD is the lead agency responsible for complying with the provisions of CEQA. SMUD proposes the Lambert Substation Project (also referred to as the "Project").

Project Description

SMUD is proposing to construct and operate a new 12.5 megavolt-ampere (MVA) substation in southwestern Sacramento County at the northwest corner of the Lambert Road and Franklin Boulevard intersection. The current substation site, located approximately 750 feet north of the Project site, will not allow for expansion of the electrical load capacity necessary to serve future growth in the area. In addition, aging equipment at the substation is failing. The new substation would consist of a single 12.5 MVA transformer and associated substation equipment. The Project would include one 69 kilovolt (kV) overhead line and two 12kV underground and/or overhead lines that would connect the proposed substation to an existing 12/69kV line that runs along the east side of Franklin Boulevard and a 12kV line on the north side of Lambert Road. The existing substation would be decommissioned following the energization of the proposed substation.

Findings

As lead agency for compliance with CEQA requirements, SMUD finds that the Project would be implemented without causing a significant adverse impact on the environment. Mitigation measures for potential impacts associated with Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Hazards, Hydrology/Water Quality, Transportation, and Tribal Cultural Resources would be implemented as part of SMUD's Project through adoption of a mitigation monitoring and reporting program (see **Appendix A**).

Cumulative Impacts

CEQA requires that SMUD assess whether its Project's incremental effects are significant when viewed in connection with the effects of other projects. Based on the analysis presented in this IS/MND, the Project would not contribute incrementally to considerable environmental changes when considered in combination with other projects in the area. Therefore, the potential cumulative environmental effects of the Project were determined to be less than cumulatively considerable. All identified potentially significant impacts would be mitigated to less than significant.

Growth-Inducing Impacts

SMUD exists as a public agency to supply electrical energy to customers in the Sacramento area. It has an obligation to serve all new development approved by the local agencies and Sacramento County. SMUD does not designate where and what new development may occur. The Project would increase power levels and reliability in Sacramento County, but does not have the potential to foster economic or population growth. The Project would be consistent with SMUD's established strategic direction, which includes meeting customers' electrical energy needs, and is consistent with long-range planning documents prepared by Sacramento County, such as the 2030 General Plan, and would support development at levels approved by the County as the governing land use authority.

Determination

On the basis of this evaluation, SMUD concludes:

- The Project does not have the potential to 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 species, or eliminate important examples of the major periods of California history or prehistory.
- The Project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The Project would not have impacts that are individually limited, but cumulatively considerable.
- The Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.
- No substantial evidence exists to demonstrate that the Project would have a substantive negative effect on the environment.

This IS/MND has been prepared to provide the opportunity for interested agencies and the public to provide comment. Pending public review and SMUD Board approval, this MND will be filed pursuant to CEQA Guidelines§15075. Written comments should be submitted to SMUD, Attn. Ashlen McGinnis 6201 S Street, MS H201, Sacramento, CA 95817-1899 by 5:00 p.m. on June 24, 2019.

Ashlen McGinnis
Environmental Management Specialist II

May 24, 2019
Date

1.0 INTRODUCTION

1.1 Project Overview

SMUD is proposing to construct and operate a new 12.5MVA substation in southwestern Sacramento County at the northwest corner of the Lambert Road and Franklin Boulevard intersection. The current substation site, located approximately 750 feet north of the Project site, will not allow for expansion of the electrical load capacity necessary to serve future growth in the area. In addition, aging equipment at the substation is failing. The new substation would consist of a single 12.5MVA transformer and associated substation equipment. The Project would include one 69kV overhead line and two 12kV underground and/or overhead lines that would connect the proposed substation to an existing 12/69kV line that runs along the east side of Franklin Boulevard and a 12kV line on the north side of Lambert Road. The existing substation would be decommissioned following the energization of the proposed substation at a later date.

1.2 Purpose of this Document

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to disclose environmental impacts that may result from the Project. This IS/MND assesses the environmental effects of the Project, as required by the California Environmental Quality Act (CEQA), and is in compliance with State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000, et seq.), which requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

As CEQA Lead Agency for the Project, SMUD has prepared the following IS to determine if the Project may have a significant impact on the environment. In accordance with CEQA Guidelines Sections 15063 and 15074, an Environmental Impact Report (EIR) must be prepared if there is substantial evidence supporting a fair argument that the Project under review may have a potentially significant impact on the environment. A Negative Declaration (ND) is a written statement prepared by the Lead Agency describing the reasons why the Project would not have a significant impact on the environment, and therefore would not require preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, an ND or MND shall be prepared for a project when either:

- The IS shows that there is no substantial evidence, in light of the whole record before the Lead Agency, that the Project may have a significant impact on the environment, or

- The initial study identifies potentially significant impacts, but:
    - Revisions in the Project plans or proposals made by or agreed to by the applicant before the proposed MND and IS are released for public review would avoid the impacts or mitigate the impacts to a point where clearly no significant impacts would occur; and
    - There is no substantial evidence, in light of the whole record before the agency, that the Project as revised may have a significant impact on the environment.

As stated below, SMUD has analyzed the potential environmental impacts created by the Project, determined that Project impacts can be reduced to a less-than-significant level with the implementation of mitigation measures, and has prepared an IS/MND. This document addresses all questions in the CEQA Initial Study Checklist.

1.3 Public Review Process

This IS/MND is being circulated for a 30-day public review period to all individuals who have requested a copy, local libraries, and appropriate resource agencies. A Notice of Intent (NOI) is also being distributed to all property owners of record identified by the Sacramento County Assessor's office as having property adjacent to the Project parcel or within 500 feet of Project boundaries. The NOI identifies where the document is available for public review and invites interested parties to provide written comments for incorporation into the final IS/MND. The NOI also invites interested parties to attend a public meeting on the Project. A copy of the NOI is included as **Appendix B** of this document.

A final IS/MND, including written responses to comments received on environmental issues, will be prepared. The final IS/MND will be circulated to all parties commenting on the IS/MND before a decision on the Project is made.

1.4 SMUD Board Approval Process

The SMUD Board of Directors must adopt the IS/MND and approve the mitigation monitoring and reporting program (Appendix A) before it can approve the Project. The Project and environmental documentation pertaining thereto will be formally presented to the SMUD Board of Directors for information at an Energy Resources and Customer Services (ERCS) Committee meeting. The SMUD Board of Directors will then consider adopting the final IS/MND at the next Board of Directors meeting. The ERCS Committee and Board of Directors meetings are held at SMUD's Customer Service Center (6301 S Street, Sacramento, CA 95817-1899) and are open to the public. The public may comment at both meetings. Once the IS/MND has been adopted, the SMUD Board of Directors may render a decision on Project approval or defer such a decision to a later date.

1.5 Organization of the Initial Study and Mitigated Negative Declaration

This IS/MND is organized into the following chapters:

Chapter 1 – Project Overview and Background: provides summary information about the Project, describes the public review process for the IS/MND, and includes the CEQA determination for the Project.

Chapter 2 – Project Description: contains a detailed description of the Project.

Chapter 3 – Environmental Checklist: provides an assessment of Project impacts by resource topic. The Environmental Checklist form, from Appendix G of the State CEQA Guidelines, is used to make one of the following conclusions for impacts from the Project:

- A conclusion of ***no impact*** is used when it is determined that the Project would have no impact on the resource area under evaluation.
- A conclusion of ***less than significant impact*** is used when it is determined that the Project's adverse impacts to a resource area would not exceed established thresholds of significance.
- A conclusion of ***less than significant impact with mitigation*** is used when it is determined that mitigation measures would be required to reduce the Project's adverse impacts below established thresholds of significance.
- A conclusion of ***potentially significant impact*** is used when it is determined that the Project's adverse impacts to a resource area potentially cannot be mitigated to a level that is less than significant

Mitigation measures, if necessary, are noted following each impact discussion.

Chapter 4 – List of Preparers: identifies the individuals who contributed to the environmental document.

Chapter 5 – References Cited: identifies the information sources used in preparing this document.

Appendices – Contains technical reports and other information to supplement the IS/MND.

1.6 Environmental Factors Potentially Affected

Impacts to the environmental factors below are evaluated using the checklist included in Chapter 3. SMUD determined that the environmental factors checked below would be less than signification with implementation of mitigation measures. It was determined that the unchecked factors would have a less than significant impact or no impact.

☐ Aesthetics	☒ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☒ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

1.7 Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the proposed project have been made by or agreed to by the proposed project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Ashlen McGinnis
Signature

May 24, 2019
Date

Ashlen McGinnis

Sacramento Municipal Utility District

2.0 PROJECT DESCRIPTION

2.1 Introduction

SMUD is proposing to construct and operate a new 12.5 megavolt-ampere (MVA) substation (Lambert Substation, or "Project") in southwestern Sacramento County at the northwest corner of Lambert Road and Franklin Boulevard. The current Lambert Substation, located approximately 750 feet north of the Project site, will not allow for expansion of the electrical load capacity necessary to serve future growth in the area. In addition, equipment at the existing substation has reached the end of its useful life and needs to be replaced. Therefore, the new proposed Lambert Substation would replace the existing substation. The new Lambert Substation would consist of a single 12.5MVA transformer and associated substation equipment. The Project would include one 69kV overhead line and two 12kV underground and/or overhead lines that would connect the proposed substation to an existing 12/69kV line that runs along the east side of Franklin Boulevard and a 12kV line on the north side of Lambert Road. The existing substation would be decommissioned following the energization of the proposed substation at a later date.

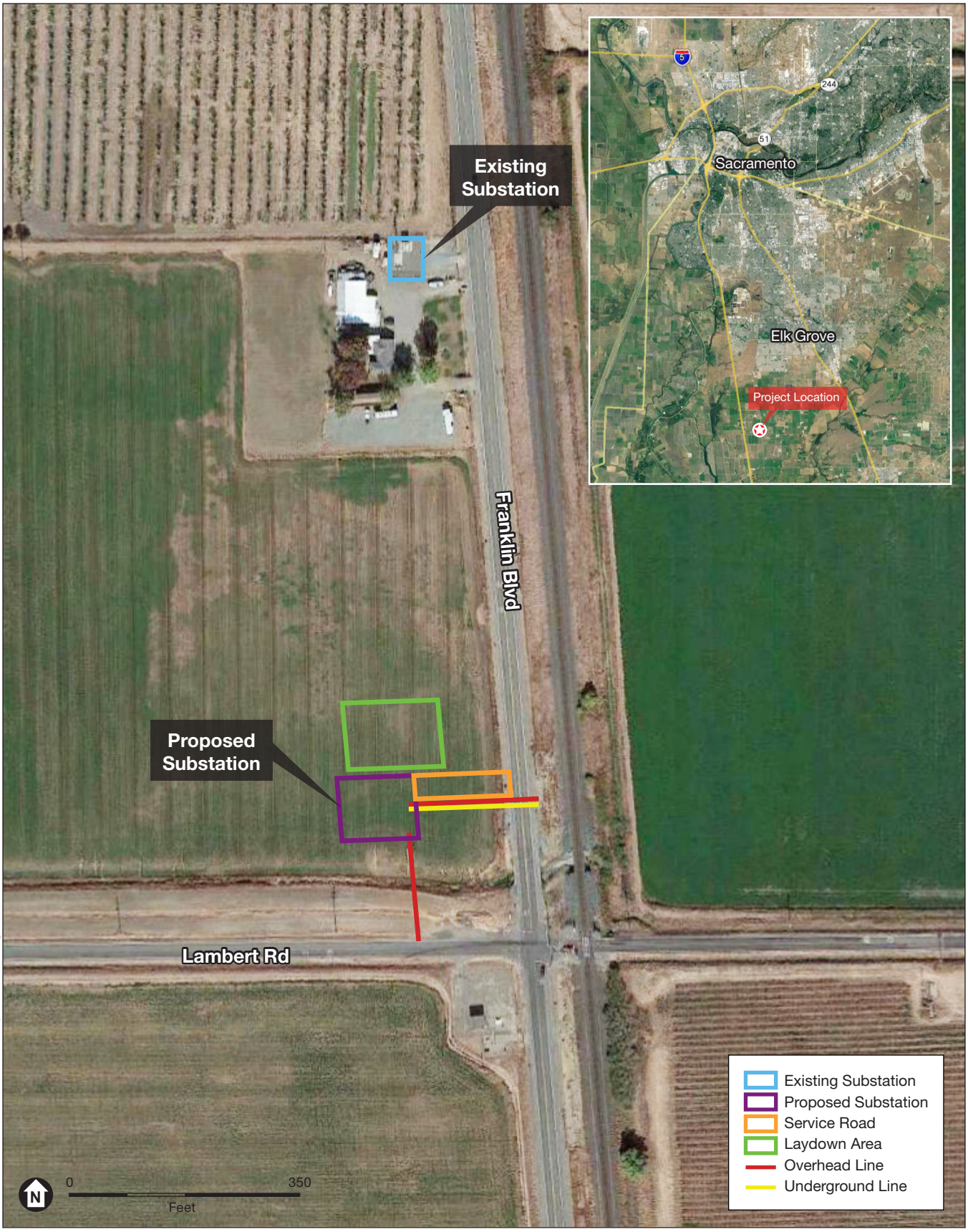
2.2 Project Location

The Project site is located at the northwest corner of Lambert Road and Franklin Boulevard, in southwestern Sacramento County on APN 132-332-013 (**Figure 1**). The proposed Lambert Substation would be located approximately 750 feet south of the existing Lambert Substation, which is located adjacent to a private driveway and a private residence. The proposed substation would be located approximately 530 feet south of this residence. The Project site and surrounding area is used primarily for agriculture with a few rural residences. The Project site is located adjacent to a canal operated by Reclamation District 1002 (RD 1002). A Union Pacific Railroad track is located approximately 50 feet east of Franklin Boulevard. Franklin Field, a public use airport owned and operated by Sacramento County, is located approximately 0.8 mile southeast of the Project site. Interstate 5 (I-5) is located approximately one mile west of the Project site and Stone Lakes National Wildlife Refuge is located approximately 2.8 miles west of the site.

2.3 Project Objectives

The objectives of the Project are:

- Increase the electrical load capacity in the area, in order to serve future expected load growth;
- Address aging equipment issues related to the existing Lambert Substation, where equipment serving the current electrical load has reached its useful life; and
- Decommission the existing substation.



SOURCE: Google Earth, 2018; ESA, 2019

SMUD Lambert Substation

Figure 1
Project Components and Location

ESA

2.4 Proposed Project

2.4.1 Project Components

Proposed Lambert Substation

The Project would include a new, unmanned 12.5MVA transformer and associated substation equipment (**Figure 2**). The substation site would be located approximately 131 feet west of the existing Franklin Boulevard right-of-way and 80 feet west of the future Franklin Boulevard right-of-way. The substation property boundary would be approximately 270 feet by 180 feet and would be accessed via Franklin Boulevard by a 40-foot-wide service road. The substation pad would be approximately 111 feet by 103 feet. A temporary construction easement would extend 10 feet outside the property boundary along the north and west sides of the Project site. An approximately 100 feet by 150 feet laydown area would be located directly north of the Project site's construction easement.

The transformer would contain insulating oil (typically mineral oil). A secondary containment system would retain any oil leaks on-site. The 12kV circuit breakers would be composed of vacuum bottle breakers. A new overhead circuit would exit the substation to the east, as described further below. The 75-foot steel tap pole would be the tallest point within the substation.

The substation would be enclosed by a gated chain-link fence, with no vegetative screening. A new 40-foot-wide by approximately 150-foot-long paved service road (driveway) from Franklin Boulevard to the substation fence would be constructed. Lighting would be provided at the substation for safety, security, and nighttime emergency maintenance and would consist of light-emitting diode light sources. Lights would likely be installed at the entry gate and at various locations within the substation. Most substation lighting would be off during standard operating conditions, except on occasions when nighttime access is required. The substation would not have a restroom and thus would not require a water supply or a connection to the sanitary sewer system.

Existing Lambert Substation

Once the proposed Lambert substation is operational, the existing substation would be de-energized, salvageable components would be removed for reuse, non-reusable materials would be recycled or scrapped, and the site would be tested to ensure residual contamination, if any, is within appropriate regulatory tolerances for a former industrial site.

D150492.15 - SMUD Lambert Substation\05 Graphics-GIS-Modeling\Illustrator

SOURCE: SMUD, 2018

SMUD Lambert Substation

Figure 2
Site Plan

ESA

69kV Subtransmission Line and 12kV Distribution Line

The Project would include one approximately 200-foot-long 69kV overhead line and two approximately 200- to 220-foot-long 12kV underground and/or overhead circuit lines. These lines would connect the proposed substation to an existing 12/69kV line that runs along the east side of Franklin Boulevard and north side of Lambert Road.

One new 75-foot tall steel pole would be installed within the substation boundary that would connect the new 69kV overhead line to the existing 69kV subtransmission line, approximately 170 feet east of the new pole, along Franklin Boulevard. The new 69kV overhead line would connect to a new steel pole that would replace an existing wood utility pole along Franklin Boulevard.

Two new 12kV lines would be installed from the substation. One line would be placed underground in conduit, traveling under Franklin Boulevard to a new riser pole and connecting to the existing 12kV line which runs adjacent to Franklin Boulevard. New underground components would include one 6-foot by 8-foot vault buried up to 59 inches deep.

The second 12kV line would rise up within the substation on a 55-foot riser pole and then cross over the RD 1002 canal and connect to the existing 12kV line on the north side of Lambert Road. Alternatively, this line would travel underground from the substation control room to a boring pit just north of the RD 1002 canal, continue underneath RD 1002, and rise up on a new riser pole to connect to the existing 12kV line. If this is the selected method of construction, the 12kV riser pole within the substation boundary (as shown on Figure 2) would not be constructed.

2.4.2 Construction Activities

This section describes the construction of the three major Project components: the substation, the utility lines (subtransmission and distribution lines), and decommissioning of the existing substation.

Lambert Substation

As illustrated in **Table PD-1**, construction duration of the substation would take approximately 28 weeks and is scheduled to occur between March and December 2020. Construction activities would include excavating approximately 1,700 cubic yards (125 truckloads) of soil to remove the top 12 inches of native soil and backfilling with 7,000 cubic yards (500 truckloads) of imported fill to construct a 5 foot raised substation pad measuring 111 feet x 103 feet (equipment area within the pad measures 105 feet x 97 feet) and a 40-foot wide and 150-foot long paved access road. The raised pad would have a maximum side slope of 3:1. The excavated soil would be tested for contamination and off-hauled to the appropriate landfill facility. SMUD would identify and procure clean, fill material, which would likely be trucked from local aggregate operations.

Construction would also involve erecting a perimeter chain-link fence around the substation and installing site drainage, installing electrical conduits and grounding and reinforced concrete foundations, and assembling the power transformer, switchgear circuit breakers, switches, and other electrical equipment. Construction would require excavating trenches to the edge of the substation footprint for the new underground 12kV distribution line heading east and installing the new steel pole for the overhead 69kV subtransmission line.

A laydown area of approximately 100 by 150 feet would be located just north of the substation location; it would be used for construction staging, including equipment and materials storage. Construction equipment, delivery trucks, and workers would enter the construction site via the new service road from Franklin Boulevard.

Existing Lambert Substation

Once the proposed substation is operational, the existing substation would be de-energized, salvageable components would be removed for reuse, non-reusable materials would be recycled or scrapped, and the site would be tested to ensure no residual contamination remains. Decommissioning would take approximately 16 weeks and require the use of the following equipment: 60-ton crane; backhoe; excavator; front end loader; 3- to 5-ton vibratory roller; 2-ton service trucks; semi-end dump; street sweeper; water truck; dump truck; jack hammer; and construction staff vehicles. The decommissioning activities would include soil sampling and analysis, electrical and civil demolition, fence removal, site grading, and hydroseeding.

69kV Subtransmission Line and 12kV Distribution Line

Installation of the new substation tap pole for the 69kV subtransmission line and riser pole for the 12kV distribution line would require a truck-mounted auger. The pole would be set in place using a crane with an articulating arm and claw. **Table PD-2** defines the anticipated construction equipment. The 69kV steel pole would be bolted onto a concrete base.

Construction of the underground 12kV distribution line under Franklin Boulevard would involve horizontal directional drilling. Using this method, one 21-inch diameter hole would be drilled horizontally between vaults and two 6-inch and two 4-inch conduits would then be pulled through the hole for the three phase 12kV line. The boring pit required for the horizontal directional drilling would be located approximately 20 feet either north or south of the new pole installed along the 12/69kV line. An approximate 25 feet x 35 feet working area would be necessary at boring and receiving ends. A larger work area between Franklin Boulevard and the Union Pacific Railroad (approximately 40 feet by 140 feet) would be required in order to accommodate trucks for boring and pole installation.

Additionally, a 12kV line getaway would begin underground within the substation and either travel up a pole in the substation and cross over RD 1002, or alternatively travel

underground, underneath RD 1002, and rise up on a new riser pole on the north side of Lambert Road. This line would tie into the existing overhead 12kV line on the north side of Lambert. The boring pit and work area dimensions for this line would be similar to that for the line described above connecting the 12kV line along Franklin Boulevard.

No road closures are anticipated during construction of the substation. However, traffic control may be necessary for brief single lane or double lane closures during portions of the overhead line installation and for the safety of crews working adjacent to the traveled lanes. Flagging and signs would be utilized to direct traffic.

2.4.3 Operation and Maintenance Activities

The substation would not be permanently staffed and would be operated by SMUD. SMUD maintenance employees would visit approximately twice per month to conduct routine checks and maintenance. Maintenance workers and other SMUD employees would access the substation using the new service road off Franklin Boulevard. Some vegetation management may occur within normal, approved operations and maintenance (O&M) activities.

2.5 Project Schedule, Staffing, and Equipment

2.5.1 Construction Schedule

Lambert Substation

SMUD anticipates the overall construction duration to be approximately 10 months. The schedule is based on plans to initiate construction in March 2020 and complete the substation and line work by December 2020. **Table PD-1** summarizes the construction schedule.

TABLE PD-1
ESTIMATED CONSTRUCTION SCHEDULE

Activity	Approximate Duration
Clearing, site preparation, service road construction, fencing	2 weeks
Substation construction	2.5 months civil and 2.5 months electrical
Overhead construction of the 69kV subtransmission line from substation to existing 69kV line along Franklin Boulevard	4 months (concurrent with underground)
Underground construction of the12kV distribution line from substation to existing 12kV line along Franklin Boulevard	4 months (concurrent with overhead)
Overhead or underground construction of the 12kV distribution line from substation to existing 12kV line along Lambert Road	4 months (concurrent with overhead)
Substation energization	December 2020

Existing Lambert Substation

SMUD anticipates the overall decommissioning duration to be approximately 4 months (weather permitting). The schedule is based on plans to initiate decommissioning in December 2020. **Table PD-2** summarizes the decommissioning schedule.

TABLE PD-2
ESTIMATED DECOMMISSIONING SCHEDULE

Activity	Approximate Duration
Soil sampling and analysis	4 weeks
De-energization and electrical demolition	3 weeks
Fence removal	1 week
Civil demolition including foundations and underground structures (conduits and groundings)	5 weeks
Site grading-remove top layer of soil and crushed rock	2 weeks
Installation of top soil and hydroseeding	1 week

2.5.2 Construction Staffing

Substation construction would require an average daily workforce of approximately seven workers. The power lines, including pole installation, line stringing, and underground boring would require an average of seven workers. The peak number of workers (total of approximately 20) would be present when the contractor is installing the substation foundation. Crews would normally work Monday through Saturday from 7:00 a.m. to 5:00 p.m.

2.5.3 Construction Equipment

Table PD-3 summarizes the typical and anticipated construction and decommissioning equipment that would be used for each component of the Project.

TABLE PD-3
ANTICIPATED CONSTRUCTION EQUIPMENT AND USAGE

Activity	Approximate Duration	Equipment Type	Quantity Required
Substation Site Preparation (Clearing, site preparation, access road construction, fencing)	5 months	Front End Loader, Backhoe	1
		Excavator	1
		Dozer	1
		Dump Truck	25
		Flatbed Truck	1
Substation Site Construction		Front End Loader, Backhoe	1
		Crane, Aerial Lift	1
		Compactor	1

TABLE PD-3
ANTICIPATED CONSTRUCTION EQUIPMENT AND USAGE

Activity	Approximate Duration	Equipment Type	Quantity Required
		Generator	1
		Air Compressor	1
		Concrete Truck	3
		Boom Truck	1
		Water Truck, Sweeper	1
Overhead 69kV and 12kV Construction	4 months	Auger, Drill Rig	2
		Front End Loader, Backhoe	1
		Crane, Aerial Lift	1
		Concrete Truck	5
		Dump Truck	1
		Bucket Truck	3
		Water Truck, Sweeper	1
Underground 12kV Construction	4 months	Excavator	1
		Front End Loader, Backhoe	1
		Compactor	1
		Pulling Rig	1
		Concrete Truck	1
		Dump Truck	2
		Flatbed	1
		Crane	1
		Water Truck, Sweeper	1
		Boring Rig	1
		Welding Truck	1
		Vacuum Truck	2
Site Cleanup and Energization	2 weeks	Front End Loader, Backhoe	1
		Dump Truck	5
		Water Truck, Sweeper	1
Existing Substation Decommissioning	4 months (weather permitting)	Front End Loader, Backhoe	1
		3 to 5 ton Vibratory Roller	1
		Crane, Aerial Lift	1
		Service Truck	1
		Dump Truck	5
		Water Truck, Sweeper	1

Source: SMUD

2.6 Permits and Approvals

2.6.1 State

Regional Water Resources Control Board - Clean Water Act

Under the CWA, the State Water Resources Control Board (SWRCB), through the Central Valley Regional Water Quality Control Boards (RWQCB), issues construction storm water discharge permits for projects that disturb more than one acre of land. The permit would be obtained by SMUD, and would require preparation of a storm water pollution prevention plan (SWPPP) that would specify storm water best management practices. SMUD would be required to implement the SWPPP and adhere to the permit requirements during construction activities.

California Department of Fish and Wildlife

The Project may require a Lake and Streambed Alteration Agreement (LSAA; Fish and Game Code Section 1602) if the proposed 12kV distribution line is constructed underneath RD 1002 instead of overhead.

2.6.2 Local

Sacramento Municipal Utility District

The Board of Directors must approve the Initial Study and adopt a Mitigated Negative Declaration, prior to approving the Project. The Board of Directors also must adopt the Mitigation Monitoring and Reporting Program that incorporates the mitigation measures identified in this document.

3.0 ENVIRONMENTAL CHECKLIST

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15063, an initial study (IS) should provide the lead agency with sufficient information to determine whether to prepare an environmental impact report (EIR), a mitigated negative declaration (MND), or negative declaration (ND) for a proposed project. The CEQA Guidelines state that an IS may identify environmental impacts by use of a checklist, matrix, or other method, provided that conclusions are briefly explained and supported by relevant evidence. If it is determined that a particular physical impact to the environment could occur, then the checklist must indicate whether the impact is Potentially Significant, Less Than Significant with Mitigation, or Less Than Significant. Findings of No Impact for issues that can be demonstrated not to apply to a proposed project do not require further discussion.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.1	**Aesthetics**				
Except as provided in Public Resources Code Section 21099, would the project:					
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
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?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

Visual Resources Methodology

This analysis of potential visual effects is based on a review of Project maps and drawings, aerial and ground level photography of the Project site and immediate surroundings, and information available in regional planning documents. The visual analysis focuses on travel route views, and views from recreational areas near the Project.

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, a visual or aesthetic impact may occur. Visual sensitivity is a subjective measure of an existing landscape's susceptibility to adverse visual changes. Visual sensitivity is influenced by a viewer's overall impression of a landscape, land uses within the landscape, overall scenic quality, viewing distance, and duration of view.

A project's viewshed is the area from which a project would be visible or could be seen by the public. For the purposes of describing a project's visual setting and assessing impacts to aesthetic and visual resources, the viewshed can be categorized into three general distance zones: foreground, middle ground, and background from which a

project's features may be visible. The foreground is generally defined as within 0.5 mile from the viewer. At this distance, objects are most noticeable. The middle ground is the zone extending from between 0.5 mile up to 5 miles from the viewer, and the background is the field extending from approximately 5 miles to the horizon. The analysis mainly considers effects on foreground views due to the increased noticeability of features in the foreground distance zone, though some consideration is also given to potential effects on middle ground and background views.

Existing Visual Quality of the Site and Surroundings

The study area for aesthetic and visual resources includes the proposed location of all Project components as well as the landscapes and surrounding areas (or viewshed) within which the Project's facilities would be visible. Aesthetic or visual resources generally consist of the landforms, trees and other vegetation, rock and water features, as well as cultural modifications, such as the built environment, that contribute to the overall visual character and sensitivity of a landscape.

The Project site is located in southern Sacramento County, on agricultural lands, approximately one mile east of I-5. Sacramento County is characterized by broad views of the southern Sacramento Valley's agricultural lands, open space, riparian corridors, and sparsely populated rural residences. The valley is framed by background views of the Sierra Nevada mountains and foothills to the east, and California's Coast Range to the west. Light industry in the Project vicinity includes an existing substation, two small airports, and a correctional facility, located within two miles of the Project site. The closest scenic highway to the Project site is State Route (SR) 160, located seven miles to the east of the Project site. SR 160 is designated as both a State and County Scenic Highway (Caltrans, 2018).

The proposed substation would be located within a parcel currently being used for row crop farming activities. The site is on the west side of Franklin Boulevard, north of Lambert Road. Views of the general area are dominated by agricultural, farming land, and cattle grazing fields. The Union Pacific Railroad track is visible approximately 50 feet east of Franklin Boulevard. The closest residential receptors with views of the substation site are approximately 530 feet north of the Proposed substation and 100 feet southwest from the existing substation. The site would also be visible to motorists travelling on adjacent roads. The views from vehicles on Project area roadways are public views and would be considered the primary sensitive viewshed with respect to the proposed substation.

Once the proposed substation is operational, the existing substation directly adjacent to the nearest residence would be decommissioned and salvaged.

Regulatory Setting

Federal

There are no applicable Federal regulations for aesthetic and visual resources.

State

California Department of Transportation Scenic Highways Program

California Department of Transportation's Scenic Highways Program was established in 1963 for the purpose of protecting and enhancing the scenic beauty of California's highways and adjacent corridors, through conservation. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263 (Caltrans, 2017). SR-160, located seven miles east of the Project site, is the closest designated State Scenic Highway.

Local

Sacramento County General Plan

The Public Facilities element of the 2030 General Plan contains the following objective and policies related to aesthetic and visual resources (County of Sacramento, 2017).

> **Objective:** Minimize the health, safety, aesthetic, cultural, agricultural and biological impacts of energy facilities in Sacramento County.
>
> **PF-67.** Cooperate with the serving utility in the location and design of production and distribution facilities so as to minimize visual intrusion problems in urban areas and areas of scenic and/or cultural value including the following:
>
> - Recreation and historic areas.
> - Scenic highways.
> - Landscape corridors.
> - State or federal designated wild and scenic rivers.
> - Visually prominent locations such as ridges, designated scenic corridors, and open viewsheds.
> - Native American sacred sites.
>
> **PF-68.** Cooperate with the serving utility in the location and design of energy production and distribution facilities in a manner that is compatible with

surrounding land uses by employing the following methods when appropriate to the site:

- Visually screen facilities with topography and existing vegetation and install site appropriate landscaping consistent with surrounding land use zone development standards where appropriate, except where it would adversely affect access to utility facilities, photovoltaic performance or interfere with power generating capability.
- Provide site-compatible landscaping.
- Minimize glare through siting, facility design, nonreflective coatings, etc. except for the use of overhead conductors.
- Site facilities in a manner to equitably distribute their visual impacts in the immediate vicinity.

Impacts and Mitigation Measures

a) Have a substantial adverse effect on a scenic vista?

The Project would include visible elements such as overhead transmission and distribution lines, four new wood or steel poles (55 and 75 feet in height), substation equipment, security lighting, and perimeter fencing.

The Project would be located along existing electrical line corridors (both Franklin Boulevard and Lambert Road) in an area dominated by agricultural use with some rural residences. The Project site is in active agricultural use, most recently planted with alfalfa, and is not considered to be a scenic vista. The viewshed for motorists on Franklin Boulevard and Lambert Road typically include views of row crops, vineyards, open grazing land, clusters of trees, occasional residences, and the Union Pacific Railroad berm adjacent to Franklin Boulevard. While the openness of the terrain and agricultural uses offer some scenic qualities for motorists, general views in the vicinity of the Project site do not constitute a scenic vista. The Project's components would present some visual intrusions on the otherwise open landscape, but these new Project features would not have an adverse effect on a scenic vista. The decommissioning of the existing substation would have a beneficial effect on the vista. Therefore, the Project would have a ***less than significant impact*** on scenic vistas.

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

The Project would not be visible from a state scenic highway, nor would the Project damage trees, rock outcroppings, or historic buildings, as no such features are present

on the Project site. The Project is not located in or within the viewshed of a state scenic highway. There would be ***no impact*** related to this criterion.

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??

Construction of the Project would include the temporary presence of large equipment and construction materials, which could present some aesthetic intrusions during the 10-month duration of construction. Decommissioning of the existing substation also would present temporary aesthetic intrusions for about four months. Construction materials would be staged at a temporary 100-foot by 150-foot laydown area during construction. At the conclusion of construction, the site would be cleared of construction equipment and materials. The Project's construction and decommissioning activities could temporarily disrupt the existing visual character of the site and surroundings. However, this impact would be temporary and less than significant. Placement of above ground components including four new poles and associated substation equipment would also present visual disruptions to public views of the landscape. However, the viewshed already contains other comparable industrial features, including above ground power lines and the existing substation. Compared to existing conditions, the presence of a new, larger substation would present a minor degradation to public views of the rural site and surroundings. Therefore, impacts would be ***less than significant***.

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

The Project would include substation components, fencing and lighting, some of which could be reflective. However, the components would not be extensive such that impacts related to light and glare would be substantial. Most substation lighting would remain off during standard operating conditions, except on occasion when nighttime access would be necessary for site security or emergency maintenance. The Project's substation security lighting would be shielded (or directed downward) to reduce glare and minimize alteration of nighttime views for neighboring parcels. Impacts related to light and glare would be ***less than significant***.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact

3.2 Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department 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 Range Assessment Project and Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

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 uses?	☐	☐	☒	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
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))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☒	☐	☐

Environmental Setting

The Project is located in an active agricultural region of unincorporated Sacramento County. Agricultural production is a significant contributor to the County's local economy, and the County has developed numerous policies to support and regulate the use of agricultural land, which are summarized below. Within Sacramento County, approximately 207,483 acres of land have been designated Important Farmland (DOC, 2016a).

To identify the agricultural resources that could be affected by the Project, this analysis gathered data from the following sources: (1) California Department of Conservation's (DOC) Important Farmland Map for Sacramento County; (2) DOC's Williamson Act Map for Sacramento County; (3) 2030 General Plan Agricultural Element, Public Facilities

Element, and Land Use Map; and (4) Sacramento County Zoning Code. **Table AG-1** summarizes and identifies the agricultural resources applicable for this analysis.

TABLE AG-1
AGRICULTURAL RESOURCES APPLICABLE TO THE PROJECT

Project Components	Important Farmland Designation (DOC)	Williamson Act Designation (DOC)	County Land Use Designation (General Plan)	County Zoning Designation (Zoning Code)
Proposed substation site (including substation pad, laydown area, 69kV overhead line, 12kV underground and/or overhead lines)	Farmland of Statewide Importance	Prime Agricultural Land	Agricultural Cropland	AG-80

The Project area does not include any forest land or any land with substantial tree cover and would not traverse any defined forest land, timberland, or timberland production zone pursuant to Section 12220 (g) and Section 51104 (g) in the California Public Resources Code.

Regulatory Setting

Federal

There are no applicable Federal regulations for agriculture and forestry resources.

State

Farmland Mapping and Monitoring Program

The California Department of Conservation maps important farmland along California through the Farmland Mapping and Monitoring Program (FMMP). The Program classifies farmland based upon suitability of soil conditions for agriculture and their current land use. This Program uses soil criteria set forth by the Natural Resources Conservation Service (NRCS) Important Farmland is classified by the DOC as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The Project site has been mapped as Farmland of Statewide Importance (DOC, 2016b). Farmland of Statewide Importance is land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture (DOC, 2018a).

California Land Conservation Act of 1965 (Williamson Act)

Under the California Land Conservation Act of 1965, also known as the Williamson Act, local governments can enter into contracts with private property owners to protect land

(within agricultural preserves) for agricultural and open space purposes. The Williamson Act sets forth its own definition of prime agricultural lands and are listed by category below. These categories do not necessarily correlate with the soil criteria used by the NRCS to classify and designate Important Farmland (DOC, 2018b).

> Williamson Act – Prime Agricultural Land: Land which is enrolled under California Land Conservation Act contract and meets any of the following criteria (as set forth under California Government Code Section 51201).
>
> - Land which qualifies for ratings as class I or class II in the Natural Resources Conservation Service land use capability classifications;
> - Land which qualifies for rating 80 to 100 in the Storie Index Rating;[1]
> - Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture;
> - Land planted with fruit or nut-bearing trees, vines, bushes or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars per acre;
> - Land which has returned from the production of unprocessed agricultural plant production and has an annual gross value of not less than two hundred dollars per acre for three of the previous five years.

Government Code Section 51238 indicates that, unless local jurisdictions declare otherwise, the erection, construction, alteration, or maintenance of gas, electric, water, or communications facilities is compatible with Williamson Act contracts:

> (a) (1) Notwithstanding any determination of compatible uses by the county or city pursuant to this article, unless the board or council after notice and hearing makes a finding to the contrary, the erection, construction, alteration, or maintenance of gas, electric, water, communication or agricultural laborer housing facilities are hereby determined to be compatible uses within any agricultural preserve.

[1] The Storie Index assesses the productivity of soils based on four factors: (1) degree of soil profile development; (2) surface texture; (3) slope; and (4) other soil/landscape conditions (drainage, alkalinity, fertility, acidity, erosion, mircorelief). Each factor receives a score ranging from 0 to 100%, and the scores are multiplied together to generate an index rating (O'Green, Southard, 2008)

(2) No land occupied by gas, electric, water, communication, or agricultural laborer housing facilities shall be excluded from an agricultural preserve by reason of that use.

(b) the board of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses in conformity with Section 51238.1, particularly public outdoor recreational uses.

Government Code Sections 51290 through 51293 establish the requirements for a public agency that intends to acquire an agricultural preserve for public improvements. If the acquisition of the agricultural preserve is to be used for specific utility activities (i.e., construction or alteration of electric facilities), then the public agency is exempt from requirements to provide early notification to the DOC prior to the acquisition (Section 51291.5). However, all public agencies that acquire an agricultural preserve must provide notice to the Director of the DOC within 10 working days of property acquisition.

Local

Sacramento County General Plan

The 2030 General Plan provides guidelines for growth and development in the unincorporated areas of the County through the year 2030. 2030 General Plan policies applicable to agricultural resources have been identified in the Land Use Element, the Agricultural Element, and the Public Facilities Element as described below:

The 2030 General Plan's Land Use Element designates land use types and describes their permitted uses for unincorporated lands within the County. The Project site would be located outside the Urban Services Boundary (USB) on land designated as Agricultural Cropland, which is described in more detail below.

- The Agricultural Cropland designation represents agricultural lands most suitable for intensive agriculture. The agricultural activities included are row crops, tree crops, irrigated grains and dairies. The designation is generally limited to areas where soils are rated from Class I to Class IV by the Soil Conservation Service, or are classified Prime, Statewide, or Unique significance by the State of California Conservation Department. These lands have at least some of the following attributes: deep to moderately deep soils, abundant to ample water supply, distinguishable geographic boundaries, absence of incompatible residential uses, absence of topographical constraints, good to excellent crop yields, and large to moderate sized farm units. These attributes indicate the need for ambitious preservation policies and techniques. The Agricultural Cropland designation allows single family dwelling units at a density no greater than 40 acres per unit.

The 2030 General Plan's Agricultural Element is intended to protect and maintain the County's agricultural lands and maintain the productivity of these lands. This element also intends to promote and support farming and related industries in a rapidly urbanizing County. The following agricultural policies are applicable to the Project (Sacramento County, 2017).

> **AG-1:** The County shall protect prime, statewide importance, unique and local importance farmlands located outside of the Urban Services Boundary from urban encroachment.
>
> **AG-2:** The County shall not accept applications for General Plan amendments outside the USB predesignating prime, statewide importance, unique and local importance farmlands or lands with intensive agricultural investments to agricultural/residential or urban use (i.e., residential, commercial, industrial) unless the applicant demonstrates that the request is consistent with the General Plan Agriculture-Residential expansion policies (refer to Land Use Element policies regarding Agriculture-Residential uses).
>
> **AG-4:** Prospective buyers of property adjacent to agricultural land shall be notified through the title report that they could be subject to inconvenience or discomfort resulting from accepted farming activities as per provisions of the County's right-to-farm ordinance.
>
> **AG-5:** Projects resulting in the conversion of more than fifty (50) acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):
>
> - Prime, statewide importance, unique, local importance, and grazing farmlands located outside the USB;
> - Prime, statewide importance, unique, and local importance farmlands located inside the USB
>
> The County Board of Supervisors retains the authority to override impacts to Unique, Local, and Grazing farmlands, but not with respect to Prime and Statewide farmlands.

Sacramento County Zoning Code

The Zoning Code specifies the immediate uses for land and is the primary instrument for implementing the County's 2030 General Plan policies. The Project would be located within the following zoning designation (Sacramento County, 2015):

> **AG-80** – Major utilities are a conditional use and minor utilities are a permitted primary use

As stated in Sections 3.6.6.A and 3.6.6.B of the Zoning Code, SMUD electrical transmission facilities less than 100kV, such as the Project, are identified as a minor utility. Substations are identified as a major utility and may be located on sites in all zoning districts provided they comply with the design measures listed in Section 3.6.6.A.1.c. (Sacramento County, 2015).

> **3.6.6.A.** Utility and Public Service Facility Uses, Major
>
> 1. Transmission Facilities of SMUD
>
> c. Advisory for Other Permitting Requirements
>
> (i) Overhead electrical transmission lines of 100,000 volts or greater capacity should be installed in a manner so as to minimize possible adverse impacts to existing land use and conditions, including health, safety, biological, visual, and aesthetic impacts. Consolidating lines on fewer poles should be explored whenever feasible, as long as doing so would not negatively affect reliability or safety. When feasible, SMUD should relocate and combine existing overhead transmission poles and lines with new installations.
>
> (ii) Substations should be designed and constructed in such a manner as to minimize off-site visual and noise impacts. Planted or landscaped setbacks of at least 25 feet should be provided on all public street frontages of the parcel. For rights-of-way with PUPFs, planted or landscaped setbacks of at least 31 feet should be provided on all public street frontages of the parcel.
>
> (iii) For rights-of-way with public utilities, public facilities easements, substations should be designed and constructed in such a manner as to minimize off-site visual and noise impacts. Planted or landscaped setback of at least 31 feet should be provided on all public street frontages of the parcel.
>
> (iv) SMUD proposals to the Board of Supervisors to locate and construct electrical transmission lines and substations subject to this Code

should include a description of mitigation measures to be utilized and a plan indicating the specific site treatments to be employed.

Impacts and Mitigation Measures

a. 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 uses?

As indicated in Table AG-1, the Project would be located on land designated as Farmland of Statewide Importance by the California Department of Conservation. As a result of Project construction, approximately 0.9 acre of Farmland of Statewide Importance would be converted to non-agricultural use. As described in the 2030 General Plan Policy AG-5, Sacramento County has determined that the conversion of 50 acres or more of farmland requires mitigation. The approximately 0.9 acre that would be converted by the Project represents a negligible amount of converted land when compared to the 50-acre threshold that the County has established. Additionally, as described in the Environmental Setting, within Sacramento County, approximately 207,483 acres have been designated Important Farmland. The conversion of 0.9 acre of Farmland to a non-agricultural use would result in a negligible change in the amount of Important Farmland within the County. Therefore, the conversion of Farmland to non-agricultural use would be ***less than significant***.

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

As indicated in Table AG-1, the Project would be constructed on Prime Williamson Act land. Approximately 0.9 acre of Williamson Act land would be permanently converted to a non-agricultural use. However, as described in Section 51238 of the Williamson Act, the construction of electric facilities is compatible with Williamson Act contracts. SMUD would coordinate with the DOC to comply with all public acquisition notification procedures as required by Government Code Sections 51291 through 51293.Therefore, the Project would not conflict with the existing Williamson Act contract. Additionally, the Project would not conflict with the site's designated agricultural zoning, which permits major utilities less than 100,000 volts.

Potential conflicts with a Williamson Act contract or agricultural zoning would be avoided through agency coordination with the DOC. Therefore, impacts would be ***less than significant***.

c. 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))?

There is no zoning for forest land or timberland found within the Project area. Therefore, the Project would not conflict with existing zoning for or cause rezoning of forest land or timberland; therefore, there would be ***no impact***.

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

The Project site would not be located in an area zoned for forest land. Therefore, there would be ***no impact***.

e. 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?

Potential impacts from the siting of Project components on Important Farmland is discussed above under criterion a). However, additional impacts could occur due to the proximity of construction activities to adjacent lands that are under active agricultural production. A temporary construction easement would extend 10 feet outside the substation footprint along the north and west sides of the Project site. An approximately 100 feet by 150 feet laydown area would be located directly north of the Project site's construction easement. The presence of construction equipment would temporarily interfere with agricultural operations by damaging crops or soil, impeding access to certain fields or plots of land, obstructing farm vehicles, or disrupting drainage or irrigation systems. These events would result in the temporary reduction of agricultural productivity, creating potentially significant impacts. With the implementation of **Mitigation Measure AG-1** (Establish Agreement and Coordinate Construction Activities with Agricultural Landowners), impacts to Farmland would be reduced to ***less than significant with mitigation***.

> ***Mitigation Measure AG-1: Establish Agreement and Coordinate Construction Activities with Agricultural Landowners.*** Sixty (60) days prior to the start of Project construction, SMUD shall secure a signed agreement with property owner(s) of active farmland (i.e., currently being prepared or used for agricultural production, or developed with agricultural infrastructure) that will be used for construction or other Project-related activities. The purpose of this agreement will be to set forth the use of farmland during construction in order to: (1) schedule proposed construction activities at a location and time when damage to agricultural operations would be minimized, and (2) ensure that any areas damaged or disturbed by construction are restored to a condition mutually agreed upon by the landowner and SMUD.

SMUD shall coordinate with the agricultural landowners in the affected areas where active farmland will be temporarily disturbed to determine when and where construction should occur in order to minimize damage to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons. If damage or destruction does occur, SMUD shall perform restoration activities on the disturbed area in order to return the area to a pre-determined condition or the pre-construction condition, whichever option is agreed upon by the landowner and SMUD. This could include activities such as soil preparation, regrading, and reseeding. If in the event that the land cannot be restored or that the planting will be interrupted, there will exist in the agreement another form of compensation for the loss of condition or the loss of harvest production. This measure applies to agricultural landowners with land that is impacted by the Project.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.3	**Air Quality**				
Where available, the significance criteria established by the applicable air quality management district 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?	☐	☐	☒	☐

Environmental Setting

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions (for example, wind speed, wind direction, and air temperature) in combination with local surface topography (for example, geographic features such as mountains and valleys), determine how air pollutant emissions affect local air quality.

The Project is located within Sacramento County, which is within the Sacramento Valley Air Basin (SVAB). Air quality in the County is regulated by the Sacramento Metropolitan Air Quality Management District (SMAQMD).

Regulatory Setting

Federal

The United Stated Environmental Protection Agency (USEPA) is required by the federal Clean Air Act (CAA) to identify and establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The federal CAA identifies two types of NAAQS: primary and secondary. Primary standards provide public health protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The USEPA has set NAAQS for six principal pollutants, called criteria air pollutants. These criteria air pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) in size fractions of 10 microns or less in diameter (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$), and lead. **Table AQ-1** presents the current NAAQS (and state ambient air quality standards) and provides a brief discussion of the related health effects and principal sources for each pollutant.

TABLE AQ-1
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND MAJOR SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hour [1]	9.0 ppm	9 ppm	
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	0.053 ppm	
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hour	---	0.5 ppm[2]	
	24 hour	0.04 ppm	0.14 ppm	
	Annual Avg.	---	0.030 ppm	
Respirable Particulate Matter (PM_{10})	24 hour	50 ug/m^3	150 ug/m^3	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 ug/m^3	---	
Fine Particulate Matter ($PM_{2.5}$)	24 hour	---	35 ug/m^3	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Avg.	12 ug/m^3	12.0 ug/m^3	
Lead	Monthly Ave.	1.5 ug/m^3	---	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 ug/m^3	
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Geothermal power plants, petroleum production and refining
Sulfates	24 hour	25 ug/m^3	No National Standard	Produced by the reaction in the air of SO_2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	See under $PM_{2.5}$ (above).
Vinyl chloride	24 hour	0.01 ppm	No National Standard	Polyvinyl chloride and vinyl manufacturing.

NOTE:
ppb = parts per billion; ppm = parts per million; ug/m^3 = micrograms per cubic meter.
1 A more stringent 8-hour carbon monoxide state standard exists around Lake Tahoe (6 ppm).
2 Secondary national standard.

SOURCE: CARB, 2016; CARB, 2009

The USEPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the NAAQS had been achieved. The classification is determined by comparing actual monitoring data with the standards. “Unclassified” is defined by the federal CAA as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. Furthermore, an area may be designated attainment with a maintenance plan (also known as a maintenance area), which means that an area was previously nonattainment for a criteria air pollutant but has since been redesignated as attainment. These areas have demonstrated through modeling they have sufficient controls in place to meet and maintain the NAAQS.

The Sacramento region’s attainment status for the criteria air pollutants is summarized in **Table AQ-2** (state designations are also provided). The Sacramento region is considered a federal nonattainment area for O_3 and $PM_{2.5}$ and as an attainment-maintenance area for the federal CO and PM_{10} standards.

TABLE AQ-2
SACRAMENTO COUNTY ATTAINMENT STATUS

Pollutant and Averaging Time	Designation/Classification	
	State Standards	Federal Standards
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment/Serious	Nonattainment/Severe
Carbon Monoxide	Attainment	Attainment/Maintenance
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment/Maintenance*
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment/Moderate
Lead	Attainment	Attainment
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Vinyl Chloride	Unclassified	No Federal Standard

NOTE: CARB makes area designations for ten criteria pollutants (O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, lead, visibility reducing particles, sulfates, and hydrogen sulfide. CARB does not designate areas according to the vinyl chloride standard.

* Effective October 28, 2013, the U.S. EPA formally re-designated Sacramento County as attainment for the federal PM_{10} standard.

SOURCES: CARB, 2017

The federal CAA requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the federal CAA and will achieve air quality goals when implemented.

State

At the state level, the California Air Resources Board (CARB) oversees California air quality policies and regulations. California had adopted its own air quality standards (California Ambient Air Quality Standards, or CAAQS) as shown in Table AQ-1. Most of the California ambient standards tend to be at least as protective as NAAQS and are often more stringent.

In 1988, California passed the California Clean Air Act (CCAA) (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. The CCAA requires each air district in which state air quality standards are exceeded to prepare a plan that documents reasonable progress towards attainment. If an air basin (or portion thereof) exceeds the CAAQS for a particular criteria air pollutant, it is considered to be nonattainment of that criteria air pollutant until the area can demonstrate compliance. As indicated in Table AQ-2, Sacramento County is classified as nonattainment and serious nonattainment for the 8-hour and 1-hour state ozone standards, respectively, and is nonattainment for the 24-hour and annual state PM_{10} standard.

Local

Sacramento Metropolitan Air Quality Management District

The SMAQMD is the regional agency responsible for air quality regulation within Sacramento County. The SMAQMD regulates air quality through its planning and review activities and has permit authority over most types of stationary emission sources and can require operators of stationary sources to obtain permits, can impose emission limits, set fuel or material specifications, and establish operational limits to reduce air emissions. The SMAQMD regulates new or modified stationary sources of toxic air contaminants (TAC).

The construction phase of the Project would be subject to the applicable SMAQMD regulations with regards to construction and stationary equipment, particulate matter generation, architectural coatings, and paving materials. Equipment used during construction would be subject to the applicable requirements of SMAQMD Regulation 2 (Permits), Rule 201 (General Permit Requirements); and Regulation 4 (Prohibitory Rules), Rule 401 (Ringelmann Chart/Opacity), Rule 402 (Nuisance), Rule 403 (Fugitive

Dust), Rule 404 (Particulate Matter), Rule 405 (Dust and Condensed Fumes), Rule 420 (Sulfur Content of Fuels), Rule 442 (Architectural Coatings), Rule 453 (Cutback and Emulsified Asphalt Paving Materials).

Sacramento County General Plan

The 2030 General Plan Air Quality Element contains the following air quality goal and policies that would apply to the Project (County of Sacramento, 2017).

> **GOAL:** Improve air quality to promote public health, safety, welfare, and environmental quality of the community.
>
> Policies
>
> **AQ-3:** Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Air Quality and Land Use Handbook: A Community Health Perspective", and the AQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.
>
> **AQ-4:** Developments which meet or exceed thresholds of significance for ozone precursor pollutants as adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.
>
> **AQ-10:** Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.
>
> **AQ-11:** Encourage contractors operating in the county to procure and to operate low-emission vehicles, and to seek low emission fleet status for their off-road equipment.
>
> **AQ-16:** Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

AQ-19: Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.

Impacts and Mitigation Measures

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan (SMAQMD, 2017a), which addresses attainment of the federal 8-hour ozone standard and the 2015 Triennial Report and Plan Revision (SMAQMD, 2015) and the 2016 Annual Progress Report Plan (SMAQMD, 2017b), are the latest plans issued by the SMAQMD, which incorporate land use assumptions and travel demand modeling from the Sacramento Area Council of Governments (SACOG). To determine compliance with the applicable air quality plan, the SMAQMD recommends comparing the project to the SACOG growth projections (i.e., projected vehicle-miles travelled (VMT) and population growth rate) included in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG, 2016). There would be no employment, housing units, or population generated by the Project. Other than trips associated with maintenance and operation, the Project would not increase daily VMT. Therefore, the Project would not conflict with or obstruct implementation of applicable air quality plans and would result in a ***less than significant impact***.

b. 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?

In developing thresholds of significance for air pollutants, SMAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable. Therefore, if a project would result in an increase in ROG, NO_x, PM_{10}, or $PM_{2.5}$ of more than its respective maximum daily and annual emissions significance thresholds, then it would also contribute considerably to a significant cumulative impact. If a project would not exceed the significance thresholds, its emissions would not be cumulatively considerable.

Construction

The source of construction and decommissioning-related pollutant emissions is primarily from the use of on-road worker trips, haul trips, and heavy-duty construction equipment. Emissions of ozone precursors (ROG and NO_X) are generated primarily by mobile sources and largely vary as a function of vehicle trips per day and the type, quantity, intensity, and frequency of heavy-duty, off-road equipment used. Typically, a large portion of construction-related ROG emissions also results from the application of asphalt, such as during paving of the access road.

Construction and decommissioning -related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis. In addition, fugitive dust generated by construction would include not only PM_{10}, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

The SMAQMD has established mass emissions thresholds for O_3 precursors, NO_X and ROG, PM_{10}, and $PM_{2.5}$ because the Sacramento region does not meet the state and federal ozone and state particulate matter (PM_{10} and $PM_{2.5}$) ambient air quality standards. Emissions of O_3 precursors or PM from an individual project could contribute to an existing exceedance of the ozone standards. **Table AQ-3** presents the applicable SMAQMD thresholds of significance.

TABLE AQ-3
SMAQMD CRITERIA AIR POLLUTANT THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction Phase	Operational Phase
Oxides of nitrogen (NO_X)	85 maximum ppd	65 maximum ppd
ROG (VOC)	None	65 maximum ppd
PM_{10}	0*	0 *
$PM_{2.5}$	0*	0*
CO	20 ppm (1-hour); 9 ppm (8-hour)	20 ppm (1-hour); 9 ppm (8-hour)

NOTES:

* If all feasible Best Achievable Control Technology/Best Management Practices (BACT/BMP) are applied, then the threshold of significance is 80 maximum ppd and 14.6 tpy for PM_{10}, and 82 maximum ppd and 15 tpy for $PM_{2.5}$ for both construction and operational phases. To date, SMAQMD has not defined any BACT/BMPs for operational emissions from transportation projects. Consequently, these thresholds are used to evaluate operational emissions.

ABBREVIATIONS:

SMAQMD = Sacramento Metropolitan Air Quality Management District
ppd = pounds per day
tpy = tons per year
NOx = nitrogen oxides
ROG = reactive organic gases
VOC = volatile organic compounds
PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
CO = carbon monoxide
Ppm = parts per million

SOURCE: SMAQMD, 2009

Using the methods contained in SMAQMD's Guide to Air Quality Assessment in Sacramento County, CalEEMod 2016.3.2 was used to estimate construction emissions for the Project. CalEEMod is an approved emissions inventory software program that allows the user to estimate criteria pollutant emissions from land use development projects. Estimated construction and decommissioning emissions are based on the projected phasing schedule found in in Tables PD-1 and PD-2 of the Project Description. It is assumed that the Project would excavate approximately 1,700 cubic yards (125 truckloads) of soil and backfilling with 7,000 cubic yards (500 truckloads) of imported

fill during the construction of the Lambert Substation. It was assumed that each construction phase (including decommissioning activities) would require on average seven work trips, which would equate to 14 one-way trips per construction phase. Estimated construction and decommissioning emissions for the worst-case day during the construction for the Project are presented in **Table AQ-4** and compared to the SMAQMD thresholds. Additional information and model results are presented in **Appendix C**.

As shown in Table AQ-4, PM_{10} and $PM_{2.5}$ emissions under the Project would exceed the SMAQMD's zero emissions significance threshold. Without the implementation of the SMAQMD's Enhanced Exhaust Control Practices and Construction Emission Control Practices, construction of the Project would result in a cumulatively considerable contribution to a significant cumulative impact on regional air quality. However, as shown in Table AQ-4, implementation of **Mitigation Measure AQ-1** would reduce this impact to ***less than significant with mitigation*** by requiring SMUD to comply with the SMAQMD's Basic Construction Emission Control Practices.

TABLE AQ-4
EMISSIONS ESTIMATES, PROPOSED PROJECT CONSTRUCTION AND DECOMMISSIONING[1,2]

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2020	62	3	3	< 1	< 1
2021	20	1	1	< 1	< 1
Maximum Daily Emissions	**62**	**3**	**3**	**< 1**	**< 1**
SMAQMD Thresholds[3]	85	0/80	0/82	0/14.6	0/15
Significant (Yes or No)?	**No**	**Yes**	**Yes**	**Yes**	**Yes**
Significance with Mitigation Measure AQ-1	**No**	**No**	**No**	**No**	**No**

NOTES:
1. Project construction and decommissioning emissions estimates were made using CalEEMod version 2016.3.2. See Appendix AQ for model outputs and more detailed assumptions.
2. Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3. SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when projects do not implement their Best Management Practices (BMP).

ABBREVIATIONS:
SMAQMD = Sacramento Metropolitan Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
ppd = pounds per day
tpy = tons per year

SOURCE: Appendix C.

Mitigation Measure AQ-1: Implement Applicable SMAQMD Basic Construction Emission Control Practices. SMUD will comply with the following measures to reduce emissions of fugitive dust and construction equipment exhaust:

- Water all exposed surfaces at least two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.

- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speed on unpaved roads to 15 miles per hour.

- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by California Code of Regulations [CCR] Title 13, Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. Equipment will be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Operation

The substation would not be permanently staffed and would be operated by SMUD remotely. SMUD maintenance employees would visit approximately twice per month to conduct routine checks and maintenance. These ongoing activities would generate nominal air pollutant emissions and would not generate substantial emissions of criteria pollutants or precursors. In addition, substation operation would not involve the use of stationary sources of criteria pollutants or precursors. Therefore, operations would not generate emissions exceeding SMAQMD thresholds (see Table AQ-3), and operation of the Project would not result in a cumulatively considerable contribution to a significant cumulative impact on regional air quality. This operational impact would be ***less than significant***.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors include children, older adults, people with preexisting respiratory or cardiovascular illness, and people who engage in frequent exercise. Sensitive receptor locations include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Construction and Decommissioning

Construction of the Project would result in the short-term generation of diesel particulate matter (DPM) emissions from the use of off-road diesel equipment and from construction material deliveries and debris removal using on-road heavy-duty trucks. DPM is a complex mixture of chemicals and particulate matter that has been identified by the State of California as a TAC with potential cancer and chronic non-cancer effects. The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments should be based on a 9, 30, and/or 70-year exposure periods to determine the health risk to sensitive receptors from cancer or chronic noncancer health effects of TAC emissions (such as DPM) (OEHHA, 2015).

Construction activities associated with the Project would take place over a period of 10 months and decommissioning of the existing substation would occur over a period of 4 months (weather permitting). Based on emissions estimates shown in Table AQ-1, maximum daily emissions of PM_{10} and $PM_{2.5}$ associated with the construction of the Project would be less than 3 pounds per day. Temporary exposure to these emission levels at the residence during construction (residence is located approximately 530 feet north of the Project site) and during decommissioning activities (residence is located approximately 100 feet from the existing substation) is not likely to lead to a significant impact from exposure to TACs. Because the total emissions and duration of exposure at the nearest sensitive receptor would be relatively minor compared to the 30-year exposure recommend by OEHHA, the health risk from exposure to short-term DPM emissions associated with construction of the Project would be negligible, and this impact would be ***less than significant***.

Operation

Operation of the Project would involve primarily the occasional use of gasoline-fueled vehicles by workers to ensure that the substation is operating properly. The new substation would not include any additional ongoing emission sources and thus would not increase TAC emissions. Therefore, Project operations would not expose sensitive receptors to substantial TAC emissions. This impact would be ***less than significant***.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The SMAQMD has identified typical odor sources in its CEQA Guide to Air Quality Assessment (SMAQMD, 2009). These include wastewater treatment plants, sanitary landfills, composting and green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting and coating operations, rendering plants, and food packaging plants. The Project would not include uses that have been identified by SMAQMD as potential sources of objectionable odors. The Project construction and existing substation decommissioning would include sources, such as diesel equipment, which could result in the creation of objectionable odors. However, construction-generated emissions would dissipate rapidly with increasing distance from the source. Emissions would be further reduced after completion of site grading activities. The nearest residence is located approximately 530 feet from the proposed substation and 100 feet from the existing substation. No other residences are located closer than approximately 1,500 feet away. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. Therefore, impacts from odors generated during the construction and operation of the Project would be ***less than significant***.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.4 Biological Resources					
Would the project:					
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?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c)	Have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption or other means?	☐	☒	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

The Project site occurs within a rural area in Sacramento County. Surrounding land uses include rural residential and agricultural land. The Project site is bordered by agricultural land to the west and north, railroad tracks to the east, and Lambert Road to the south. The RD 1002 irrigation canal is located north of Lambert Road. The irrigation canal undergoes routine vegetation maintenance activities and experiences managed hydrology based on surrounding farming practices. The banks of the irrigation canal are intermittently vegetated by cattail (*Typha* sp.), salt grass (*Distichlis spicata*), and sedge (*Cyperus eragrostis*). While water was observed during the August 2, 2018 site survey, no water was observed within the irrigation canal during the October 2, 2018 site survey. Mature trees occur within 0.25 mile of the Project site.

Habitat within the Project site consists of agricultural land comprised of alfalfa and disturbed areas. The agricultural land had been tilled prior to the August 2, 2018 reconnaissance level survey. Disturbed areas include asphalt and gravel interspersed with bare ground and weedy vegetation including alfalfa (*Medicago* sp.), milk thistle (*Silybum marianum*), Johnson grass (*Sorghum halepense*), dove weed (*Croton setigerus*), carrot (*Daucus carota*), perennial pepperweed (*Lepidium latifolium*), and tumbleweed (*Amaranthus albus*). No burrows were observed within the disturbed areas. No trees, aquatic habitat, or sensitive natural communities occur within the Project site.

General wildlife observed foraging during the reconnaissance level surveys included: American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), great egret (*Ardea alba*), American robin (*Turdus migratorius*), western meadowlark (*Sturnella neglecta*), European starling (*Sturnus vulgaris*), turkey vulture (*Cathartes aura*), and northern mockingbird (*Mimus polyglottos*). Hundreds of American bullfrogs (*Lithobates catesbeianus*) were observed within the irrigation canal during the August 2, 2018 survey.

Sensitive Biological Resources

Information in this section is based on data collected during reconnaissance-level field surveys conducted by an ESA biologist on August 2, 2018 and October 9, 2018, and review of other relevant documentation for the Project site and surrounding vicinity including:

California Natural Diversity Database (CNDDB) records search, including a 5-mile radius around the Project site (CDFW, 2018) (see Appendix D)

United States Fish and Wildlife Service (USFWS) List of Threatened and Endangered Species (USFWS, 2018) (see Appendix D)

California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS, 2018) (see Appendix D)

Several species known to occur in the vicinity of Project site are protected pursuant to federal and/or State endangered species laws, or have been designated as Species of Special Concern by the CDFW. In addition, Section 15380(b) of the CEQA Guidelines provides a definition of rare, endangered, or threatened species that are not included in any listing. For example, vascular plants listed as rare or endangered or as California Rare Plant Rank (CRPR) List 1 or 2 by the CNPS are considered to meet Section 15380(b) requirements. For the purposes of this document, “special-status” has been defined to include those species, which are:

- Listed as endangered or threatened under the federal Endangered Species Act (or formally proposed for, or candidates for, listing);

- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as endangered or rare, pursuant to California Fish and Game Code (Section 1901);
- Designated as fully protected, pursuant to California Fish and Game Code (Section 3511, 4700, or 5050);
- Designated as species of concern by U.S. Fish and Wildlife Service (USFWS), or as species of special concern to California Department of Fish and Wildlife (CDFW);
- Plants or animals that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA).

Special-status species considered for this analysis are based on the CNDDB, CNPS, and USFWS lists. A comprehensive list of special-status plant and wildlife species that were considered in the analysis is provided in **Appendix D** and shown on **Figure 3**. The list includes the common and scientific names for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and a discussion of the potential for occurrence within the Project site. The following set of criteria has been used to determine each species potential for occurrence within the Project site:

High: Species known to occur on or near the Project site (based on CNDDB records within 5 miles of the Project site) and there is suitable habitat within or in the vicinity of the Project site.

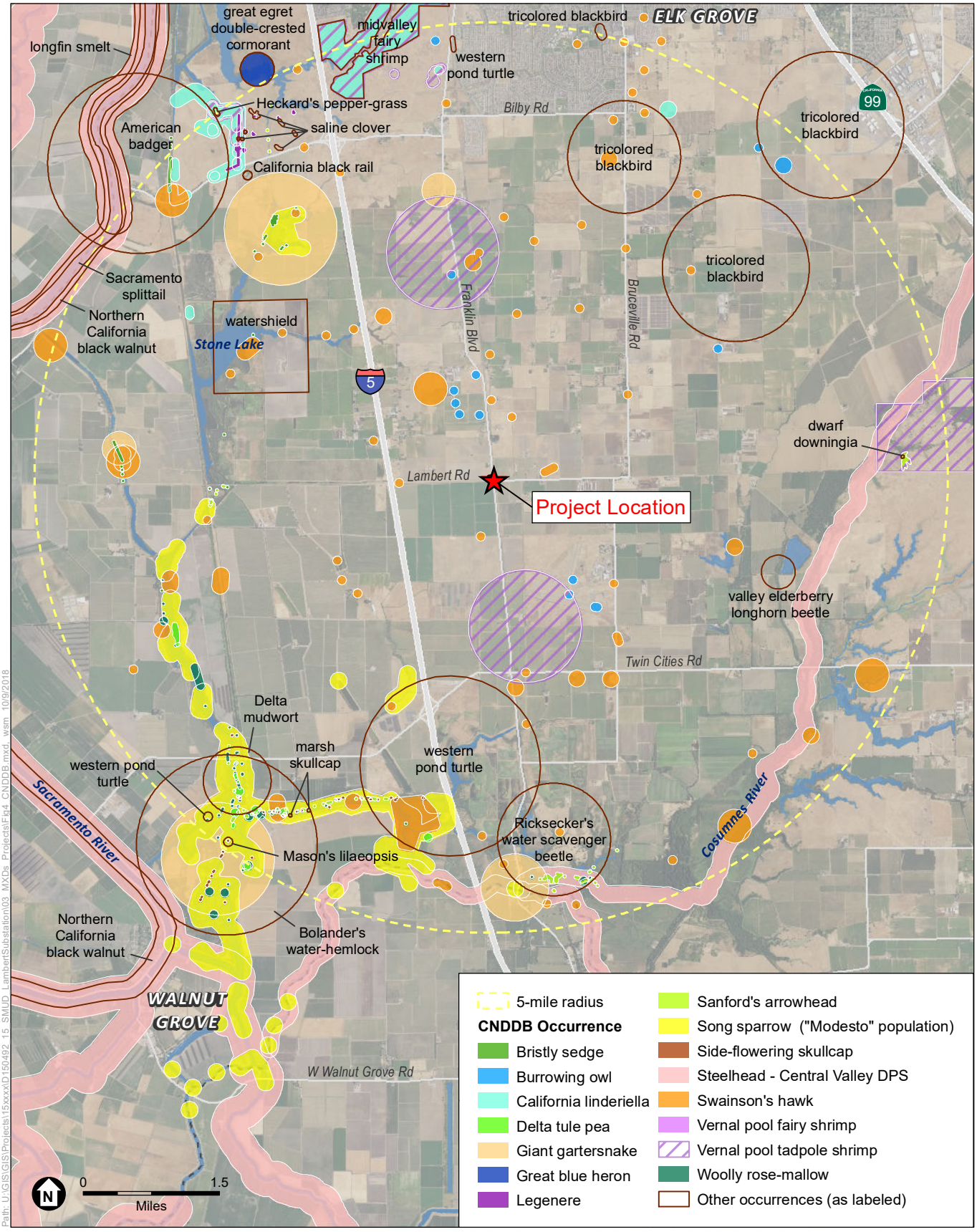
Low: Species known to occur in the vicinity of the Project site and there is marginal habitat within the Project site or species is not known to occur in the vicinity of the Project site, though there is suitable habitat on the Project site.

None: There is no suitable habitat within or in the vicinity of the Project site regardless of whether occurrences are documented within the vicinity or plant species were not observed during surveys conducted within their blooming periods.

Only those species that have a high or low potential for occurrence are discussed further. **Table BIO-1** provides a summary of special-status species with a high or low potential to occur within the Project site.

Special-Status Plants

The Project site does not provide habitat for special-status plants since it comprises disturbed areas and actively farmed agricultural land.



SOURCE: Esri, 2012; USDA, 2016; CDFW, 2018; ESA, 2018

Lambert Substation

Figure 3
CNDDB Occurrences

ESA

TABLE BIO-1
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES

Common Name/ Scientific Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence within the Project Site
Burrowing owl/ Athene cunicularia	--/CSC/--	Forages in open plains, grasslands, and prairies; typically nests in abandoned small mammal burrows.	High. The project site provides suitable nesting and wintering habitat for this species.
Swainson's hawk/Buteo swainsoni	--/ST/--	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grassland, or alfalfa or grain fields supporting rodent populations.	High. The mature trees within and in the vicinity of the project site provide suitable nesting habitat and the agricultural land within the project site provides suitable foraging habitat for this species.
White-tailed kite (*Elanus leucurus*)	--/CFP/--	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**High.** The mature trees within and in the vicinity of the project site provide suitable nesting habitat for this species.
Western pond turtle/Emys marmorata	--/CSC/--	Inhabits ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	Low. The irrigation canal that is adjacent to the project site provides marginal aquatic habitat given the lack of permanent water year round and the lack of surrounding sandy banks.
Giant garter snake/ Thamnophis gigas	FT/ST/--	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. GGS also inhabit irrigation ditches, drainage canals, rice fields, and their associated uplands. GGS require three components for a suitable place to live: 1) aquatic habitat for foraging during its active summer months (April through September); 2) basking areas near the water with sufficient emergent vegetation for temperature regulation; and 3) upland refugia (mainly small mammal burrows) for periods of inactivity, particularly during the extended winter brumation period. Rarely found away from permanent water sources.	Low. The irrigation canal that is adjacent to the project site provides marginal habitat given the abundance of American bullfrogs present that are predators of young giant garter snake, the lack of cover or brumation due to the lack of burrows or crevices in upland habitat in the vicinity of the canal, the ongoing vegetation maintenance activities within and along the banks of the canal, the managed hydrology (the irrigation canal may not contain water during the snake's active season), and the lack of direct connection from known populations.

Special-Status Wildlife

The following special-status wildlife have the potential to occur within or in the vicinity of the Project site: western pond turtle (*Emys marmorata*), giant garter snake (*Thamnophis gigas*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*). Migratory birds and other birds of prey also have the potential to occur within and in the vicinity of the Project site. These species are discussed in further detail below.

Western pond turtle. Western pond turtle is a state species of special concern. Western pond turtle inhabit permanent or nearly permanent water in diverse habitat types including ponds, lakes, streams, irrigation ditches, or permanent pools along ephemeral streams. Habitat requirements include basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open banks. Their elevation range extends from near sea level to over 6,000 feet. Western pond turtle females lay their eggs in nests along the sandy banks of large slow-moving streams, or upland from foothill streams, sometimes traveling over 300 feet. Eggs are laid in nests between March and August, and are incubated for approximately 73 to 80 days. The RD 1002 irrigation canal provides marginal habitat for western pond turtle given the lack of permanent water year round and the lack of surrounding sandy banks.

Giant garter snake. Giant garter snake is a federal and state threatened species. Giant garter snake inhabit agricultural wetlands and other waterways including irrigation and drainage canals, rice land, marshes, sloughs, ponds, small lakes, low gradient streams with silt substrates, and adjacent uplands. Ideal aquatic habitat has water present from March through November, slow-moving or static water flow with mud substrate, presence of emergent and bankside vegetation that provides cover from predators and may assist in thermoregulation, basking sites with adjacent vegetation for escape and cover, absence of large predatory fish and other predators, lack of flooding, and upland refugia. Giant garter snake use upland habitat for basking, cover, and mammal burrows and crevices in the soil to escape predation. In the fall, around October 1, giant garter snake move underground into mammal burrows, crevices, or other voids in the ground to avoid potentially lethal cool autumn and winter temperatures. Giant garter snake emerge from overwintering sites in March to forage and breed, breed from March through May, and the females give birth to live young from late July through September. The nearest CNDDB occurrence is approximately 3 miles north of the Project site. There is no direct connection between known populations and the RD 1002 irrigation canal. The irrigation canal provides marginal aquatic habitat for this species given the abundance of American bullfrogs present that are predators of young giant garter snake, the ongoing vegetation maintenance activities within and along the banks of the canal, and the managed hydrology (canal may not contain water during the snake's active season). Further, the area that surrounds the canal provides marginal upland habitat due to the lack of burrows or crevices.

Burrowing owl. Burrowing owl is a state species of special concern. Although in certain areas of its range, burrowing owls are migratory, these owls are predominantly non-migratory in California. The breeding season for burrowing owls occurs from March to August, peaking in April and May (Zeiner *et al.* 1990). Burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. Burrowing owl is also known to use artificial burrows including pipes, culverts, and nest boxes. The agricultural land and disturbed areas provide habitat for this species, however, very few potential burrow sites that could be utilized by burrowing owl occur within the Project site or vicinity.

Swainson's hawk. Swainson's hawk is a state threatened species. Swainson's hawk is a long-distance migrant with nesting grounds in western North America. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury *et al.* in prep.). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner *et al.* 1990). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water, 1994). The nearest CNDDB occurrence for Swainson's hawk is from 2009 and is 0.6 mile east of the project site (occurrence number 1870) (CDFW, 2018). The record states that a nest was observed within a Eucalyptus (*Eucalyptus* sp.) tree. The mature trees within 0.5 mile of the Project site provide nesting habitat for this species.

The CDFW considers five acres or more of agricultural land as suitable foraging habitat for Swainson's hawk when occurrences are documented within 10 miles of the project site within the last five years (CDFW, 1994). There are no CNDDB occurrences documented for an active nest within 10 miles of the Project site within the last 5 years (CDFW, 2018). The Project site does not provide adequate foraging habitat for the Swainson's hawk since it contains only approximately one acre of agricultural land.

White-tailed kite. White-tailed kite is state fully protected. White-tailed kite is a yearlong resident in coastal and valley lowlands in California. White-tailed kite breed from February to October, peaking from May to August (Zeiner *et al.* 1990). This species nests near the top of dense oaks, willows, or other large trees. The mature trees within 0.5 mile of the Project site provide nesting habitat for this species.

Migratory birds and other birds of prey. Migratory birds and other birds of prey protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code have the potential to nest within the agricultural land and disturbed areas within

and in the vicinity of the Project site and within the mature trees within 0.5 mile of the Project site.

Sensitive Habitats and Special-Status Plant Communities

The Project site does not contain sensitive natural communities since it comprises agricultural land and disturbed areas.

Potential Waters of the U.S. and Waters of the State

The Project site does not contain potential waters of the U.S. or waters of the state. The irrigation canal to the south of the Project site may be considered a potential water of the U.S. and water of the state.

Regulatory Setting

Federal

Federal Endangered Species Act

Federal Endangered Species Act prohibits the unauthorized take of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery. The term “take” is defined by the Endangered Species Act as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

Migratory Bird Treaty Act

Federal law protects raptors, migratory birds, and their nests. The federal Migratory Bird Treaty Act (15 USC 703-711 and 16 USC Section 7.3, Supp I 1989), 50 CFR Part 21, and 50 CFR Part 10, prohibits killing, possessing or trading in migratory birds. Executive Order 13186 (January 11, 2001) requires that any project with federal involvement address impact of federal actions on migratory birds.

State

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of plant and animal species that the California Fish and Game Commission have designated as either threatened or endangered in California. “Take” in the context of the CESA means to hunt, pursue, kill, or capture a listed species, as well as any other actions that may result in adverse impacts when a person is attempting to take individuals of a listed species. The take prohibitions also apply to candidates for listing under the CESA.

California Fish and Game Code

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation under it. Section 3503.5 prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) allow the designation of a species as fully protected. This is a greater level of protection than that afforded by the CESA. Except for take related to scientific research, all take of fully protected species is prohibited.

South Sacramento Habitat Conservation Plan

On September 11, 2018, the Sacramento County Board of Supervisors adopted the South Sacramento Habitat Conservation Plan (SSHCP). The SSHCP plan area encompasses 317,656 acres are bordered by Highway 50, San Joaquin County, El Dorado County and Amador County, and the Sacramento River to the west. The SSHCP will streamline federal and state permitting processes for SSHCP-covered development and infrastructure projects while protecting habitat, open space and agricultural lands. The Project would be located within the SSHCP (Sacramento County, 2018).

Impacts and Mitigation Measures

a. 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?

The irrigation canal provides marginal aquatic habitat for western pond turtle. While the Project site does not provide aquatic habitat, the agricultural land within the Project site provides marginal upland nesting and overwintering habitat. The Project could impact western pond turtle through direct take if present in staging areas or during vegetation removal and grading activities. The loss, i.e., take, of a western pond turtle from construction activities would be a significant impact. Implementation of the following mitigation measure, including conducting preconstruction surveys, installing silt fencing to exclude western pond turtle from entering the Project site, and relocating a western pond turtle, if present within the Project site, would reduce this potential impact to ***less than significant with mitigation***.

> ***Mitigation Measure BIO-1. Western Pond Turtle – Preconstruction Survey and Avoidance.*** Prior to commencement of any construction, silt fencing shall be installed along the southern edge of the Project site to inhibit any western pond turtles from entering the Project footprint. Prior to the fence installation, a

qualified biologist shall conduct a preconstruction survey to ensure no western pond turtle is present within the Project footprint. Should any western pond turtles be detected in the vicinity of the Project footprint, the biological monitor shall relocate any western pond turtles found within the construction footprint to suitable habitat away from the Project site. Once the biologist determines that no western pond turtles occur within the proposed fence location, the silt fencing shall be installed under the direct supervision of the qualified biologist. The fencing shall remain intact throughout the duration of the Project.

Giant garter snake are unlikely to occur in the irrigation canal due to the limited extent of high quality habitat, ongoing vegetation maintenance activity within and along the banks of the canal, managed hydrology (the irrigation canal may not contain water during the snake's active season), and lack of direct connection from known populations. While unlikely, Project activities could impact the species through direct take if present in staging areas or during vegetation removal and grading activities within the upland areas adjacent to the canal. The loss of a giant garter snake from construction would, therefore, be a significant impact. Implementation of **Mitigation Measure BIO-2**, including conducting preconstruction surveys and installing silt fencing to exclude giant garter snake from entering the Project site (**Mitigation Measure BIO-1**), and stopping work, if present within the Project site, would reduce this impact to ***less than significant with mitigation***.

Mitigation Measure BIO-2. Giant garter snake – Preconstruction Survey and Avoidance. Ground disturbing activities will be performed during the active period for giant garter snake, which extends from May 1 and October 1, to the extent feasible. Direct mortality is not anticipated because snakes are expected to actively move and avoid danger. Within 24 hours prior to initial grading a qualified biologist shall conduct a preconstruction survey for giant garter snake within 200 feet of the Project site. Surveys shall be repeated if a lapse in construction activity of 7 days or greater has occurred. The biologist shall be on-call and available to go to the project site if any snakes are encountered during construction activities. If a giant garter snake is encountered during construction, SMUD shall stop work and notify the qualified biologist immediately. The biologist shall monitor the snake until it leaves on its own. SMUD shall notify CDFW and USFWS by telephone or email within 24 hours of a giant garter snake observation. Work can resume once the biologist has determined that the snake would not be harmed and has given authorization to resume work. If ground disturbing activities are anticipated to extend into the inactive season (October 2 through April 30), silt fencing shall be installed before October 1 along the perimeter of the irrigation canal to further exclude giant garter snake from entering the work area. The fencing shall be installed under the direct supervision of a biologist. SMUD will maintain the exclusion fencing for the duration of the Project's construction activities.

Migratory birds and other birds of prey, protected under the MBTA, and those protected under Sections 3503, 3503.5, 3511, and 3800 of the California Fish and Game Code,

including burrowing owl, have the potential to nest within the agricultural land and the disturbed areas within and in the vicinity of the Project site. Migratory birds and other birds of prey including white-tailed kite and Swainson's hawk have the potential to nest within the mature trees within 0.5 mile of the Project site. The generally accepted nesting season that encompasses the extent of all potentially occurring birds extends from February 1 to September 15.

The destruction of an active migratory bird nest is a violation of the MBTA and would be considered a significant impact. If the mature trees in the vicinity of the Project site were utilized by nesting raptors, adults or young could be disturbed by construction noise and vibration, conflicting with California Fish and Game Code Section 3503.5. The loss of an active raptor nest or take of individuals from construction would be a significant impact. Implementation of **Mitigation Measure BIO-3** would ensure that no nesting birds are harmed or destroyed by conducting preconstruction surveys and establishing appropriate no work buffers around an active nest, if present, which would reduce this impact to a ***less than significant with mitigation***. **Mitigation Measure BIO-4** would reduce potential avian impacts resulting from pole design to ***less than significant with mitigation***.

> ***Mitigation Measure BIO-3. Special-status Birds – Preconstruction Survey and Avoidance.*** If construction (including equipment staging and vegetation removal) occurs during the breeding season for migratory birds and raptors (between February 1 and August 31) and for Swainson's hawk (between March 1 and September 15), SMUD shall retain a qualified biologist to conduct a preconstruction nesting bird and raptor survey before the onset of construction activities. The preconstruction nesting bird and raptor surveys shall be conducted within 14 days prior to commencement of construction activities between February 1 and September 15 (to encompass all birds and raptors). Surveys for raptor nests, including burrowing owl, shall extend 500 feet from the Project site. Surveys for Swainson's hawk and white-tailed kite shall extend 0.5 mile from the Project site. A report shall be prepared and submitted to SMUD following the preconstruction survey to document the results. If no active nests are detected during the preconstruction survey, no additional mitigation is required so long as construction commences within 14 days of the preconstruction survey.
>
> If an active nest is found in the survey area, a buffer will be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season (August 31) or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project site (this date varies by species). The extent of these buffers will be determined by the biologist and will depend on the bird species, level of construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species. No project activity shall commence within the buffer areas until a qualified biologist has determined, in coordination with

CDFW, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. CDFW guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers for Swainson's hawk nests, but the size of the buffer may be decreased if a qualified, biologist and SMUD determine that such an adjustment would not be likely to adversely affect the nest.

Monitoring of active nests by a qualified biologist during construction activities shall be required if the biologist determines a particular activity has the potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases.

Mitigation Measure BIO-4. Special-status Birds – Avian-safe Pole and Substation Configuration. To minimize the risk of collision or electrocution associated with operation of the Project, replacement and newly constructed poles will be designed using avian-safe configurations, as applicable, as described in SMUD's existing Avian Protection Plan.

Mitigation Measures BIO-5 and **BIO-6** also would assist in reducing potential impacts to biological resources from construction worker activities.

Mitigation Measure BIO-5. Worker Environmental Awareness Training Program. All construction personnel shall attend a mandatory Worker Environmental Awareness Training (WEAT) Program prior to working in the project area. The program shall summarize relevant laws and regulations that protect biological resources, discuss sensitive habitats and special-status species with the potential to occur in the project area, and provide instructions to comply with all Project mitigation measures.

The Program shall provide the following instruction regarding any special-status species or other wildlife species that are observed in the project area during construction: If protected wildlife enters the project area, construction will cease until the wildlife moves out of harm's way on its own accord. If the wildlife cannot or does not move out of harm's way on its own accord, SMUD field crews shall contact SMUD Environmental Services at (916) 732-5836, who will report the sighting to the Project biologist or agency (USFWS and/or CDFW), as appropriate. SMUD Environmental Services will have authority to stop activities until appropriate corrective measures have been completed or it is determined that the wildlife will not be harmed. Capture and relocation of trapped or injured wildlife may only be attempted by qualified biologists.

Mitigation Measure BIO-6. General Construction Measures. The following general construction measures shall be implemented in order to avoid unnecessary impacts to biological resources during construction of the Project:

- To the extent possible, construction personnel shall minimize the work area footprint and the duration at a work area site.
- Construction personnel shall use existing paved and unpaved roads to access the work area where present.
- Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the maximum extent feasible.
- Trash dumping, littering, open fires (such as barbecues), hunting, and pets shall be prohibited in work areas.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No sensitive natural communities including riparian habitat would be affected by the Project as none of these special-status habitats exist on the site or would be affected offsite. Therefore, ***no impact*** on natural communities would occur.

c. Would the project have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption or other means?

No wetlands or other aquatic habitat occur on the Project site. However, the RD 1002 irrigation canal could be indirectly impacted by construction activities through erosion and sediment deposition. Indirect impacts to potential wetlands and waterways are considered significant. SMUD shall comply with the State's National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit) issued by the Regional Water Quality Control Board. Compliance with the General Permit in addition to implementation of **Mitigation Measure HYD-1**, which would require the contractor to prepare a stormwater pollution prevention plan (SWPPP), and **Mitigation Measure BIO-1** which includes establishing a silt fence between the southern portion of the Project site and the RD 1002 canal, would ensure that impacts to potentially jurisdictional waters of the U.S. and water of the state are reduced to a ***less than significant with mitigation***.

d. 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 corridors, or impede the use of native wildlife nursery sites?

The Project would not substantially interfere with the movement of any native resident of migratory fish or wildlife species or with established native resident or migratory corridors since the Project site does not contain habitat that would be significantly relied on by migrating wildlife. The Project site is located adjacent to paved roads and is actively farmed. Therefore, ***no impact*** on wildlife movement would occur.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project would not conflict with the County's tree ordinance. Therefore, implementation of the Project would have ***no impact*** on any local ordinances.

f. 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?

On September 11, 2018, the Sacramento County Board of Supervisors adopted the South Sacramento Habitat Conservation Plan (SSHCP). The SSHCP will consolidate environmental efforts to protect and enhance wetlands (primarily vernal pools) and upland habitats to provide ecologically viable conservation areas. It will also minimize regulatory hurdles and streamline the permitting process for development projects. The SSHCP focuses on activities that require incidental take authorization from the wildlife agencies and will provide avoidance, minimization, and compensation for impacts to SSHCP Covered Species and their habitats. Although the Project is located within the SSHCP area, the Project is not anticipated to require any incidental take permits from the wildlife agencies. The Project would not conflict with the provisions of the SSHCP and ***no impact*** would occur.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.5 Cultural Resources				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Environmental Setting

Geological Setting for Buried Archaeological Resources

Archaeological Sensitivity

The age of the underlying landforms, or soils, provide some indication for the potential of unanticipated buried archaeological deposits. Landforms that postdate the earliest known human occupation of a region are considered to have a higher potential for buried archaeological sites, while landforms that predate the earliest estimated period for human occupation have very low, to no, potential for buried archaeological sites. Currently, archaeological research indicates that the earliest evidence for human occupation of California dates to the Late Pleistocene, which ended approximately 11,500 Before Present (BP). Therefore, the potential for buried archaeological deposits in landforms from, or predating, the Late Pleistocene is very low (Meyer and Rosenthal, 2008). Other criteria used to measure the archaeological sensitivity of a given area include the following:

- Archaeological sites tend to be located near perennial water sources.
- Archaeological deposits from successive time periods are more common because the density of human populations increased over time.
- The longer a landform remained at the surface, the greater the likelihood that any one spot on that landform was occupied (Meyer, in Ruby 2010).

The Sacramento Valley is a nearly flat alluvial plain, that in some locations contains thousands of feet of accumulated fluvial, overbank, and fan deposits resulting from

erosion of the surrounding ranges (Hackel, 1966). The predominant surface soils in the Project area are Galt series clays and San Joaquin series silty loams (USDA, 2016), both of which are Late Holocene (4,000 to 150 BP) alluvial sediments. The closest major perennial water sources today are Stone Lakes and Snodgrass Slough approximately 2.9 miles west of the Project site. The Project site sediments, due to their age, have the potential to contain buried archaeological deposits, but the distance to the nearest current water source makes it less likely that a major archaeological prehistoric habitation site would be present.

Archival Research and Background Research

SMUD conducted a records search at the North Central Information Center (NCIC) of the California Historical Resources Information System on June 4, 2018. NCIC reported that there are no cultural resources within the Project site, and no cultural resource studies that included the Project site (NCIC file number: SAC-18-112). One recorded cultural resource is within 0.25 mile of the Project site; the Union Pacific Railroad 50 feet east of Franklin Boulevard, which was formerly the Western Pacific Railway.

On October 12, 2018, ESA conducted additional searches of the National Register of Historic Properties (NRHP) and the California Register of Historical Resources, which includes California State Historical Landmarks, California Points of Historical Interest, and the California Inventory of Historical Resources. No historic properties, historical resources, historical landmarks, or Points of Historical Interest are located in the Project site, or within 0.25 mile of the Project site.

On October 8, 2018, ESA reviewed historical topographic maps and aerial photographs for undocumented historic-era resources. The historical topographic maps and aerial photographs collectively depict the Project site and surrounding area as open space or agricultural lands from 1894 to 1968. Precursors to Franklin Boulevard (Lower Stockton Road) and Lambert Road are roughly in the same location as they currently are starting in 1910, and the current Franklin Boulevard and Lambert Road date to at least 1953. The Union Pacific Railroad was in its current location by 1910. An irrigation canal associated with RD 1002 appears in aerial photographs and maps starting in 1937. RD 1002 was established in 1912 (SACLAFCO, 2016), and the canal was in its current location by 1937.No buildings or indications of other cultural resources appear within the Project site in any of the historical topographic maps or aerial photographs.

Field Investigation and Findings

ESA conducted an intensive pedestrian survey at the Project on August 2, 2018. Survey transects were aligned along the north-south extent of the Project site and were spaced at 9 meter (29.5 feet) intervals. The transects started at the eastern border of the Project site and continued to a north-south line 18 meters west of the proposed substation footprint. The Project site is a flat, agricultural field that was harvested prior to the pedestrian survey, and there was near 100 percent ground visibility.

The RD 1002 irrigation canal was the only cultural resource observed during the survey. No other historic-era or prehistoric artifacts, features, or sites were identified during the survey.

Regulatory Setting

Federal

The Project is not a federal undertaking, federally funded, or federally permitted, and therefore no federal regulations related to cultural resources are applicable to the Project.

State

California Environmental Quality Act

Historical Resources

CEQA, as codified in California Public Resources Code (PRC) Sections 21000 et seq., is the principal statute governing the environmental review of projects in the state. The CEQA Guidelines define a historical resource as: (1) a resource in, or determined to be eligible for listing in, the California Register of Historical Resources (California Register); (2) a resource included in a local register of historic resources, as defined in Public Resources Code Section 5020.1(k) or identified as significant in a historic resource survey meeting the requirements of Public Resources Code Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (Pub. Res. Code Section5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (Pub. Res. Code Section5024.1[b]). Certain resources are determined by the statute to be automatically eligible for inclusion in the California Register, including California properties formally eligible for or listed in the National Register.

To be eligible for the California Register as a historical resource, a prehistoric or historic-period resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2) Is associated with the lives of persons important in our past;

3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4) Has yielded, or may be likely to yield, information important in prehistory or history. [14 CFR 4852(b)]

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

CEQA Section 15164.5(3) notes that, “Generally, a project that follows the Secretary of the Interior’s Standards for the Treatment of Historic Properties shall be considered as mitigated to a level of less than significant impact on the historical resource.”

Local

Sacramento County General Plan

Sacramento County recognizes the importance of significant cultural and paleontological resources in the 2030 General Plan (Sacramento County, 2017). The General Plan includes the following applicable policies related to cultural and paleontological resources:

> **CO-150.** Utilize local, state and national resources, such as the NCIC, to assist in determining the need for a cultural resources survey during project review.
>
> **CO-153.** Refer projects with identified archeological and cultural resources to the Cultural Resources Committee to determine significance of resource and recommend appropriate means of protection and mitigation. The Committee shall coordinate with the Native American Heritage Commission in developing recommendations.
>
> **CO-155.** Native American burial sites encountered during preapproved surveyor during construction shall, whenever possible, remain in situ. Excavation and reburial shall occur when in situ preservation is not possible or when the archeological significance of the site merits excavation and recording procedure. On-site reinternment shall have priority. The project developer shall provide the burden of proof that offsite reinternment is the only feasible alternative. Reinternment shall be the responsibility of local tribal representatives.

CO-158. As a condition of approval of discretionary permits, a procedure shall be included to cover the potential discovery of archaeological resources during development or construction.

CO-161. As a condition of approval for discretionary projects, require appropriate mitigation to reduce potential impacts where development could adversely affect paleontological resources.

CO-162. Projects located within areas known to be sensitive for paleontological resources, should be monitored to ensure proper treatment of resources and to ensure crews follow proper reporting, safeguards and procedures.

CO-163. Require that a certified geologist or paleontological resources consultant determine appropriate protection measures when resources are discovered during the course of development and land altering activities.

Impacts and Mitigation Measures

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

A significant impact would occur if the Project caused a substantial adverse change to a historical resource, herein referring to historic-era architectural resources or the built environment, including buildings, structures, and objects. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource.

The irrigation canal in the Project site is a component of RD 1002 dating to at least 1937, based on its earliest appearance in aerial photographs. The irrigation canal is older than 45 years, and therefore meets the minimum age to be considered for listing in the California Register; however, the canal is a typical vernacular structure and does not reflect any potential significance for its architectural distinction (Criterion 3), information potential (Criterion 4), nor associations with any individuals important to local history (Criterion 2).

This and similar canals do contribute to the larger development of the region (Criterion 1, significant events); however, this association by itself does not make the canal a significant historical resource. This is especially true in areas like the Central Valley where water conveyance systems are common. The canal does not appear to reflect any special significance as an individual resource outside of its association with RD 1002, which covers approximately 6,500 acres in south Sacramento County, and includes many miles of drainage canals and other associated elements including levees and pumping stations. It is beyond the scale of this analysis to consider the eligibility of RD 1002 as a potential historic district, nor the canal as a contributor to a potential district, especially as the Project will not directly or indirectly impact the canal. The canal

is therefore not considered a historical resource and no further consideration is necessary for the Project.

No other cultural resources were identified in the Project site through background research or during the pedestrian survey. Therefore, ***no impact*** would occur to historical resources and no mitigation is necessary.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

This section discusses archaeological resources, both as historical resources according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources as defined in PRC Section 21083.2(g). A significant impact would occur if the project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

No archaeological resources were identified in the Project site through the background research, and no archaeological resources were identified during the pedestrian survey. Therefore, no impact would occur for previously recorded or known archaeological resources. The Project will excavate to approximately one foot below the current surface within the substation footprint and to approximately five feet below the surface for the placement of electrical vaults. While unlikely, there is the potential to encounter previously unidentified buried archaeological resources. Impacts to previously unidentified buried archaeological resources encountered through construction activities could be potentially significant. Impacts to previously unidentified buried archaeological resources would be reduced to ***less than significant with mitigation*** through implementation of **Mitigation Measure CUL-1**.

> ***Mitigation Measure CUL-1: Worker Environmental Awareness Training for Cultural Resources and Inadvertent Discovery of Cultural Resources.*** SMUD shall retain a qualified archaeologist meeting the Secretary of the Interior standards (Qualified Archaeologist) prior to the commencement of construction. The Qualified Archaeologist (or his/her designee) shall conduct a Worker Environmental Awareness Training (WEAT) for all construction workers prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). The training session shall focus on the recognition of the types of archaeological resources that could be encountered within the Project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction personnel attended the training.
>
> If construction or other Project personnel observe any evidence of prehistoric cultural resources (freshwater shells, beads, bone tool remnants or an assortment of bones, stone tools, grinding rocks, or soil changes such as subsurface ash lens or soil darker in color than surrounding soil, etc.) or historic-era cultural resources (adobe foundations or walls, structures and remains with

square nails, refuse deposits or bottle dumps, often associated with wells or old privies), all work within 50 feet must immediately cease, and a Secretary of the Interior qualified archaeologist must be consulted to assess the significance of the cultural resource and formulate appropriate measures for their treatment. Potential treatment methods for significant and potentially significant resources may include, but would not be limited to, no action (i.e., resources determined not to be significant); avoidance of the resource through changes in construction methods or Project design; or implementation of a program of testing and data recovery, in accordance with applicable state requirements and/or in consultation with Native American tribes to whom the resource could have ancestral or traditional importance.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

No evidence of human remains, or evidence of formal or informal burial sites, was observed during the pedestrian survey. In addition, no previously recorded evidence of human remains or burial sites in, or near, the Project site was found through the background research. The Project will excavate to approximately one foot below the current surface within the substation footprint, and to approximately five feet below the surface for the placement of electrical vaults. While unlikely, there is the potential to encounter unanticipated human remains during excavation.

California law recognizes the need to protect historic-era and Native American human burials, as well as items associated with human remains. California law also has established procedures to follow when potential human remains are encountered. Impacts to unanticipated potential human remain would be reduced to ***less than significant with mitigation*** through implementation of **Mitigation Measure CUL-2**.

> ***Mitigation Measure CUL-2: Implement State and Country Requirements for Addressing Discovery of Human Remains and Site Protection.*** If potential human remains are encountered, all work will halt within 100 feet of the find and SMUD will be contacted by on-site construction crews. SMUD will contact the Sacramento County coroner in accordance with PRC Section 5097.98 and California Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC). As provided in PRC Section 5097.98, the NAHC will identify the person or persons believed most likely to be descended from the deceased Native American. The most likely descendent will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.6 Energy				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Environmental Setting

Energy systems in California include electricity from renewable and non-renewable sources, natural gas, and petroleum. The production of electricity requires the consumption or conversion of energy resources including natural gas, coal, hydro, nuclear, and renewable sources such as wind, solar, geothermal, and biomass/ cogeneration. Of the electricity generated in California, approximately 43 percent comes from natural gas fired power plants, 18 percent from large hydroelectric dams, 8 percent from nuclear power plants, and less than two percent from coal-fired power plants. As of 2018, more than 29 percent of California's power is generated from renewable sources including biomass, wind, solar, small hydro, and geothermal (CEC, 2018).

Although transportation systems are increasingly powered using non-petroleum energy resources, gasoline remains the largest transportation fuel by volume used in California. In 2017, total sales in California amounted to 15.5 billion gallons sold on the retail market. The Project would utilize construction equipment and vehicles that are powered by petroleum products.

Sacramento Municipal Utility District

SMUD is a community-owned public utility that provides electric services to a population of approximately 1.5 million in a 900 square-mile service area encompassing most of Sacramento County and small, adjoining portions of Placer and Yolo Counties (SMUD, 2019). SMUD power is generated from a variety of sources including natural gas fired generators, hydroelectric from the Upper American River Project, along with renewable sources including wind, solar, and biomass co-generation. Service to SMUD customers is supported by its electric transmission and distribution facilities including substations, overhead and underground power lines extending throughout the service area. Electricity use or consumption in the service area is shown in **Table ENE-1** below.

TABLE ENE-1
ELECTRICITY CONSUMPTION IN SMUD SERVICE AREA (2017)

Residential	Commercial, Industrial, & Other	Sales of Surplus Power and Gas	Total Usage
All Usage Expressed in Millions of kWh (GWh)			
4,957	5,819	1,789	12,565
SOURCE: SMUD, 2017			

In 2017, of the total amount of electricity consumed in SMUD's service area, approximately 39 percent was attributed to residential use, 46 percent to commercial, industrial, and other, and the remaining 14 percent was provided as surplus sales out of the service area.

Regulatory Setting

Federal

National Energy Conservation Policy Act

The National Energy Conservation Policy Act (NECPA, 42 USC §8201 et seq.) provides guidance and is the foundation of most federal energy management goals and requirements. Among other directives, the NEPCA establishes fuel economy standards for on-road motor vehicles in the United States. The National Highway Traffic and Safety Administration, as part of the U.S. Department of Transportation, is responsible for establishing additional vehicle standards and revising existing standards under the NEPCA. This regulatory program has resulted in improved fuel economy throughout the United States' vehicle fleet (NHTSA, 2018).

National Energy Policy Act of 2005

The National Energy Policy Act of 2005 (42 USC §13201 et seq.) sets equipment energy efficiency standards and seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce demand on these resources. For example, the act establishes programs to improve the reliability and efficiency of distributed energy resources and systems by integrating advanced energy technologies with grid connectivity.

Energy and Independence Security Act of 2007 and Corporate Average Fuel Economy Standards

The Energy and Independence Security Act of 2007 (42 USC §17001) sets federal energy management requirements in several areas, including energy reduction goals for

federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use, including by setting automobile efficiency standards, and increase in alternative fuel use. This act also amends portions of the NEPCA, as described above.

State

Warren-Alquist Act

The 1975 Warren-Alquist Act (Pub. Res. Code §25000 et seq.) established the California Energy Resources Conservation and Development Commission, now known as the CEC. The Act established as state policy the reduction of wasteful, uneconomical, and unnecessary energy consumption by employing a range of energy conservation measures.

Renewables Portfolio Standard

The state's Renewables Portfolio Standard (RPS) established in 2002 via SB 1078, required 20 percent of the state's energy portfolio to be supplied by renewable sources such as solar, wind, hydroelectricity, geothermal, and bioenergy renewable energy by the year 2017. Since the initial objectives were set, the RPS goals have been accelerated by SB 350 (2015) and SB 100 (2018) requiring that the state's energy portfolio to be supplied by renewable sources in higher percentages. The current RPS goal, following passage of SB100, would provide all electricity in California through eligible renewable and zero carbon resources by the year 2045. SMUD maintains a renewable portfolio which includes solar, hydro, wind and cogeneration facilities.

California Air Resources Board (CARB) Regulations

CARB's On-Road Heavy-Duty Diesel Vehicles (Truck and Bus) Regulation requires diesel trucks that operate in California to be upgraded to reduce emissions. Under In-Use Regulations, newer, heavier trucks must meet PM filter requirements beginning in 2012. Lighter and older heavier trucks must be replaced starting in 2015. By 2023 nearly all trucks would have 2010 model year engines or equivalent. In 2020, only vehicles compliant with the Truck and Bus regulation will be eligible for registration in California (CARB, 2018)

In 2004, CARB adopted a fourth tier of increased standards for after treatment for new off-road compression-ignition engines, including construction equipment standards. These "Tier 4" standards were phased-in across product lines from 2008 through 2015 and reduced exhaust emission levels by up to 95 percent compared to previous control strategies. In 2007, CARB first approved the Off-Road Regulation that requires off-road fleets to reduce their emissions by retiring, replacing, or repowering older engines (CARB, 2016).

In 2012, CARB adopted regulations to control emissions from passenger vehicles through the Advanced Clean Cars Program, which combines control of smog, soot, and GHG emissions into a single coordinated package of requirements applicable to model years 2015 through 2025.

Local

Sacramento County 2030 General Plan

The Energy Element of the 2030 General Plan contains the following goals pertaining to the use of energy:

> **Goal:** It is the goal of Sacramento County to –
>
> Reverse the historical trend of increasing per capita consumption of energy,
>
> Shift toward using a greater share of renewable sources of energy, and
>
> Shift seasonal and daily peak energy demands to increase the load factor of electrical generating facilities, while
>
> Maintaining or engaging the standard of living, the level of employment, and the quality of the environment.

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation?

The Project is proposed to address reliability of the utility and would not involve significant resource consumption of electricity or natural gas. The analysis focuses on the consumption or use of fuels associated with construction, operation, maintenance, and decommissioning of the Project. The Project would utilize energy mainly in the form of fuel consumed during construction and decommissioning. Operation and maintenance of the substation would require a negligible amount of on-site electricity for integration of the substation elements, such as security lighting. Fuels would also be utilized periodically to maintain equipment during operation.

The Project is intended to update aging and failing equipment at the existing Lambert Substation. Additionally, the Project is intended expand the electrical load capacity of the Lambert Substation in order to accommodate planned, future growth in the area. Therefore, the Project would increase the reliability of energy services in the region and would provide necessary equipment updates to the substation. Due to the Project's increase in the reliability of energy services and increase in electrical load capacity, the Project would aid SMUD in meeting peak energy demand in its service area. While the Project would increase the electrical load capacity, it would not result in an increase in per capita energy consumption or result in the inefficient use of energy. The Project

would not alter the mix of power sources used by SMUD and would not directly or indirectly increase reliance on natural gas and oil or decrease reliance on renewable energy resources.

Construction equipment, haul trucks, and worker vehicles would consume fuel during Project construction. Due to the small size of the Project and the small construction crew required for the Project, the consumption of fuel energy during construction would be temporary, localized, and would not represent a significant amount of fuel in comparison to the 599 million gallons of gasoline and 48 million gallons of diesel that were sold in Sacramento County in 2017. Vehicles used for Project construction and operation would be required to comply with all federal and state efficiency standards. Additionally, there are no Project characteristics or features that would be inefficient or that would result in the use of equipment and vehicles in a manner that would less energy efficient than similar projects.

Operation of the Project would require a negligible amount of energy. Security and safety lighting would only be used when nighttime access for maintenance activities would be required. Some amount of gasoline would be consumed by worker vehicles conducting maintenance. However, the amount of fuel required for such routine maintenance would be minimal. Neither Project construction or operation would have an adverse impact on energy consumption or conservation. Additionally, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be ***less than significant***.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Project's construction would employ efficient vehicles that would be in compliance with CARB standards. The Project would not require a large fleet of equipment or staff for construction, decommissioning, or operation. The Project would involve upgrading facilities for energy distribution and would not include generation or alter the existing source portfolio at the state or local level, which includes a variety of renewable energy sources. Thus, the Project would have ***no impact*** as it would not conflict with state or local plans for renewable energy or energy efficiency.

3.7 Geology and Soils

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
Would the project:					
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 in 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 & Geology Special Publication 42.	☐	☐	☒	☐
	ii) Strong seismic ground shaking?	☐	☐	☒	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv) Landslides?	☐	☐	☐	☒
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
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?	☐	☐	☒	☐
d)	Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating direct or indirect substantial risks to life or property?	☐	☐	☒	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

Geology

The Project is within the southern-most area of the Sacramento Valley, which makes up the northern part of the Great Valley geomorphic province. The area is dominated by Quaternary alluvial deposits (CGS, 1981) and a generally flat topography, but sediments have been deposited in the Great Valley almost continuously since the Jurassic Period. The area is bordered by the Sacramento River to the west and the Sierra Nevada Mountain Range to the east.

Soils

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey was reviewed to identify soil units and characteristics at the Project site. There are two main soil types underlying the Project site: a majority of the site is San Joaquin silt loam, with 0 to 1 percent slopes, and remaining is Galt clay, also with 0 to 1 percent slopes. Both soils types are moderately well-drained (NRCS, 2018a).

Expansive Soils

Soil expansion, linear extensibility, or shrink-swell potential refers to the change in volume of soil as moisture content is increased or decreased between a moist and dry state. This phenomenon can cause differential and cyclical movements that can cause damage and/or stress to shallow founded structures and equipment. Web Soil Survey data shows that of the two soils types underlying the Project area Galt clay has a high linear extensibility rating. San Joaquin silt loam has a low rating (NRCS, 2018b).

Corrosive Soils

The corrosivity of soils pertains to the potential for certain soils to cause an electrochemical or chemical reaction that can corrode or weaken uncoated steel or concrete. The rate at which these materials corrode is dependent on a number of variables, but not limited to soil moisture, texture, mineral content, and acidity. The rate of corrosion of steel is based on soil moisture, particle-size distribution, acidity, and electrical conductivity. Corrosion of concrete is based on the sulfate and sodium content, texture, moisture and acidity of the soil. The risk of corrosion is expressed as low, moderate, or high.

Web Soil Survey data shows that there is a low potential for corrosion to concrete across both soils types in the area; however, there is a high potential for corrosion to steel in both soil types. The presence of soils that may corrode steel may present a risk to any steel poles directly buried into the soil (NRCS, 2018c; NRCS, 2018d).

Seismicity

As mandated by the Alquist-Priolo Earthquake Fault Zoning Act, the California Geological Survey (CGS) compiles regulatory maps which delineate Holocene-active faults as Earthquake Fault Zones to address hazards associated with surface fault ruptures. There are no Earthquake Fault Zones mapped in or around the Project site. The CGS Fault Activity Map of California (2010) indicates that the closest Holocene-active fault to the Project site is the Cordelia Fault, approximately 35 miles west. The closest fault to the Project site is the Midland Fault Zone, located approximately 15 miles southwest, and is Quaternary in age (active 1.6 million years ago or longer) (CGS, 2010).

Seismic-related groundshaking is known to cause extensive damage to life and property. The extent of the damage varies by event and is determined by several factors, including, but not limited to, magnitude and depth of the earthquake, distance from epicenter, duration and intensity of the shaking, underlying soil and rock types, and integrity of structures. The United States Geological Survey (USGS) publishes ShakeMap Scenarios, which provide hypothetical groundshaking intensity models that give insight into how severe groundshaking might be in the event of an earthquake on specific faults. The closest fault to the Project area that has available ShakeMap data is the Green Valley fault, approximately 40 miles west. The data from the ShakeMap Scenario for a magnitude 6.8 (Richter Scale) earthquake on the Green Valley fault estimates moderate to strong groundshaking intensity in the Project area (USGS, 2016)

Liquefaction

Liquefaction is a phenomenon in which unconsolidated, water saturated sediments become unstable due the effects of strong seismic shaking. During an earthquake, these sediments can behave like a liquid, potentially causing severe damage to any overlying structures. The loss of soil strength can result in insufficient support of foundation loads, increased lateral pressure on retaining or basement walls and underground pipelines, and slope instability. According to the 2030 General Plan's Safety Element, the Project is not located in an area anticipated to experience liquefaction during a strong seismic event (Sacramento County, 2017).

Landslides

Slope stability can depend on several complex variables, including the geology, structure, and the amount of groundwater present, as well as external processes such as climate, topography, slope geometry, and human activity. Landslides can occur on slopes of 15 percent or less, but the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges. Landslides typically occur within slide-prone geologic units that contain excessive amounts of water or are located on steep slopes, or where planes of weakness are parallel to the slope angle.

The Project site has not been identified in the 2030 General Plan's Safety Element as an area prone to landslides, or soil stability related to landslides (Sacramento County, 2017). As mentioned in the discussion of soils above, the two soil types found at the Project site are described as having 0 to 1 percent slopes.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic formation to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources," the Society of Vertebrate Paleontology (SVP) (SVP, 2010) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential: High Potential -- rock 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; Low Potential -- rock units that are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule; Undetermined Potential -- rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment; and No Potential -- rock units like high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites) that will not preserve fossil resources.

The underlying geology of the Project site consists of the Riverbank Formation (Wagner et al. 1981). This formation consists of arkosic alluvial sand with silt that form alluvial terraces and dissected fans along streams (Gutierrez, 2011). The Riverbank Formation is approximately 0.2–0.6 million years old (Weissman et al., 2002). Significant fossils have been discovered in the Riverbank Formation, such as mammoth, camel, ground sloths, and birds (Dundas et al., 2009; Dundas and Chatters, 2013; McDonald et al., 2013; Ngo et al., 2013). One of the most fossiliferous Riverbank Formation sites is in Madera County, where thousands of fossil specimens belonging to 72 taxa have been collected from the Fairmead Landfill, 130 miles southeast of the Project site, since 1993 (Dundas and Chatters, 2013). Taxa preserved at the site represent a wide range of animals, including fish; small mammals such as rodents, badgers, and rabbits; large mammals such as camel, deer, ground sloth, and mammoth; birds; reptiles, such as turtles and snakes; and amphibians, such as salamanders and frogs (Dundas and Chatters, 2013). Other notable Riverbank sites reported in the literature include multiple mammoth fossils and a camel specimen during construction of State Route 180 West in Fresno, California, 160 miles southeast of the Project area (Dundas et al., 2009). Using the significance definitions of the SVP, the extensive fossil record documented for the Pleistocene Riverbank Formation in Sacramento County demonstrates that the sediments in the Project site have high paleontological sensitivity.

On October 20, 2018, ESA conducted a search of the online collections of the University of California Museum of Paleontology. The search indicated that 120 fossil specimens have been recovered from six fossil localities in the Riverbank Formation in Sacramento County (UCMP, 2018). These specimens include fish (3 specimens), amphibians (5 specimens), birds (3 specimens), reptiles (2 specimens), and mammals (112 specimens) such as bison, camel, dire wolf, horse, mammoth, and ground sloth (UCMP, 2018).

Regulatory Setting

Federal

National Earthquake Hazards Reduction Program Act

In October 1977, the Earthquake Hazards Reduction Act was enacted to reduce risks to life and property from future earthquakes. The act established the National Earthquake Hazards Reduction Program, which was amended in 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA). NEHRPA applies to the Project because it sets federal standards for building codes and design and construction techniques to reduce earthquake hazards. The mission of the National Earthquake Hazards Reduction Program includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency as the program lead. Other involved agencies include the National Institute of Standards and Technology, the National Science Foundation, and USGS.

State

Alquist-Priolo Earthquake Fault Zoning Act

In 1972, California enacted the Alquist-Priolo Special Studies Zones Act, which in 1994 was renamed the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (PRC Sections 2621–2630). The Alquist-Priolo Act requires that “earthquake fault zones” be established along known active faults in California. Development in these zones is regulated to reduce the potential for damage from fault displacement, and to prevent the construction of buildings for human occupancy on the surface trace of active faults. Projects in a designated Alquist-Priolo Earthquake Fault Zone must be addressed in a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (PRC Sections 2690 through 2699.6) addresses earthquake hazards from non-surface fault rupture, including liquefaction and seismically-induced landslides. The act established a mapping program for areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake and geologic hazards. The act also specifies that local land use permitting processes are to address geologic and soil investigations and hazard reduction measures for seismicity and unstable soils.

California Building Standards Code

The State of California provides minimum standards for building design through the California Building Standards Code (CBC) (CCR Title 24). The CBC applies to building design and construction and is based on the federal Uniform Building Code, which is used widely throughout the country.

The CBC requires an evaluation of structural seismic design that falls into Categories A–F (where F requires the most earthquake-resistant design) and is focused on preventing building collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site. Chapter 16 of the CBC specifies the criteria for determining the seismic design category for development sites through site-specific soil characteristics and proximity to potential seismic hazards.

CBC Chapter 18 regulates the excavation of foundations and retaining walls, and requires preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. Chapter 18 also requires analyzing expansive soils and determining depth to the groundwater table. For Seismic Design Category C, Chapter 18 requires an analysis of potential hazards from slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading. For Seismic Design Categories D, E, and F, Chapter 18 also requires an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity.

CBC Chapter 18 also requires consideration of structural design measures to address ground stabilization, selection of appropriate foundation type and depths, and selection of appropriate structural design to accommodate potential displacement. Furthermore, it requires evaluating the potential for liquefaction and soil strength loss for site-specific peak ground acceleration magnitudes determined by site-specific studies.

Where no other building codes apply, Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. CBC Appendix J regulates grading activities, including drainage and erosion control, and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

Provisions for Paleontological Resource Protection

Requirements for paleontological resource management are included in the PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which states:

> No person shall 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, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

These statutes prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. PRC Section 5097.5 also establishes the removal of paleontological resources as a misdemeanor, and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands.

National Pollutant Discharge Elimination System and Storm Water Pollution Prevention Plan (SWPPP)

As discussed in detail in Section 3.9, Hydrology and Water Quality, the SWRCB and Central Valley RWQCB have adopted specific National Pollutant Discharge Elimination System permits for a variety of activities that have the potential to discharge wastes (including sediment) to waters of the state. The SWRCB's statewide stormwater general permit for construction activity (Order 2009-0009-DWQ) is applicable to all construction activities that could cause off-site stormwater discharge and would disturb 1 acre or more. If applicable, SMUD would submit a notice of intent and prepare a SWPPP that specifies best management practices to minimize water quality degradation during construction. SMUD would be required to implement the SWPPP and adhere to permit conditions during construction activities.

Local

Sacramento County has established requirements for controlling pollution from construction and post-construction development activities. During construction, erosion can contribute excess sediments to the storm drainage system and local creeks. Other pollutants can also be generated at construction sites, such as paints, solvents and concrete slurry. Dust is also a problem, since it can end up in local waterways.

Construction projects disturbing 1 acre or more, or moving 350 cubic yards or more of soil, must obtain a grading permit and comply with the provisions of the County's Land Grading and Erosion Control Ordinance. Although the substation component of this Project is exempt from this ordinance pursuant to Government Code Section 53091(d), SMUD and its contractors would comply with the substance of these standards both during and after Project construction.

Impacts and Mitigation Measures

ai. 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? Refer to Division of Mines and Geology Special Publication 42.?

The Project is not within a historically seismically active area, and there are no active or potentially active faults that cross the Project site. There are no Holocene-active faults within the vicinity of the Project site, the closest being the Cordelia Fault, approximately 35 miles west. The potential for the Project to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault is low; therefore, the impact would be ***less than significant***.

aii. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking?

The Project would not be located in a seismically active area, and there are no active or potentially active faults that cross the Project site or are in proximity to the Project site. The closest Holocene-active fault is 35 miles west of the Project site and is not expected to cause very strong groundshaking near the Project site. USGS ShakeMap data estimates moderate to strong groundshaking near the Project site. The impact would be ***less than significant***.

aiii. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Due to the low seismic activity and the low probability of damaging groundshaking, the risk of seismic-related ground failures, including liquefaction, is low. The Project would not expose people or structures to potential substantial adverse effects from seismic-related ground failure. The impact would be ***less than significant***.

aiv. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The Project site, as well as the surrounding area, is relatively flat and is not subject to landslides. There are no landslide-related hazards identified near the Project site. Therefore, ***no impact*** would occur.

b. Would the project result in substantial soil erosion or the loss of topsoil?

The Project would include excavation, grading, trenching, backfilling, and other construction work that could expose result in substantial soil erosion or loss of topsoil via wind during the summer months, and by surface water runoff during storms. The runoff could cause erosion and increase sedimentation and transport of pollutants off-site, potentially affecting water quality. To minimize soil erosion, SMUD would comply with current state and local stormwater regulations and **Mitigation Measure HYD-1** (as described in Section 3.9, Hydrology and Water Quality), which stipulates that a SWPPP be prepared for the Project, and would include implementation of stormwater BMPs, and other erosion and sediment control measures. Implementation of these regulatory requirements would reduce the impact to ***less than significant with mitigation***.

c. Would the project 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?

Construction and decommissioning activities would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. There are no landslide-related hazards identified in the Project area, as the surrounding landscape is relatively flat. The Project would not include groundwater withdrawal or pumping; therefore, it would not cause subsidence in the Project area. Additionally, the Project area is not within an area known to pose any risks related to liquefaction or lateral spreading, as any seismic-related groundshaking would have little effect in the Project area. This impact would be ***less than significant***.

d. Would the project be located on expansive soils, as defined in Section 1803.5.3 of the California Building Code, creating substantial risks to life or property?

Of the two soils types in the Project area, Galt clay shows a high shrink-swell potential according to Web Soil Survey data. Expansive soils could affect any component of the Project that is buried in the affected soil. However, the California Building Code requires the preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report; should the data from these reports indicate potential hazardous conditions as a result of expansive soils, adherence to any and all design recommendations put forth in these reports will ensure any impacts are reduced to a less than significant level. Additionally, the substation would not be

permanently staffed and is not intended for habitation, rendering the impacts due to expansive soils ***less than significant***.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?

The substation would not have a restroom and thus would not require a water system or a connection to the sanitary sewer system. Since there are no Project components that would involve the disposal of wastewater or use of septic tanks or other alternative wastewater disposal systems, there would be ***no impact***.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

A significant adverse effect could occur if grading or excavation activities associated with the Project would disturb paleontological resources or geologic features which presently exist within the Project site. Therefore, any ground disturbance in previously undisturbed sediments risk damaging or destroying fossil resources. As documented during a pedestrian survey on August 2, 2018, the Project site is located in an active agricultural field, which has involved the disturbance of the uppermost layers of soil. It is unlikely that fossil resources would be encountered in these disturbed soils, or in the uppermost layers of soil at the existing substation. Given the shallow depth anticipated for Project activities, the risk to paleontological resources is considered low. However, should planned activities be expanded to impact deeper sediments not previously disturbed, a Paleontological Monitoring and Mitigation Program (PMMP) would be needed to avoid impacts to fossil resources. Given the current Project design, impacts to previously unidentified buried paleontological resources would be ***less than significant with mitigation*** through implementation of **Mitigation Measure GEO-1**.

> ***Mitigation Measure GEO-1: Worker Environmental Awareness Training for Paleontological Resources and Inadvertent Discovery of Paleontological Resources.*** SMUD shall retain a professional archaeologist prior to the commencement of construction. The archaeologist (or his/her designee) shall conduct a Worker Environmental Awareness Training (WEAT) for all construction workers prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction/ decommissioning personnel attended the training.
>
> If construction or other Project personnel discover any potential fossils during construction or decommissioning activities, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the

discovery until a Qualified Paleontologist meeting the standards of the SVP (2010) has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it should be salvaged following the standards of the SVP (2010) and curated with a certified repository.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.8 Greenhouse Gas Emissions				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Setting

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Increases in greenhouse gas (GHG) concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. Certain gases in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. This is sometimes referred to as the "greenhouse effect." Some GHGs occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more forest fires, and more drought years. Secondary effects are likely to include the displacement of thousands of coastal businesses and residences, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are the principal GHGs. When concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may be intensified. CO_2, CH_4, and N_2O occur naturally, and are also generated through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing[2] associated with agricultural

[2] Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

practices and landfills. Other human-generated GHGs include fluorinated gases such as HFCs, PFCs, and SF_6, which have much higher heat-absorption potential than CO_2, and are byproducts of certain industrial processes.

CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. For example, CH_4 and N_2O are substantially more potent GHGs than CO_2, with GWPs of 25 and 298 times that of CO_2, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e.

Regulatory Setting

Federal

The U.S. Supreme Court held that the United States Environmental Protection Agency (USEPA) must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., twelve states and cities, including California, together with several environmental organizations sued to require the USEPA to regulate GHGs as pollutants under the Clean Air Act (CAA) (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and the USEPA had the authority to regulate GHGs. The ruling in this case resulted in USEPA taking steps to regulate GHG emissions and lent support for state and local agencies' efforts to reduce GHG emissions.

State

Senate Bill 350

Senate Bill (SB) 350 (Clean Energy and Pollution Reduction Act of 2015) was signed into law on October 7, 2015, and established new goals for clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 requires the following:

- Increase California's renewable electricity procurement goal under the Renewables Portfolio Standard (RPS) from 33 percent by 2020 to 50 percent by 2030,
- Double the energy efficiency of existing buildings by 2030; and

- Facilitate the growth of renewable energy markets within the western U.S. by reorganizing the California Independent System Operator (CAISO).

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by December 31, 2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by December 31, 2020, 44 percent by December 31, 2024, and 52 percent by December 31, 2027.

Executive Order B-55-18

On September 10, 2018, Governor Brown signed EO B-55-18, committing California to total, economy-wide carbon neutrality by 2045, and achieve and maintain net negative emissions thereafter. EO B-55-18 directs the California Air Resource Board (CARB) to work with relevant state agencies to develop a frame work to implement and track progress toward this goal.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Arnold Schwarzenegger established Executive Order S-3-05, which set forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 and the California Climate Change Scoping Plan

Assembly Bill 32 Requirements

In 2006, the California legislature passed Assembly Bill 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act (AB 32). AB 32 requires the CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. The CARB has identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary

authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.

Scoping Plan Provisions

Pursuant to AB 32, the CARB adopted a Climate Change Scoping Plan in December 2008 (re-approved by the CARB on August 24, 2011) outlining measures to meet the 2020 GHG reduction goals. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels (CARB, 2008). The Scoping Plan recommends measures that are worth studying further, and that the State of California may implement, such as new fuel regulations. It estimates that a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and other sources could be achieved should the state implement all of the measures in the Scoping Plan. The Scoping Plan relies on the requirements of SB 375 (discussed below) to implement the carbon emission reductions anticipated from land use decisions.

The First Update to the Climate Change Scoping Plan describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the State as it establishes a framework for achieving air quality and climate goals beyond the year 2020. In regards to achieving the 2050 GHG reduction goal, "progressing toward California's long-term climate goals will require that GHG reduction rates be significantly accelerated. Emissions from 2020 to 2050 will have to decline at more than twice the rate of that which is needed to reach the 2020 statewide emissions limit." (CARB, 2014)

On December 14, 2017, CARB approved the final version of California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels (CARB, 2017). The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target Statewide 2030 emissions limit is 260 million metric tons of CO_2e (MT CO_2e), and that further commitments will need to be made to achieve an additional reduction of 50 MT CO_2e beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15.

Senate Bill 32

Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amends HSC Division 25.5 and codifies

the 2030 target in the recent Executive Order B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately impacted by the deleterious effects of climate change on public health. SB 32 was passed with companion legislation AB 197, which provides additional direction for developing the Scoping Plan. In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by December 31, 2030, while AB 197 includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Local

Sacramento Metropolitan Air Quality Management District

California has 35 Air Pollution Control Districts (APCD) and Air Quality Management Districts (AQMD), many of which are currently addressing climate change issues by developing significance thresholds, performance standards, and mitigation measures. At this time, there are no adopted quantitative federal or state guidelines for GHG emission impacts. SMAQMD has adopted GHG thresholds of 1,100 metric tons CO_2e per year for the construction phase of projects or the operational phase of land use development projects, or 10,000 direct metric tons CO_2e per year from stationary source projects.

Sacramento County General Plan

The 2030 General Plan Air Quality Element contains the following GHG-related policy that would apply to the Project (County of Sacramento, 2017).

> **AQ-22:** Reduce greenhouse gas emissions from County operations as well as private development.

Sacramento County Climate Action Plan

In October 2011, Sacramento County approved the Climate Action Plan (CAP) Strategy and Framework document, which is the first phase of developing a community-level Climate Action Plan (Sacramento County, 2011). The CAP Strategy and Framework document provides a framework and overall policy strategy for reducing GHG emissions and managing resources in order to comply with AB 32. It also highlights actions already taken to become more efficient, and targets future mitigation and adaptation strategies.

Impacts and Mitigation Measures

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction and Decommissioning

The majority of GHG emissions generated by the Project would be generated during construction by heavy-duty off-road equipment. GHG emissions also would be generated by construction worker daily commutes, by heavy-duty diesel tractor trailer trucks that would be required to haul materials and debris to/from the Project site, and as a result of water use for dust control and other construction activities.

Construction of the Project is anticipated to begin in March of 2020 and end in December 2020. Using the methods contained in SMAQMD's Guide to Air Quality Assessment in Sacramento County, CalEEMod 2016.3.2 was used to estimate construction and decommissioning emissions for the Project. Estimated construction emissions are based on the projected phasing schedule. It is assumed that the Project would excavate approximately 1,700 cubic yards (125 truckloads) of soil and backfill with 7,000 cubic yards (500 truckloads) of imported fill during construction. It is assumed that each construction phase would require 14 one-way trips. Estimated annual construction GHG emissions for the Project are presented in **Table GHG-1** and compared to the SMAQMD's annual 1,100 MT CO_2e threshold. Additional information and model results is presented in **Appendix C**. As shown in Table GHG-1, the Project's total maximum construction and decommissioning GHG emissions would be below the SMAQMD's annual threshold, and Project construction/decommissioning-related GHG impacts would be ***less than significant***.

TABLE GHG-1
PROPOSED PROJECT – CONSTRUCTION/DECOMMISSIONING GHG EMISSIONS

Scenario	GHGs ($MTCO_2e/yr$)
2020 Emissions	1,085
2021 Emissions	59
Total Maximum Emissions	1,085
SMAQMD Threshold	1,100
Exceed Threshold?	No
SOURCE: Appendix C	

Operation

Operational GHG emissions would result from vehicle trips for periodic maintenance at the substation and energy consumption.

The Project would not be permanently staffed and would be operated by SMUD. SMUD maintenance employees would visit approximately twice per month to conduct routine checks and maintenance. As a result, upon completion of construction, operation of the Project would not result in a notable incremental increase in GHG emissions. Therefore, GHG emissions generated during the operation of the Project would result in a ***less than significant impact***.

b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The Project is located within the jurisdiction of Sacramento County, which has adopted the CAP Strategy and Framework Document as discussed above in the Regulatory Setting section. The CAP Strategy and Framework Document provides a framework and overall policy strategy for reducing greenhouse gas emissions and managing resources in order to comply with AB 32. It also highlights actions already taken to become more efficient, and targets future mitigation and adaptation strategies. Actions found in the CAP Strategy and Framework Document are focus on transportation and land use, energy, water, waste management and recycling and agriculture and open space. None of the actions presented in the CAP Strategy and Framework Document are relevant to the Project. Therefore, the Project would not conflict with the goals adopted in the CAP Strategy and Framework Document.

In April 2015, Governor Edmund Brown issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Reaching this emission reduction target will make it possible for California to reach its ultimate goal of reducing emissions 80 percent under 1990 levels by 2050, as identified in Executive Order S-3-05.

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by December 31, 2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by December 31, 2020, 44 percent by December 31, 2024, and 52 percent by December 31, 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

Executive Order B-30-15 required CARB to update the AB 32 Climate Change Scoping Plan to incorporate the 2030 target. Subsequently, SB 32, which codifies the Executive Order's 2030 emissions reduction target, was approved by the Governor on September 8, 2016. SB 32 requires CARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions to ensure that statewide GHG emissions are reduced to at least 40 percent below the 1990 statewide GHG emissions limit no later than December 31, 2030, the target established by Executive Order B-30-15. CARB recently adopted the 2017 Scoping Plan to achieve this goal.

As presented above, construction and operation of the Project would not generate GHG emissions that would exceed the SMAQMD's annual 1,100 MT CO_2e threshold. Construction of the Project would not change the mix of power serving Sacramento County. In addition, the Project would improve the infrastructure used in distribution of the electricity supply and would not affect SMUD's ability to supply renewable energy. Since the Project would likely result in improved energy efficiency and distribution of electricity, the Project would help support the renewable energy target under the 2017 Scoping Plan Update, and a goal of SB 100, for increasing California's procurement of electricity from renewable sources from 50 percent to 60 percent by 2030. Therefore, this would result in a ***less than significant impact***.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.9 Hazards and Hazardous Materials					
Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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?	☐	☒	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☐	☐	☒
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 a public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Environmental Setting

Hazardous Waste and Substances Sites

The Department of Toxic Substances Control (DTSC) EnviroStor and the State Water Resources Control Board (SWRCB) GeoTracker databases were consulted to identify any hazardous materials sites in the Project area. The DTSC also publishes the Hazardous Waste and Substances Sites (Cortese) List, which identifies known hazardous materials sites. The list is a planning document used by several agencies and developers to comply with CEQA requirements. The Project site is not included on the Cortese List (DTSC, 2018a).

The EnviroStor database includes facilities that are authorized to treat, store, dispose, or transfer hazardous waste and includes the following site types: Federal Superfund sites (National Priority List; state response, including military facilities and State Superfund; voluntary cleanup; and school sites that are being evaluated by the DTSC for possible hazardous materials contamination. The EnviroStor database also contains current and historical information relating to permitted and corrective action facilities. GeoTracker contains regulatory data about leaking underground storage tanks, Department of Defense sites, spills-leaks-investigations-cleanups, and landfill sites. The GeoTracker database also contains information about public drinking water wells.

There were five clean-up sites within 2 miles of the Project; however, all clean-up has been completed according to the SWRCB and the DTSC and there are no active clean-up efforts being made (DTSC, 2018; SWRCB, 2018). The site classification and cleanup status associated with these hazardous sites are provided in **Table HAZ-1**, Hazardous Sites within 2 Miles of the Project.

TABLE HAZ-1
HAZARDOUS SITES WITHIN 2 MILES OF PROJECT

Hazardous Materials Site	Cleanup Status	Cleanup status date	Approximate Distance to Project	Contaminants of Concern	Affected Media	Associated Risk
Franklin Field	Completed	10-1-2008	0.8 mile southeast	Pesticides/Herbicides	Soil	None
Franklin Field Airport	Completed	7-11-2003	0.8 mile southeast	Insecticides, Pesticides/Herbicides, Toxaphene	Soil	None
RCCC-Sheriff's Station	Completed	6-24-1998	1.7 miles southeast	Gasoline	Well used for drinking water supply	None
Franklin Auxiliary Field #6 (J09CA0809)	No Further Action	11-2-2006	1.4 miles southeast	Lead, Radioactive isotopes	Soil	None
Private Residence at 2320 Lambert Road in Elk Grove, CA	Completed – Case Closed	4-20-2009	1.8 miles southwest	Diesel, Gasoline	Aquifer used for drinking water supply	None

SOURCE: DTSC, 2018b; SWRCB, 2018

An Environmental Sampling Summary Report was prepared by a subcontractor on behalf of SMUD (AECOM, 2018). The purpose of the sampling report was to characterize the surface soils at the proposed substation site. Soil samples were collected at 16 locations from four separate depths, up to three feet below ground surface. All sample results were compared to the California Department of Toxic

Substances Control (DTSC), Human Health Risk Assessment (HHRA) Note Number 3 residential and commercial/industrial screening levels; USEPA industrial Regional Screening Levels; and Tier 1 Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board).

With the exception of arsenic and thallium, all metal detections were less than their respective screening levels. All arsenic concentrations exceeded the residential DTSC HHRA Note 3 screening levels (cancer and non-cancer endpoints), commercial/ industrial cancer endpoint DTSC HERO HHRA Note 3 screening levels; residential regional screening levels; and Tier 1 environmental screening levels. Four arsenic concentrations also exceeded the industrial regional screening levels. No arsenic concentrations exceeded the commercial/industrial non-cancer endpoint DTSC HHRA Note 3 screening levels. All arsenic concentrations detected were within arsenic background concentrations (ranging from 0.6 to 11.0 mg/kg) for California soils. All thallium concentrations exceeded both the residential regional screening levels and the Tier 1 environmental screening levels, but no concentrations exceeded the industrial regional screening levels. No PCBs, pesticides, or herbicides were detected in any of the soil samples collected.

Schools

There are no schools within 0.25 mile of the Project. The nearest school is Franklin Elementary School, approximately 3.75 miles northwest.

Airports

There are two airports within 2 miles of the Project site: Franklin Field is a public use airport owned and operated by Sacramento County, and is approximately 0.8 mile southeast of the Project site; Flying B Ranch Airport – CN38 is a privately-owned airport approximately 1.4 miles northeast of the Project site.

Wildfire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) publishes Fire Hazard Severity Zone maps. Based on the Very High Fire Hazard Severity Zone (VHFHSZ) maps, for both State (CAL FIRE, 2007) and Local Responsibility Areas (CAL FIRE, 2008), the Project area is not within any VHFHSZs. Wildfire hazards are discussed in greater length in Section 3.20, Wildfire.

Electrical and Magnetic Fields

Homeowners in neighborhoods adjacent to overhead power lines frequently express concerns regarding the potential for health effects from exposure to electric and magnetic fields (EMFs). Available medical and scientific research has not demonstrated

that EMF creates a health risk. However, research has not dismissed the possibility of such a risk.

Natural and human created EMFs occur everywhere. Electric fields are created between two objects that have a different voltage potential. Magnetic fields are created only when there is current flowing through a conductor or device. For example, when a lamp is plugged into a wall, an electric field is created around the cord to the lamp. A magnetic field is present when the lamp is turned on and current flows through the light bulb.

Typically, the main sources for electric and magnetic fields associated with a substation are the power lines that enter and exit the substation. Power frequency (60 hertz (Hz) [cycles per second]) EMF are invisible fields of force created by electric voltage (electric fields) and by electric current (magnetic fields). These fields are associated with power lines, electric appliances, and the wiring in buildings of homes, schools, and work structures. Voltage on wire produces an electric field in the area surrounding the wire. Magnetic fields are produced from the flow of electricity (current) in a conductor (circuit) and can be calculated and measured.

Widespread misunderstanding exists regarding EMF levels from different types of facilities and the rate at which these levels decline with distance from the source. There are four basic factors that affect the strength of EMF: distance, conductor spacing, load, and phase configuration. An alternating current power line typically consists of three energized phase wires. The nature of three-phase alternating power systems results in a partial cancellation effect of the magnetic fields if the conductors are adjacent to each other.

Magnetic fields are very difficult to shield; placing the line underground does not shield the magnetic field. Overhead electric power lines also produce electric fields; however, a structure of a house will shield most of the electric field from outside sources. Other objects, such as trees, shrubs, walls, and fences, also provide electric field shielding.

The medical and scientific communities generally agree that the available research evidence has not demonstrated that EMFs create a health risk (WHO, 2016).

Regulatory Setting

Federal

Hazardous Materials Management Laws

The USEPA has primary responsibility for enforcing and implementing federal laws and regulations pertaining to hazardous materials. Applicable regulations are contained mainly in CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in CFR Title 49, Section 172.101 (49 CFR 172.101). The following federal laws govern management of hazardous materials:

- Resource Conservation and Recovery Act of 1976 (RCRA): The RCRA (42 USC 6901 et seq.) established a federal regulatory program for hazardous substances. Under the RCRA, USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. The RCRA was amended by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibit using certain techniques to dispose of various hazardous substances. USEPA has delegated authority for regulating many of the RCRA requirements to the California Department of Toxic Substances Control (DTSC).

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): CERCLA, also called the Superfund Act (42 USC 9601 et seq.), created a trust fund to provide broad federal authority for addressing releases or threatened releases of hazardous substances that could endanger public health or the environment.

- Superfund Amendments and Reauthorization Act of 1986 (SARA): The Superfund Hazardous Substance Cleanup Program (Public Law 96-510) was established on December 11, 1980. The program was enlarged and reauthorized by SARA (Public Law 99-499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. USEPA is responsible for compiling the National Priorities List for known or threatened release sites of hazardous substances, pollutants, or contaminants. The locations are commonly referred to as “Superfund sites.” USEPA provides oversight and supervision for Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

In addition, SARA created the Emergency Planning and Community Right-to-Know Act of 1986, also known as SARA Title III, a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by state/tribe and local governments.

Clean Air Act (CCA) of 1970

The CAA, enacted in 1970 and amended in 1990, required EPA to establish primary and secondary National Ambient Air Quality Standards. The CAA also required each state to prepare an air quality control plan, referred to as a state implementation plan. Section 112 of the CAA defines “hazardous air pollutants” and sets threshold limits. Asbestos-containing substances are regulated by the USEPA under the CAA. Additional information about the CAA is contained in Section 3.3, Air Quality.

Occupational Safety and Health Administration Worker Safety Requirements

The Occupational Safety and Health Administration (OSHA) is responsible for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for the handling of hazardous substances and addressing other potential industrial hazards. OSHA also establishes criteria by which each state can implement its own health and safety program.

Federal Aviation Administration (FAA) Regulations on Safe, Efficient Use, and Preservation of the Navigable Airspace (14 CFR Part 77)

Construction of a project could potentially impact aviation activities if a structure or equipment were positioned such that it would be a hazard to navigable airspace. The FAA has established reporting requirements for construction or alterations around airport and heliport facilities that meet certain criteria regarding final height above ground level and penetration of an imaginary conical surface extending out from the air facility. With regard to aviation safety, Subpart B, Section 77.9 of the regulations indicates that for areas around airports having runways longer than 3,200 feet, if any construction that is more than 200 feet above ground level or results in an object penetrating an imaginary surface extending outward and upward at a ratio of 100 to 1 from a public or military airport runway out to a horizontal distance of 20,000 feet (approximately 3.78 miles), then an applicant is required to submit FAA Form 7460 1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area for review and approval of the Project (FAA, 2018). For areas around heliports, this same requirement applies to any construction that is more than 200 feet above ground level or would penetrate an imaginary surface extending outward and upward.

State

California Hazardous Materials Release Response Plans and Inventory Law of 1985

This law requires preparation of hazardous materials business plans (HMBPs) and disclosure of hazardous materials inventories. Such plans are to include an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). The business plan program is administered by the California Emergency Management Agency. A HMBP is required if a hazardous substance would be stored for more than 30 days if it is any of the following:

- 500 gallons or more of any solid,
- 55 gallons or more of any liquid,
- 200 cubic feet or more of any compressed gas, or

- An acutely hazardous substance or radiological material that meets the federal threshold planning quantities listed in 40 CFR Part 355, Subpart A.

Underground Storage Tank Program and the Spills, Leaks, Investigations, and Cleanups Program

Several state regulatory structures govern cleanup of contaminated sites in California. Many of these programs are regulated by DTSC: RCRA corrective actions, state Superfund sites, brownfields programs, and voluntary cleanups. The SWRCB (through nine RWQCBs and some local agencies) regulates releases with the potential to affect water resources under programs such as the Underground Storage Tank Program and the Spills, Leaks, Investigations, and Cleanups Program. Regulatory authority for these programs may be delegated by the federal government (as with RCRA corrective actions directed by DTSC) or may be found in the California Health and Safety Code. These regulations require that sites of hazardous materials releases be reported, investigated, and remediated, and that any hazardous materials be disposed appropriately. These programs govern a range of pollutants, such as solvents, petroleum fuels, heavy metals, and pesticides in surface water, groundwater, soil, sediment, and air.

Cal/OSHA Worker Safety Requirements

The California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal/OSHA regulations pertaining to the use of hazardous materials in the workplace (CCR Title 8) include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans.

Cal/OSHA enforces hazard communication program regulations that contain training and information requirements. These requirements include procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparing health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that employers make material safety data sheets available to employees and document employee information and training programs.

Unified Program

The California Environmental Protection Agency (CalEPA) grants to qualifying local agencies oversight and permitting responsibility for certain state programs pertaining to hazardous waste and hazardous materials. This is achieved through the Unified Program, created by state legislation in 1993, to consolidate, coordinate, and make

consistent the administrative requirements, permits, inspections, and enforcement activities for the following emergency and management programs:

- Hazardous materials release response plans and inventories (also known as HMBPs or business plans)
- California Accidental Release Prevention Program
- UST Program
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control, and Countermeasure Plans
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous materials management plans and hazardous materials inventory statements

Hazardous Materials Transport

The U.S. Department of Transportation regulates transportation of hazardous materials between states. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies include the California Highway Patrol and the California Department of Transportation. Together, these agencies determine container types used and license hazardous waste haulers for transportation of hazardous waste on public roads.

Public Resources Code Section 65962.5 (Cortese List)

The provisions of PRC Section 65962.5 are commonly referred to as the “Cortese List”. The Cortese List is a planning document used by State and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. PRC Section 65962.5 requires CalEPA to develop an updated Cortese List annually, at minimum. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies in California, such as the SWRCB, also are required to provide additional release information.

State Water Resources Control Board (SWRCB)

The SWRCB protects water quality in California by setting statewide policy. The SWRCB supports the nine RWQCBs, which, within their areas of jurisdiction, protect surface water and groundwater from pollutants discharged or threatened to be discharged to waters of the state. For the Sacramento area, the Central Valley RWQCB issues National Pollutant Discharge Elimination System (NPDES) permits, called waste discharge requirements, and regulates leaking underground storage tanks (USTs) and

contaminated properties through the Leaking Underground Storage Tank and Spills, Leaks, Investigation, and Cleanup programs, respectively. USTs are regulated under Chapter 6.7 of the California Health and Safety Code and 23 CCR Chapter 16.

Clean or relatively pollutant-free water that poses little or no risk to water quality may be discharged directly to surface water under certain conditions. However, contaminated groundwater from dewatering activities must be treated before it can be discharged. The Central Valley RWQCB adopted a general NPDES permit for short-term discharges of small volumes of wastewater from certain construction-related activities (the General Dewatering Permit). Permit conditions for the discharge of these types of wastewater to surface waters are specified in the General Order for Dewatering and Other Low Threat Discharges to Surface Waters (Order No. R5-2013-0074, NPDES No. CAG995001).

Discharges may be covered by the General Dewatering Permit if (1) the average dry-weather discharge does not exceed 0.25 million gallons per day or (2) the discharge does not exceed 4 months in duration. The General Dewatering Permit also specifies standards for testing, monitoring, and reporting; receiving-water limitations; and discharge prohibitions. If dewatering activities would exceed four months, SMUD may be required to obtain a Project-specific permit from the Central Valley RWQCB.

Local

Sacramento County Environmental Management Department, Hazardous Materials Division

The Hazardous Materials Division of Sacramento County Environmental Management Department is the designated certified unified program agency (CUPA) for Sacramento County. As the CUPA, the County's Hazardous Materials Division is responsible for implementing six statewide environmental programs:

- Underground storage of hazardous materials (USTs)
- Hazardous Materials Business Plan (HMBP) requirements
- Hazardous waste Generator requirements
- California Accidental Release Prevention (Cal-ARP) program
- Uniform Fire Code hazardous materials management plan
- Above ground Petroleum Storage (Spill Prevention, Control, and Countermeasures Plan [SPCC] only)

Sacramento County Multi-Hazard Mitigation Plan

The County's California Multi-Hazard Mitigation Plan (MHMP) was adopted in 2005. The MHMP is designed to meet the requirements of the Disaster Mitigation Act of 2000,

which allows eligibility for certain hazard mitigation (i.e., disaster loss reduction) programs under the Federal Emergency Management Agency. The MHMP was developed based on hazard identification and a risk assessment of potential natural hazards that could affect Sacramento County, a review of the County's capability to reduce hazards impacts, and recommendations to further reduce vulnerability to potential disasters. The MHMP includes emergency management provisions for flood hazards, such as a levee breach or dam failure.

Sacramento County Local Hazard Mitigation Plan

The Local Hazard Mitigation Plan (Sacramento County 2016), as amended, includes a risk assessment of existing hazards such as severe weather, dam failure, flooding, earthquakes, wildfire, drought, health hazards, landslides, and volcanoes, and a mitigation strategy. The plan includes countywide recommended action items to reduce the economic effects and the loss of life and property.

Franklin Field Comprehensive Land Use Plan

The Comprehensive Land Use Plan (CLUP) for Franklin Field was prepared by the Airport Land Use Commission under the authority of the Airport Land Use Commission Law, Chapter 4, Article 3.5, California Public Utilities Code. The purpose of the Airport Land Use Commission Law is to protect public health, safety, and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise; and to prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utility of these airports into the future.

Impacts and Mitigation Measures

a, b. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or 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?

Construction activities associated with the Project would involve routine storage, transport, and handling of hazardous materials. Vehicles and equipment containing petroleum products would be used on the site. Mineral oil, used to insulate transformers, would be transported to the site in the sealed transformer equipment. Construction activities also would include excavating approximately 1,700 cubic yards of soil, which would be tested for contamination and off-hauled to the appropriate landfill facility. Any hazardous waste generated during construction (e.g., diesel fuel, oil, solvents) would be disposed of or recycled off-site in accordance with all applicable laws pertaining to the handling and disposal of hazardous waste.

The Environmental Sampling Summary Report (AECOM, 2018) detected arsenic and thallium in the surface soils at the proposed substation site. However, all arsenic concentrations were within arsenic background concentrations for California soils and no thallium concentrations exceeded the industrial regional screening levels. In addition, no PCBs, pesticides, or herbicides were detected in any of the soil samples.

The California Highway Patrol and Caltrans enforce regulations governing the transportation of hazardous materials on local roadways and DTSC regulates the disposal of these materials, as outlined in CCR Title 22. If applicable, regulated activities would be managed by the Sacramento County Environmental Management Department in accordance with the Unified Program (e.g., hazardous materials business plan, hazardous materials release response plans and inventories, California Uniform Fire Code hazardous materials management plans and inventories). Such compliance would reduce the potential for accidental releases of hazardous materials during Project construction and operation.

Once the new Lambert substation is operational, the existing substation would be de-energized, salvageable components removed for reuse, non-reusable materials recycled or scrapped, and the site would be tested to ensure no residual contamination remains.

In general, Project construction, operation, and decommissioning activities could result in accidental releases of hazardous materials, including equipment fuel leaks, spills of fuels and lubricants, and other events. SMUD would implement and comply with existing hazardous materials regulations and plans, as described above, which are designed to protect the public through improved handling and transport of hazardous materials.

Compliance and implementation of a SWPPP, as described in **Mitigation Measure HYD-1**, in Section 3.9, Hydrology and Water Quality, the Project would include spill prevention measures that would minimize the potential for accidental releases of hazardous materials into the environment. However, the impact would remain potentially significant. Additional mitigation would be necessary to reduce the impact to a less than significant level. A Hazardous Materials Business Plan (HMBP) also would be required in accordance with state law. The HMBP would identify the type and nature of the hazardous materials used on-site and would provide an operation-specific emergency response plan. The Project transformer would contain insulating oil (typically mineral oil) and a secondary containment system would be constructed to retain any oil leaks on-site. A Spill Prevention, Control, and Countermeasures (SPCC) Plan would be required to identify specifications for the containment measures in the event of an accidental release.

Implementation of **Mitigation Measures HAZ-1, HAZ-2, and HAZ-3** would ensure that the impacts would be reduced to ***less than significant with mitigation*** by requiring

that all personnel receive proper training on the handling of hazardous materials; preparation of a SPCC Plan; and preparation of a HMBP.

> ***Mitigation Measure HAZ-1: Worker Training for Hazardous Materials.*** SMUD shall implement an environmental training program to communicate environmental concerns and appropriate work practices to all field personnel, including spill prevention, emergency response measures, and proper BMP implementation. All personnel will review all site-specific plans, including but not limited to the health and safety plan (as required by Cal/OSHA).
>
> ***Mitigation Measure HAZ-2: Hazardous Materials Business Plan (HMBP).*** SMUD will implement its existing HMBP at the Project, based on the use and storage of hazardous materials equal to or greater than 55 gallons of liquids, 500 pounds of solids, and/or 200 cubic feet of compressed gases. SMUD will prepare and file an operation-specific HMBP in accordance with local, state, and federal laws. The HMBP will identify site activities, provide an inventory of hazardous materials used on-site, provide a facilities map, and identify an emergency response plan/contingency plan.
>
> ***Mitigation Measure HAZ-3: Spill Prevention, Control and Countermeasures (SPCC) Plan.*** SMUD will implement its existing SPCC plan in accordance with state and federal requirements, including 40 CFR 112. The plan will identify engineering and containment measures for preventing oil releases into waterways. An SPCC plan is required when more than 1,320 gallons of petroleum products are present on-site (excluding vehicles).

Electric and Magnetic Fields (EMFs)

The Project area currently includes aboveground and underground electrical lines that generate EMFs and the Project would construct additional power lines. The medical and scientific communities generally agree that the available research evidence has not demonstrated that EMF creates a health risk. However, they also agree that the evidence has not dismissed the possibility of such a risk. Finally, they agree that while this is an important issue that needs resolution, it is uncertain when such a resolution would occur. The present scientific uncertainty means that public health officials cannot establish any standard or level of exposure that is known to be either safe or harmful. No CEQA standards or health-based standards exist that indicate that EMF emissions are a potentially significant impact. Therefore, potential impacts relating to EMFs are considered ***less than significant***.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?

There are no schools within 0.25 mile of the Project site. The closest school is approximately 3.8 miles north; therefore, ***no impact*** would occur.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?

The Project site is not included on a list of hazardous materials sites maintained by the DTSC or SWRCB; therefore, ***no impact*** would occur.

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 a public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The Project site is approximately 0.8 mile northwest of Franklin Field. According to the Franklin Field Comprehensive Land Use Plan, the proposed substation would not be within the Clear or Approach/Departure Zones, but would be within the Overflight Zone perimeter. Substations are not specifically listed in the Land Use Compatibility Guidelines for Safety; however, under the Transportation, Communications, and Utilities section, electrical and natural gas generation and switching is listed as a compatible land use unless it would cause electrical interference that would be detrimental to the operation of aircraft or aircraft instrumentation (SACOG, 1992). The maximum height of the substation equipment would not exceed 75 feet. This is within the acceptable height for structures within this zone, and therefore would not result in a safety hazard or excessive noise for people residing or working in the Project area; the impact would be ***less than significant***.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Sacramento County Evacuation Plan identifies I-5 and Highway 99 as potential evacuation routes in the event of an emergency that would require evacuation. Evacuation routes are situational and are dependent on the geographical location and magnitude of the emergency. The Project site is approximately one mile west of I-5 and approximately 6.5 miles east of Highway 99. No road closures are anticipated during construction of the substation. However, traffic control may be necessary for brief single lane or double lane closures during portions of the overhead line installation and for the safety of crews working adjacent to the traveled lanes. Flagging and signs would be utilized to direct traffic.

Because there are no prolonged road closures or impairments anticipated during construction or decommissioning, and I-5 and Highway 99 would not be affected, the Project would not impair implementation or physically interfere with an adopted emergency response or evacuation plan; the impact would be ***less than significant***. Implementation of **Mitigation Measure TRA-1** (Roadway Disruption Control Plan) requires that signing and traffic control measures be used to ensure safe and adequate traffic flow. Additionally, this mitigation measure requires that adequate access for emergency vehicles be maintained. Implementation of Mitigation Measure TRA-1 would further reduce impacts to emergency response and evacuation plans.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Potential impacts to wildfire risk are discussed in more detail in Section 3.20, Wildfire. Impacts would be ***less than significant*** regarding the exposure of people or structures to wildland fires.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.10 Hydrology and Water Quality				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
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;	☐	☒	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☒	☐	☐
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; or	☐	☒	☐	☐
iv) impede or redirect flood flows?	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk or release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Setting

Surface Water/Stormwater

The Project site is located in the Lower Sacramento River watershed. The Sacramento River is located approximately seven miles west of the site and meanders in a southerly direction. There is also an existing irrigation canal (RD 1002) along the southern boundary of the site which drains toward the west and into Snodgrass Slough, just east of the Sacramento River. Otherwise, no streams or other drainages cross the Project site. The project site and vicinity is relatively flat. Most stormwater in the Project area infiltrates the open fields or is collected in drainage swales and roadside ditches.

Surface Water Quality

According to the 2010 Waterbody Report for Sacramento River (Knights Landing to the Delta), the overall status of the waterbody is impaired for uses as cold freshwater habitat and commercial and sport fishing (USEPA, 2018). The causes of impairment include pesticides, mercury, polychlorinated biphenyls (PCBs), and unknown toxicity which are attributed to agriculture, subsurface (hardrock) mining, and unknown sources.

Groundwater

The Project site is in the Sacramento Central Groundwater Basin (Central Basin), Sacramento Valley-South American sub-basin located entirely within Sacramento County. The Central Basin is managed by the Sacramento Central Groundwater Authority. Groundwater underlying the Central Basin is contained within a shallow aquifer (Modesto Formation) and a deep aquifer (Mehrten Formation). Intensive groundwater pumping over the past 60 years has resulted in a general lowering of groundwater elevations. Over time, isolated groundwater depressions have grown and coalesced into a single cone of depression centered in the southwestern portion of the Central Basin (CSCGMPTF, 2006).

Flooding

The project site is located within a designated Special Flood Hazard Area Zone AE with base flood elevation of 18 feet (FEMA 2018). Zone AE includes areas that have a one percent probability of flooding every year (also known as the "100-year floodplain"). Properties in Zone AE are considered to be at high risk of flooding under the National Flood Insurance Program (NFIP) at their current topographic grade.

Regulatory Setting

Federal

USEPA is the lead federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes USEPA and each state to implement activities to control water quality. The various elements of the CWA addressing water quality that are applicable to the Project are discussed below.

Water Quality Criteria and Standards

USEPA has published water quality regulations in CFR Volume 40. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires USEPA to publish advisory water quality

criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may results from water pollutants. Where multiple uses exist, water quality standards must protect the most sensitive use. USEPA is the federal agency with primary authority for implementing regulations adopted under the CWA. USEPA has delegated to the State of California the authority to implement and oversee most programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969.

National Pollutant Discharge Elimination System Permits

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the CWA to regulate municipal and industrial point discharges to surface waters of the United States. Each NPDES permit for point-source discharges sets limits on allowable concentrations of pollutants contained in the discharges. CWA Sections 401 and 402 include the general requirements for NPDES permits.

The CWA was amended in 1987 to require NPDES permits for nonpoint-source (i.e., stormwater) pollutants in discharges. Stormwater sources are diffuse and originate over a wide area rather than from a definable point. The goal of NPDES stormwater regulations is to improve the quality of stormwater discharged to receiving waters to the "maximum extent practicable" through the use of structural and nonstructural Best Management Practices (BMPs). BMPs can include development and implementation of various practices: educational measures (workshops informing the public of what impacts result when household chemicals are dumped into storm drains), regulatory measures (local authority for drainage facility design), public policy measures, and structural measures (e.g., bioretention planters, grass swales, and detention ponds). The NPDES permits that apply to activities in Sacramento County are described below in the discussion of local regulations.

Floodplain Regulations

Federal regulations governing development in a floodplain are set forth in 44 CFR Part 60. The Federal Emergency Management Agency (FEMA) imposes building regulations on development in flood hazard areas, depending on the potential for flooding in each area. Building regulations are incorporated into the municipal codes of jurisdictions participating in the National Flood Insurance Program. FEMA also issues flood insurance rate maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standards for flood protection covered by the FIRMs are established by FEMA. The minimum level of flood protection for new development has been determined to be the 1-in-100 (0.01) annual exceedance probability (i.e., the 100-year flood event). FEMA also is responsible for issuing revisions to FIRMs through the local agencies that work with the National Flood Insurance Program.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was adopted in 2014 and became effective January 1, 2015. SGMA gives local agencies the authority to customize groundwater sustainability plans to their regional economic and environmental needs and manage groundwater in a sustainable manner to protect groundwater resources. SGMA establishes a definition of sustainable groundwater management and a framework for local agencies to develop plans and implement sustainable management strategies to manage groundwater resources, prioritizes basins (ranked as high- and medium-priority) with the greatest problems (i.e., the undesirable results as discussed below), and sets a 20-year timeline for implementation. The Project site is located in the Sacramento Valley South American sub-basin. This sub-basin is identified as a high priority groundwater basin, managed by the Sacramento Central Groundwater Authority as the effective groundwater sustainability agency (CASGEM, 2014).

State

Surface Water Quality

In California, the SWRCB has broad authority over water quality control. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated by the federal government under the CWA. Regional authority for planning, permitting, and enforcement is delegated to nine RWQCBs. The Porter-Cologne Water Quality Control Act of 1969 requires the RWQCBs to formulate and adopt basin plans for all areas in the region, and to establish water quality objectives in the plans. Basin plans must formulate and determine beneficial uses and water quality objectives, and must establish an implementation program for achieving water quality objectives. California water quality objectives (or “criteria” under the CWA) are found in the basin plans adopted by the SWRCB and each of the RWQCBs. Because the Project is located within the Lower Sacramento watershed, all discharges to surface water or groundwater fall under the Central Valley RWQCB’s jurisdiction and are subject to its Basin Plan requirements, including those within NPDES permits that regulate development in Sacramento County are based on the Basin Plan requirements (CVWQCB, 2018).

Construction Site Runoff Management

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the state requires that the project proponent for any construction activity that disturbs one acre or more obtain coverage from the SWRCB under the General Construction Activity Stormwater Permit (the Construction General Permit), Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010.

Additionally, the applicant for a Construction General Permit must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include BMPs to reduce construction effects on receiving water quality by implementing erosion and sediment control measures, and by reducing or eliminating non-stormwater discharges. Examples of construction BMPs typically included in SWPPPs are using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; and installing sediment-control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutant discharges to drainage systems or receiving waters.

Local

Municipal Separate Storm Sewer System (MS4) NPDES Permit

Sacramento County and the cities of Sacramento, Folsom, Citrus Heights, Elk Grove, Rancho Cordova, and Galt have a joint Municipal Separate Storm Sewer System NPDES permit (MS4 permit) (Order no. R5-2015-0023), adopted on April 17, 2015. Collectively, these jurisdictions are referred to as the Sacramento Stormwater Quality Partnership. The MS4 permit is intended to implement the Basin Plan through the effective implementation of BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. The permittees listed in the joint permit have the authority to develop, administer, implement, and enforce stormwater management programs within their own jurisdictions. The MS4 permit defines “urban stormwater runoff” as including stormwater and dry-weather flows from a drainage area that reaches a receiving water body or subsurface. The permit regulates the discharge of all wet- and dry-weather urban stormwater runoff in the County and requires the County to implement a stormwater management program to reduce pollutants in stormwater to the maximum extent practicable.

Sacramento Central Groundwater Authority

The Sacramento Central Groundwater Authority is a joint-powers authority, created to collectively manage the Sacramento Central Groundwater Basin, which includes a portion of Sacramento County from south of the American River to the Cosumnes River. The Sacramento Central Groundwater Authority adopted its most recent groundwater management plan 2006. The plan establishes goals, management objectives, and the primary components needed to manage the groundwater basin.

Sacramento County Local-Hazard Mitigation Plan

The Sacramento County Local-Hazard Mitigation Plan (LHMP) is designed to meet the requirements of the Disaster Mitigation Act of 2000, which allows eligibility for certain hazard mitigation (i.e., disaster loss reduction) programs under FEMA. The LHMP was developed based on hazard identification and a risk assessment of potential natural

hazards that could affect Sacramento County, a review of the County's capability to reduce hazards impacts, and recommendations to further reduce vulnerability to potential disasters. FEMA approved the current LHMP on November 23, 2011. The LHMP includes emergency management provisions for flood hazards, such as a levee breach or dam failure.

Impacts and Mitigation Measures

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Project construction would include ground disturbing activities to remove near surface soils and place imported soils on the Project footprint to construct the raised building pad for the proposed substation. This would expose soils to erosive forces that could result in transport of sediment into the drainage system (and ultimately into the greater watershed), if not managed properly. Such sediment transport could increase turbidity, degrade water quality, and result in siltation and other adverse effects to water quality. The runoff could cause transport of pollutant sources to storm drain systems and water courses. The potential would also exist for releases of chemicals typically associated with construction and use of heavy machinery, including fuels, oils, paints, and solvents. Erosion and construction-related wastes (e.g., oil, petroleum products) would have the potential to temporarily degrade existing water quality and beneficial uses by altering surface or ground water quality or by causing toxic effects in the aquatic environment. Therefore, if not controlled, Project-related construction activities could violate water quality standards or result in erosion or siltation.

Because the Project would disturb more than one acre, SMUD would be required to obtain coverage under the Central Valley RWQCB's General Construction Permit. Compliance with the permit requires the preparation and implementation of a SWPPP. The SWPPP will consist of stormwater BMPs that include erosion and sediment control measures, worker training, and construction material good housekeeping measures. The SWPPP will include site design measures to minimize off-site stormwater runoff. The SWPPP also will include a spill prevention and response plan and a construction-specific hazardous substance control and emergency response plan to minimize the potential for accidental releases of hazardous materials into the environment. The Project would implement **Mitigation Measure HYD-1**, which would require the contractor to prepare a SMUD-approved SWPPP, that complies with the terms of the Construction General Permit, to ensure that impacts that could potentially degrade surface or ground water quality are minimized during construction of the Project.

> ***Mitigation Measure HYD-1: Stormwater Pollution Prevention Plan.*** A site-specific SWPPP shall be prepared in accordance with the terms of the NPDES Construction General Permit. It will require the construction contractor to incorporate the SWPPP's Best Management Practices (BMP) into all aspects of

the Project. The BMPs shall include measures for management and operation of the construction site to control and minimize potential contribution of pollutants to stormwater runoff from these areas. These measures shall address site-specific methods for preventing and minimizing erosion and delivery of sedimentation through construction management practices to ensure control of potential water pollution sources.

Potential BMPs could include, but would not be limited to, the following:

- Temporary erosion control measures (such as silt fences, staked straw bales, and temporary revegetation) will be employed for disturbed areas.
- Existing vegetation will be retained where possible.
- Construction materials will be stored, covered, and isolated, including topsoil and chemicals, to prevent runoff losses and contamination of groundwater.
- Topsoil removed during construction will be carefully stored and treated as an important resource. Berms will be placed around topsoil stockpiles to prevent runoff during storm events.
- Fuel and vehicle maintenance areas will be established away from all drainage courses and designed to control runoff.
- Disturbed areas will be re-vegetated after completion of construction activities.
- Sanitary facilities for construction workers will be established.

Potential impacts related to violation of water quality standards or waste discharge requirements would be ***less than significant with mitigation*** upon compliance with the General Construction Permit and associated SWPPP.

b. 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?

The addition of new impervious surfaces that would replace existing pervious surfaces could alter the natural hydrology of the site by increasing the volume of stormwater runoff and potentially reducing groundwater recharge. However, the proposed substation site would not create a significant amount of new impervious surfaces and would be designed to allow for some runoff to infiltrate on-site consistent with the NPDES permit or to the surrounding ground for groundwater recharge. The net increase in impervious surfaces from the Project would not result in a substantial change to the regional ability for stormwater runoff to recharge underlying groundwater resources as the site is surrounded by pervious agricultural fields. The Project would not utilize

underlying groundwater resources nor result in a permanent demand which could interfere substantively with groundwater recharge. Therefore, this impact would be ***less than significant***.

c. 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:

i. result in substantial erosion or siltation on- or off-site;

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

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

iv. Impede or redirect flood flows?

There are no streams or rivers that intersect the site or the area proposed to be disturbed by the Project. The Project site does not include any water bodies and the Project would not substantially alter the existing drainage pattern on the site or area in a way that would alter the course of a stream or river. The irrigation ditch located south of the site would not be altered by construction or implementation of the Project. Because of the small size of the substation site and because SMUD would design the drainage to avoid any increase in the peak-flow rate, the potential increase in stormwater discharge would be negligible. Therefore, with inclusion of **Mitigation Measure HYD-1**, requiring a SMUD-approved SWPPP with post-construction BMPs, site development would not substantially alter the rate or amount of surface runoff that would result in erosion or siltation on- or off-site; result in flooding on- or off-site; exceed the capacity of stormwater drainage systems; or impede or redirect flood flows. The impact would be ***less than significant with mitigation***.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Based on location and site characteristics, the Project would not be located in an area susceptible to inundation from a seiche, tsunami, or mudflow; however the Project site is located within a Special Flood Hazard Area Zone AE (100-year floodplain). To address site characteristics and the Project's flood plain location, the Project would be designed to raise the finished grade of the substation's foundation by 5 feet above current levels. Site preparation activities would include importing clean fill materials to achieve this objective. As designed, the final finished building pad elevation would ensure that all proposed improvements would be above base flood elevations, and consistent with County flood control requirements. Therefore, due to the proposed

finished grade elevations, SMUD would design the facility such that proposed improvements would not result in flooding on- or off-site nor result in the release of pollutants due to Project inundation. This impact would be ***less than significant***.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Project would implement mitigation including development of a SMUD-approved SWPPP to conform with all applicable water quality NPDES requirements, which would ensure that there would be no conflict with respect to water quality objectives identified in the Basin Plan. The Project would require a negligible amount of water during construction. As such, the Project would not place excessive demands on existing groundwater resources, nor would the Project conflict or obstruct the sustainable management of groundwater in the Sacramento Valley-South American sub-basin. Impacts would be ***less than significant***.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.11 Land Use and Planning				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

The Project would be constructed in Sacramento County, near the northwest corner of Lambert Road and Franklin Boulevard on APN 132-332-013 (see Figure 1). A rural residence is located approximately 530 feet north of the Project site, adjacent to the existing Lambert Substation. The area surrounding the Project site is predominantly agricultural land and includes scattered rural residences. A 12/69kV line runs along the east side of Franklin Boulevard and a 12kV line runs along the north side of Lambert Road. The Project site is currently designated by the 2030 General Plan as Agricultural Cropland (Sacramento County, 2017). This land is also designated by the Department of Conservation as Farmland of Statewide Importance and is under a Williamson Act contract (DOC, 2016). See Section 3.2, Agriculture and Forestry Resources, for discussion of these designations.

Regulatory Setting

Federal

There are no applicable Federal regulations for land use and planning.

State

See Section 3.2, Agriculture and Forestry Resources, for applicable regulations regarding the Farmland Mapping and Monitoring Program and the Williamson Act.

Local

Sacramento County General Plan

The Land Use Element of the 2030 General Plan, amended in 2017, sets policy for land uses in the unincorporated county for the next 25 years, establishing the foundation for

future land use and development. The Project site is designated in the General Plan as Agricultural Cropland (Sacramento County, 2017).

Airport Land Use Plan consistency is triggered in review with the 2030 General Plan or Specific Plan. As stated in Section 3.6.6.A of the Zoning Code, SMUD electrical transmission facilities with less than 100kV capacity are permitted with no review required by the County (County of Sacramento, 2015).

Sacramento County Zoning Code

The Zoning Code establishes land use zones and standards and regulations for development in those zones, within unincorporated Sacramento County. The Project site is zoned as Agriculture 80 (AG-80), as defined by the Sacramento County Zoning Code and described below (Sacramento County, 2015). The purpose of the Agricultural Zoning Districts is to promote the long-term agricultural use and discourage the premature and unnecessary conversion of agricultural land to urban uses.

- Agriculture 80 (AG-80): 80 acres; permits one single-family residence per parcel, all agricultural uses, accessory dwellings for agricultural employees; and most institutional uses allowed with a use permit.

See Section 3.2, Agriculture and Forestry Resources for additional information regarding the agricultural use of the site.

Impacts and Mitigation Measures

a. Would the project physically divide an established community?

The Project would involve constructing a new substation and additional project components on approximately 0.9 acre on disturbed land used for agriculture, and decommissioning the existing substation. The surrounding area consists of agricultural land. The majority of the area surrounding the proposed substation is designated and zoned for agriculture with a few scattered residences. A rural residence is located approximately 530 feet north of the Project site, adjacent to the existing Lambert Substation. There are existing SMUD power lines along the east side of Franklin Boulevard and on the north side of Lambert Road. The Project is not located near an established community and would tie into existing power lines. The Project would not isolate or divide a community or block an existing means of access for an existing community. As a result, the Project would not physically divide an established community and would have ***no impact***.

b. Would the project cause a significant impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Project site is designated by the 2030 General Plan as Agricultural Cropland, zoned as AG-80, and on land designated as Farmland of Statewide Importance (see Section 3.2, Agriculture and Forestry Resources, for discussion of impacts to Farmland of Statewide Importance).

As stated in Section 3.6.6.A of the Zoning Code, SMUD electrical transmission facilities less than 100kV are permitted with no review required by the County. Substations may be located in all zoning districts provided they comply with the design measures listed in Section 3.6.6.A.1.c. The Project would not exceed the 100kV voltage capacity. Therefore, the Project would not need to undergo review by the County and would not require a Conditional Use Permit. The Project would be compatible with land use plans, policies, and regulations and there would be ***no impact***.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.12 Mineral Resources					
Would the project:					
a)	Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

The Project is underlain by alluvial deposits of the Riverbank Formation. These deposits are Quaternary in age, and include sediments ranging in size from silt to gravel (DOC, 1981). According to the 2030 General Plan's Conservation Element, the Project is not within an aggregate kaolin clay resource area or state aggregate area (County of Sacramento, 2017). Maps published by the California Geological Survey classify certain areas of Sacramento County as underlain by significant mineral resources. These areas are known as Mineral Resource Zones (MRZs). The Project is in an area classified as Mineral Resource Zone (MRZ)-1, which is an area with no known significant mineral deposits and where none is likely to occur (DOC, 1999).

Regulatory Setting

Federal

There are no applicable Federal regulations for mineral resources.

State

Surface Mining and Reclamation Act of 1975 (SMARA)

Under the Surface Mining and Reclamation Act, the State Mining and Geology Board may designate certain mineral deposits as regionally significant to satisfy future natural resource needs, based on information from the California Geological Survey.

Local

Sacramento County General Plan

The 2030 General Plan Background Section for Open Space includes maps of all regions in the county known for economically significant mineral and gas deposits and aggregate and clay deposits.

Impacts and Mitigation Measures

a. Would the project result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?

According to the California Geological Survey Mineral Land Classification map, the Project site is in an area classified as MRZ-1, which are areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources. The Project would not result in the loss of availability of regionally important known mineral resources. There would be ***no impact***.

b. 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?

According to the mineral resource maps within the 2030 General Plan's Conservation Element, the Project would not be located within any area delineated as a mineral recovery site. The Project would not result in the loss of availability of locally important known mineral resources. ***No impact*** would occur.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.13 Noise					
Would the project result in:					
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?	☐	☐	☒	☐
b)	Generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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 in or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Setting

Noise Terminology

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 dB to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the ambient noise level, which is the existing noise level comprised of all sources of noise in a given location. In general, the more a new noise exceeds the ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans, 2013).

- except in carefully controlled laboratory experiments, a change of 1-dB cannot be perceived;
- outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- a change in level of at least 5-dB is required before any noticeable change in human response would be expected; and
- a 10-dB change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

The perceived increases in noise levels shown above are applicable to both mobile and stationary noise sources. These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

> **L_{dn}:** a 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises.
>
> **CNEL:** the Community Noise Equivalent Level (CNEL); similar to L_{dn}, the CNEL adds a 5-dB "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dB penalty between the hours of 10:00 p.m. and 7:00 a.m.
>
> **L_{eq}:** the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
>
> **L_{max}:** the instantaneous maximum noise level for a specified period of time.

Vibration Terminology

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. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration (FTA, 2018). Typically, groundborne 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 receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly and sick), and vibration sensitive equipment. Fragile buildings can be exposed to groundborne vibration levels of 0.5 PPV without experiencing structural damage. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV. The human annoyance response level is 80 RMS.

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

The Project is located in an unincorporated area of Sacramento County. The area in the vicinity of the Project consists of residential and agricultural land uses. The nearest residence is located approximately 530 feet north of the Project's northern boundary. Decommissioning of the existing substation would occur approximately 100 feet from the same residence. Some structures associated with the residence are located approximately 50 feet from the existing substation.

Existing Noise Setting

The noise environment surrounding the Project site is influenced by vehicular traffic along Lambert Road and Franklin Boulevard and rail traffic along the Union Pacific rail line. Other noise sources in the area consist of the use of agricultural equipment and natural sounds (e.g., birds chirping, crickets).

The ambient noise environment in the vicinity of the Project was estimated using a relationship between ambient noise levels and population density researched by the U.S. Environmental Protection Agency (USEPA, 1974). The USEPA determined that ambient noise can be related to population density in locations away from transportation corridors, such as airports, major roads, and railroad tracks. **Table NOI-1** provides typical ambient noise levels from environs ranging from 630 to 63,000 people per square mile. Due to the sparse population in the vicinity of the Project, it assumed that the population density in in the vicinity of the Project area would be no more than 630 people per square mile. Using the typical ambient noise levels presented in Table NOI-1, the ambient noise within the Project area could range from 48 to 52 dBA L_{dn}.

Regulatory Setting

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters (approximately 50 feet) from the vehicle pathway centerline. These controls are implemented through regulatory requirements on truck manufacturers.

TABLE NOI-1
TYPICAL AMBIENT NOISE LEVELS IN A SUBURBAN AND URBAN ENVIRONMENT

Description	Typical Range L_{dn}, dBA	Average L_{dn}, dBA	Average Census Tract Population Density, Number of People per Square Miles
Quiet Suburban Residential	48–52	50	630
Normal Suburban Residential	53–57	55	2,000
Urban Residential	58–62	60	6,300
Noisy Urban Residential	63–67	65	20,000
Very Noisy Urban Residential	68–72	70	63,000

SOURCE: EPA, 1974

State

The State of California does not have statewide standards for environmental noise, but the California Department of Health Services has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The purpose of these guidelines is to maintain acceptable noise levels in a community setting for different land use types. Noise compatibility by different land use types is categorized into four general levels: “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable.” For instance, a noise environment ranging from 50 dBA CNEL to 65 dBA CNEL is considered to be “normally acceptable” for multi-family residential uses, while a noise environment of 75 dBA CNEL or above for multi-family residential uses is considered to be “clearly unacceptable.” In addition, Section 65302(f) of the California Government Code requires each county and city in the state to prepare and adopt a comprehensive long-range General Plan for its physical development, with Section 65302(g) requiring a Noise Element to be included in the General Plan. The Noise Element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

The California Noise Act of 1973 (Health and Safety Code Sections 46000–46002) sets forth a resource network to assist local agencies with legal and technical expertise regarding noise issues. The objective of the act is to encourage the establishment and enforcement of local noise ordinances.

Local

Sacramento County General Plan

The 2030 General Plan (Sacramento County, 2017) outlines goals and policies related to noise within the project area. The following goal and policies are relevant to the project.

NO-6: Where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not [to] exceed the interior and exterior noise-level standards of Table 2. [See **Table NOI-2**] at existing noise-sensitive areas.

TABLE NOI-2
NON-TRANSPORTATION NOISE STANDARDS SACRAMENTO COUNTY NOISE ELEMENT MEDIAN (L_{50})/MAXIMUM (L_{MAX})[1]

Receiving Land Use	Outdoor Area[2]		Interior[3] Day & Night	Notes
	Daytime	Nighttime		
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	---	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6

NOTES:
1. The standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of this table, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
2. The primary outdoor activity area associated with any given land use at which noise-sensitivity exists and the location at which the County's exterior noise level standards are applied.
3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients
6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours
7. Where median (L50) noise level data is not available for a particular noise source, average (Leq) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

SOURCE: Sacramento County, 2011.

NO-8: Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.

NO-12: All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall be prepared in accordance with Table 3 [see **Table NOI-3**].

TABLE NOI-3
REQUIREMENTS FOR ACOUSTICAL ANALYSES PREPARED IN SACRAMENTO COUNTY

An acoustical analysis prepared pursuant to the Noise Element shall:
1. Be the responsibility of the applicant.
2. Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
4. Estimate projected future (20 year) noise levels in terms of the Standards of Tables 4.12-2 and 4.12-3, and compare those levels to the adopted policies of the Noise Element
5. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
6. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.
SOURCE: Sacramento County, 2011.

Sacramento County Municipal Code

The Sacramento County Municipal Code contains a Noise Ordinances (Chapter 6.68) that establishes maximum exterior and interior noise level standards that apply to noise levels in the project area for affected land uses. These standards are summarized in **Table NOI-4**. Construction activities and residential area maintenance are considered exempt from the noise standards provided they occur between the daytime hours of 6:00 a.m. to 8:00 p.m., Monday through Friday, and 7:00 a.m. to 8:00 p.m. on Saturday and Sunday.

Impacts and Mitigation Measures

a. 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?

Construction and Decommissioning

Noise generated during the construction of the Project and decommissioning of the existing substation would fluctuate depending on the particular type, number, and duration of usage for various pieces of construction equipment. Construction is expected to begin in March 2020 and would be completed in approximately 10 months. Decommissioning would follow the end of construction in December 2020 and last approximately 4 months. **Table NOI-5** shows typical noise levels produced by various equipment that would be used during the Project construction and decommissioning activities.

TABLE NOI-4
COUNTY OF SACRAMENTO NOISE ORDINANCE STANDARDS

Noise Sensitive Land Use (Use Types)	Period of Measurement	Maximum Acceptable Noise Standards (dBA)	
		Exterior[1]	Interior
Residential, School, Church, Hospital	7 a.m. to 10 p.m.	552	--
	10 p.m. to 7 a.m.	502	--
Apartment, Condominium, Townhouse, Duplex, or Multi-dwelling Unit	5 minutes per hour	--	45
	1 minute per hour	--	50
	Any period of time	--	55

NOTES:
dBA = A-weighted decibels

1. The following noise standards, unless otherwise specifically indicated in the County of Sacramento Municipal Code, shall apply to all properties within a designated noise area.
2. Cumulative duration of intrusive sound: It is unlawful for any person within the County to create any noise that causes the noise level on the affected property, when measured in the designated noise area, to exceed for the duration of time set forth following, the specified exterior noise standards in any one hour by (noise limits shall be reduced by 5 dBA for impulsive or simple tone noise, or noise consisting of speech or music):
   - 30 minutes: +0 dB
   - 15 minutes: +5 dB
   - 5 minutes: +10 dB
   - 1 minute: +15 dB
   - Level not to be exceeded for any time: +20 dB

   In addition to the above standards, interfering noise at schools, churches, or hospitals, while the same is in use, that is 10 dB or greater than the ambient noise level at the building, shall be deemed excessive and unlawful. Residential-use HVAC [heating, ventilation, and air conditioning] system equipment, such as pumps, fans, air conditioners, and cooling towers, shall not exceed 60 dBA at any point at least 1 foot inside the property line of the affected residential or agricultural property line, or 55 dBA when measured in the center of a neighboring patio or at the exterior window of the affected residential unit.
3. Based on cumulative periods of time during any one hour. Interior noise levels, when measured in the neighboring unit, shall not exceed the specified standards for the corresponding cumulative period of time during any hour.

SOURCE: County of Sacramento Municipal Code

TABLE NOI-5
CONSTRUCTION EQUIPMENT NOISE LEVELS – (50 FEET FROM SOURCE)

Type of Equipment	L_{max}, dBA	Hourly L_{eq}, dBA/ Percent Used[1]
Loader	80	76/40
Dozer	85	81/40
Air Compressor	80	76/40
Backhoe	80	76/40
Crane	85	77/16
Auger Drill Rig/ Pulling Rig/Boring Rig	85	78/20
Compactor	80	73/20
Excavator	85	81/40

NOTE:
[1] "Percent used" were obtained from the FHWA Roadway Construction Noise Model User's Guide.

SOURCE: FHWA, 2006.

The 2030 General Plan and municipal code does not have noise standards that are applicable to short-term construction activities. Although there are no applicable local policies or standards available to judge the significance of short-term daytime construction noise levels, the FTA's Transit Noise and Vibration Impact Assessment has identified a daytime 1-hour L_{eq} level of 90 dBA as a noise level where adverse community reaction could occur at residential land uses (FTA, 2018). This noise level is used here to assess whether construction or decommissioning-related noise levels would cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations. The nearest sensitive receptor to the Project is a residence located approximately 530 feet north of the northern boundary of the proposed substation and approximately 50 feet from the existing substation that will be decommissioned.

Noise from construction activities generally attenuates at a rate of 7.5 dB for every doubling of distance. Assuming an attenuation rate of 7.5 dB per doubling of distance and the operation of the two loudest construction equipment listed in Table NOI-5 (dozer and excavator), the closest sensitive land use would be exposed to a maximum noise level of approximately 58 dBA L_{eq}. Construction activities would not expose the nearest residence to noise levels that would exceed the FTA applied adverse reaction threshold. Decommissioning activities would occur approximately 50 feet from the nearest sensitive receptor. The operation of the two loudest construction equipment listed in Table NOI-5 would expose the closest sensitive land use to a maximum noise level of approximately 81 dBA L_{eq}, which would not exceed the FTA applied adverse reaction threshold. Since the nearest sensitive receptor would not be exposed to construction or decommissioning-related noise levels that would be considered adverse, this impact would result in a ***less than significant impact***.

Construction of the Project and decommissioning of the existing substation would occur entirely within an unincorporated area of Sacramento County. Section 3.12.2, Section 6.68.090(e) of the County Noise Ordinance exempts activities by noise sources from construction, repair, remodeling, demolition, paving, or grading of real property from noise performance standards. However, the ordinance requires that any such construction noise occur only between 6:00 a.m. and 8:00 p.m. on weekdays and between 7:00 a.m. and 8:00 p.m. on Saturdays and Sundays. Construction of the Project and decommissioning of the existing substation would occur within these exempt hours. Consequently, this impact would be ***less than significant***.

Operation

The primary source of operational noise at the Project would be its transformers, associated cooling fans, and corona noise generated by the aboveground 69kV and 12kV lines. As shown in Table NOI-6, predicted noise levels at the nearest sensitive receptor would be approximately 4 dBA L_{eq}. Assuming the Project would operate continuously for a 24-hour period, the nearest sensitive receptor to the Project site would be exposed to a noise level of 10 dBA L_{dn}. Using the typical ambient noise levels

presented in Table NOI-1, the ambient noise in the vicinity of the Project could range from 48 to 52 dBA L_{dn}.

Corona noise is brought on by the ionization of a fluid such as air surrounding a conductor that is electrically charged. Modern transmission and power lines have been designed, and are constructed and maintained, to generate a minimum of corona-related noise. Typical corona noise levels from 230 kV lines are in the range of only 15 dBA at a distance of 100 feet during dry weather (DMD & Associates Ltd., 2005). The 12.5 MVA transformer is expected to generate a noise level of 50 dBA L_{eq} from a distance of 5 feet (Petrovic, 2012).

Sensitive receptors exposed to operational noise levels that exceed those found in Table NOI-2 would result in a violation of 2030 General Plan Policy NO-6. Since the Lambert Substation would operate 24-hours a day, the more stringent nighttime noise standard of 50 dBA L_{eq} for residential uses is used in this analysis as the threshold to determine significance.

Table NOI-6 shows the noise exposure levels at the nearest existing sensitive during the operation of the Project. The combined noise generated by the transformer and corona noise would not exceed the County's 50 dBA L_{eq} nighttime noise standard. Therefore, Since operational noise associated with the Project would not be higher than the existing ambient noise, operational noise generated by the Project would not be considered perceptible to nearby sensitive receptors and would not expose nearby sensitive receptors to noise levels that would violate the 2030 General Plan policies. Impacts would be ***less than significant***.

TABLE NOI-6
OPERATIONAL NOISE LEVELS AT NEAREST EXISTING SENSITIVE RECEPTOR

Source	Reference Noise Level (dBA L_{eq})	Distance to Nearest Sensitive Receptor (feet)	Noise level at nearest Sensitive Receptor (dBA L_{eq})
Transformer	50[1]	530	< 1
Corona Noise	15[2]	530	4
Cumulative Noise Level at nearest Sensitive Receptor (dBA L_{eq})			4
Exceed the County of Sacramento Nighttime Noise Standard of 50 dBA L_{eq} (yes or no)?			No

NOTES:
1 Measured distance of 5 feet.
2 Measured distance of 100 feet.

SOURCE: Petrovic, 2012; DMD & Associates Ltd., 2005

b. Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Construction

Some types of construction equipment and methods can produce vibration levels that can cause architectural damage to structures and human annoyance.[3] Vibration levels generated during Project construction and decommissioning activities would vary during the construction period, depending upon the construction activity and the types of construction equipment used. Typical vibration levels for the construction equipment types that would generally result in the highest vibration levels are presented in **Table NOI-7**.

TABLE NOI-7
VIBRATION SOURCE LEVELS FROM CONSTRUCTION EQUIPMENT

Distance (feet)	Peak Particle Velocity (in/sec)	
	Drill Rig, Large Bulldozer	Vibratory Roller
25	0.089	0.21
50	0.031	0.074
100	0.011	0.026
300	0.002	0.005
530	0.0009	0.002

SOURCE: FTA, 2018.

Since a numerical threshold to identify the point at which a vibration impact occurs has not been identified by the County of Sacramento, this analysis relies on a vibration thresholds established by the FTA. According to the FTA's Transit Noise and Vibration Impact Assessment, residential land uses exposed to a vibration level of 80 VdB could result in human annoyance and residential buildings exposed to a vibration level of 0.2 PPV (inch/second) could result in building damage (FTA, 2018).

Construction of the underground 12kV distribution line would involve horizontal directional drilling underneath Franklin Boulevard and installation of the new substation tap pole for the 69kV subtransmission line and riser pole for the 12kV distribution line would require a truck-mounted auger. Vibration levels generated during the operation of a drill rig from distances ranging from 25 to 530 feet can be found in Table NOI-7. The nearest existing sensitive land use to construction activities that would generate the highest levels of vibration is the single-family residence located 530 feet north of the Project's northern boundary. As shown in Table NOI-7, the operation of a drill rig could

[3] Human annoyance refers to an unpleasant mental state that is characterized by such effects as irritation and distraction from one's conscious thinking. It can lead to emotions such as frustration and anger.

expose the nearest residences to a vibration level of 0.0009 PPV (inch/second) or 47 VdB, which is below the 80 VdB threshold for human annoyance and the 0.2 PPV (inch/second) threshold for building damage.

Decommissioning activities would require the use of a vibratory roller. Vibration levels generated during the operation of a vibratory roller from distances ranging from 25 to 530 feet can be found in Table NOI-7. The nearest existing sensitive land use to decommissioning activities that would generate the highest levels of vibration is a single-family residence located adjacent to the existing substation. The residential structure is located approximately 100 feet from the Project site, and there is also an agricultural-related outbuilding located approximately 50 feet from the Project site. As shown in Table NOI-7, operation of a vibratory roller during decommissioning activities would expose the closest structure to a vibration level of 0.074 PPV (inch/second), which is below the 0.2 PPV (inch/second) threshold for building damage. The vibratory roller would also expose this residence to a vibration level of approximately 76 VdB, which is below the threshold of 80 VdB for human annoyance.

Therefore, the use of off-road construction equipment during construction and decommissioning would expose nearby sensitive receptor to vibration levels that would result in a ***less than significant impact***.

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 in or working in the project area to excessive noise levels?

The Project would be constructed approximately 0.8 mile from the Franklin Field Airport. According to the Franklin Field Comprehensive Land Use Plan, the Project is located approximately 1.1 miles from the airport's 65 dBA CNEL noise contour (SACOG, 1992). In addition, the Project would not involve the development of new noise sensitive land uses. Thus, implementation of the Project would not expose people to excessive aircraft noise. For these reasons, the Project would result in ***no impact***.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.14 Population and Housing					
Would the project:					
a)	Induce substantial unplanned population growth in an area either directly (*e.g.*, by proposing new homes and businesses) or indirectly (*e.g.*, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The Project is located in unincorporated southwestern Sacramento County, approximately one mile east of I-5. A rural residence is located approximately 530 feet north of the proposed substation and approximately 50 feet southwest of the existing substation. Lands surrounding the Project site are primarily used for agricultural and residential purposes. Franklin Field, a public airport, and Rio Cosumnes Correctional Center are located approximately 0.8 mile and 1.2 miles southeast of the Project site, respectively. The nearest communities to the Project site include the unincorporated community of Franklin (3.7 miles north of the Project site), the unincorporated community of Hood (5 miles northwest of the Project site), and the City of Elk Grove (7 miles northeast of the Project site).

Population

As of January 2018, Sacramento County had a population of 1,529,501 and the City of Elk Grove had a population of 172,116. In January 2018, unincorporated Sacramento County was estimated to have a population of 588,798 (DOF, 2018a). By 2030, Sacramento County is expected to reach a population of 1,757,616. By 2044, the population of Sacramento County is expected to exceed 2,000,000 (DOF, 2018b).

Housing

As of January 2018, Sacramento County was estimated to have 570,305 total housing units with a vacancy rate of 5.8 percent. Elk Grove was estimated to have 54,164 housing units with a vacancy rate of 3.6 percent. The unincorporated area of Sacramento County has approximately 222,553 total housing units with a vacancy rate of 6.3 percent (DOF, 2018c).

Regulatory Setting

Federal

There are no applicable Federal regulations for population and housing.

State

There are no applicable State regulations for population and housing.

Local

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is a regional planning association of local governments in the six-county Sacramento region. The members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba and the 22 cities within the region. SACOG develops a Regional Housing Needs Allocation (RHNA) and a Regional Housing Needs Plan (RHNP). These state-mandated documents determine the number of housing units each city and county are responsible for accommodating during each eight-year planning period. As a result, each city and county must update the Housing Element of their General Plan to reflect the jurisdiction's plan to accommodate the expected growth. The current RHNP for SACOG was adopted in 2012 and covers the planning period 2013-21. From 2018 to 2020, SACOG will be developing the RHNA and RHNP for the 2021-29 planning period (SACOG, 2018).

Impacts and Mitigation Measures

a. Would the project induce substantial unplanned population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

As described in the Project Description, substation construction would require an average daily workforce of approximately seven workers. A maximum number of 20 workers would be needed during the installation of the substation foundation. Decommissioning of the existing substation is anticipated to require fewer workers than Project construction. The workers needed for construction of the new substation and decommissioning of the existing substation are expected to be sourced from the local area. Therefore, the workers required during construction and decommissioning are expected to live within commuting distance of the Project site. As a result, Project construction and decommissioning would not result in the in-migration of workers to the Project area.

The substation would not be permanently staffed. Routine maintenance and inspections of the facility would be conducted by SMUD maintenance employees. Operation and

maintenance activities would not differ significantly from those occurring at the existing Lambert Substation. Therefore, operation of the Project would not induce in-migration of workers to the Project area. Neither Project construction or operation would result in direct population growth due to the in-migration of workers to the study area.

The Project would replace an existing substation that has aging equipment. Additionally, the Project would expand existing infrastructure in order to increase the electrical load capacity. This increase would be necessary to accommodate planned future growth in the service area. The existing Lambert substation will be decommissioned once the proposed substation is operational. Therefore, the Project is designed to increase capacity in response to regional growth projections. As a result, the Project would not indirectly induce unplanned population growth through the extension of infrastructure and ***no impact*** would occur.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Construction and operation of the Project or decommissioning would not result in the displacement of residences or people. Upon the decommissioning and salvaging of the existing substation, SMUD would return the property to the residence approximately 530 feet to the north of the proposed substation. Therefore, the Project would have ***no impact*** with regard to the displacement of people and construction of replacement housing.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact

3.15 Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Environmental Setting

Fire Protection and Emergency Response

Fire protection and emergency services for the local communities of Elk Grove and Galt are provided by the Cosumnes Community Services District (CSD) Fire Department, headquartered at 10573 East Stockton Boulevard in Elk Grove. Under the direction of the Cosumnes CSD, the fire and emergency services department staffs eight engine companies, one ladder company, seven paramedic ambulances, and a command officer serving a population of more than 185,000 persons in a 157 square mile service area (Cosumnes CSD, 2018). The Elk Grove Fire Department is located 5.8 miles northeast of the Project site. Additional fire protection services are provided by the Courtland Fire Protection District, an organization comprised of more than 22 volunteer firefighters, providing mutual assistance to southern Sacramento County. The closest station, 4.8 miles northwest of the Project site, is located on 1125 Hood-Franklin Road in Courtland (Courtland FPD, 2018).

Police Protection

The Sacramento County Sherriff's Office provides law enforcement services to unincorporated Sacramento County. The closest Sherriff's Station is located at the Rio Cosumnes Correctional Facility approximately 1.5 miles east of the Project site.

Schools/Libraries

The Elk Grove Unified School District (EGUSD) operates a total of 67 educational institutions including 42 elementary schools, nine high schools, nine middle schools, and four alternative schools, a special education academy, an adult education program, and a dependent charter school. EGUSD serves more than 63,000 students and employs more than 6,000 staff members (EGCSD, 2018). The closest schools to the Project are Elk Grove Charter School and Franklin High School, located approximately 4.75 miles north of the Project. There are no libraries in the vicinity of the project. The closest library is the Franklin Community Library located in Elk Grove approximately 5 miles north of the Project site.

Regulatory Setting

Federal

There are no federal regulations pertaining to public services that would be applicable to the Project.

State

There are no state regulations pertaining to public services that would be applicable to the Project.

Local

Sacramento County General Plan

The Public Facilities and Safety Elements of the 2030 General Plan contain the following goals and policies pertaining to public services that would be applicable to the Project (County of Sacramento, 2017).

> **Goal:** Adequate Sheriff Services and Facilities for the Unincorporated Areas of Sacramento County.
>
> **PF-51.** Plan and develop law enforcement facilities in keeping with overall needs and the distribution of growth.
>
> **Goal:** Efficient and effective fire protection and emergency response serving existing and new development.
>
> **PF-55.** New development shall provide access arrangements pursuant to the requirements of the California Fire Code.
>
> **PF-59.** Alternative methods of fire protection and access must be instituted if access is reduced to emergency vehicles.

Would the project result in substantial adverse physical impacts associated with the provision of 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:

a, b. Fire and Police Protection, and other Emergency Services?

As described in Section 3.13, Population and Housing, the Project would not increase population. Therefore, the Project would not require or include the construction of additional fire or police protection facilities. However, construction of the Project and decommissioning of the existing substation could temporarily contribute to delays in emergency response times. The Project may require lane closures on Franklin Boulevard to accommodate installation of the overhead line connecting the Lambert Substation to the existing 12/69kV line that runs along the east side of Franklin Boulevard. Project-related lane closures could temporarily disrupt emergency access along these roadways and contribute to delays in emergency response times during construction. See discussion under criterion d) in Section 16, Transportation and Circulation, for further evaluation of this potential effect. The Project would not increase demand for fire or police protection services such that construction of new or expanded facilities would be required; therefore, ***no impact*** would occur.

c. Schools?

The Project would include construction of an unstaffed substation and associated structures which would connect to existing power lines, and would not increase population in the region. The Project would employ a temporary staff of construction workers (average of seven workers per day) and decommissioning workers, drawn from the local labor pool. The Project would not include housing or provide any new permanent employment opportunities, such that the construction of new schools would be required. There would be ***no impact*** under this criterion.

d, e. Parks; other Public Facilities?

The Project would be located in a rural agricultural area, and would not include housing, or otherwise necessitate the development of parks or other public facilities such that impacts related to such construction or decommissioning would occur. There would be ***no impact*** under this criterion.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.16 Recreation					
Would the project:					
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?	☐	☐	☐	☒
b)	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Setting

The Cosumnes Community Services District (CSD), formerly known as the Elk Grove Community Services District, provides park and recreation services to the Project area. The Project area includes all project components and all surrounding areas within a 5-mile radius of the project site. The CSD Parks and Recreation Department maintains over 90 parks, 1,000 acres of open space, corridors, creeks, and trails. Additional recreational facilities include bike paths, aquatic centers, boating, community centers, playgrounds, golfing, and skate parks (CSD, 2018).

The closest parks to the Project site are the Stone Lakes National Wildlife Refuge, located approximately 3 miles northwest of the Project site and the Cosumnes River Preserve, located approximately 3 miles southeast (Sacramento County, 2018).

Regulatory Setting

Federal

There are no applicable Federal regulations for recreation.

State

There are no applicable State regulations for recreation.

Local

Sacramento County General Plan

Parks and recreational facilities are discussed in the Public Facilities Element of the 2030 General Plan. The 2030 General Plan aims to create a healthy and vibrant community through both organized and informal recreational activities and services for its residents and visitors. Under the 2030 General Plan, the Project area is designated as Agricultural Cropland, which does not overlap with designations of recreation.

Impacts and Mitigation Measures

a. 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?

The Project would include the construction and operation of a new substation and associated equipment in order to accommodate the future growth of the Project area. As analyzed in Section 3.13, Population and Housing, the Project would not result in direct or indirect population growth. Therefore, the Project would not result in an increase in the use of existing neighborhood and regional parks such that substantial physical deterioration of the facility would occur or be accelerated. Under this criterion, there would be ***no impact***.

b. Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The Project would not include the construction or expansion of any recreational facilities; therefore, no adverse physical effect on the environment would occur. Under this criterion, there would be ***no impact***.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.17 Transportation				
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (*e.g.*, sharp curves or dangerous intersections) or incompatible uses (*e.g.*, farm equipment)?	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☒	☐	☐

Environmental Setting

Roadways

Regional access to the Project site is provided by Interstate 5 (I-5). I-5 has four travel lanes in the Project vicinity, and provides access to the Project site via ramps at Twin Cities Road (approximately 2 miles south) or at Hood Franklin Road (approximately 4 miles north). The average daily traffic (ADT) on I-5 between Hood Franklin Road and Twin Cities Road is approximately 55,900 vehicles (Caltrans, 2018). Both of these freeway exits provide connections to Franklin Boulevard, which has two travel lanes in the Project vicinity and provides local access to the Project site. The ADT for the segment of Franklin Boulevard between Hood Franklin Road and Twin Cities Road is between 1,880 and 2,300 vehicles (Sacramento County Department of Transportation, 2018).

Bicycle and Pedestrian Facilities

According to the Regional Bicycle, Pedestrian, and Trails Master Plan (Sacramento Area Council of Governments, 2015), there are no designated bikeways in the Project vicinity. Bicyclists on Lambert Road and Franklin Boulevard in the Project vicinity would need to use the unpaved shoulder or share the paved roadway with vehicles. Pedestrians would also need to use the roadway shoulder on these roadways, as there are no designated sidewalks.

Airports

The nearest airport, Franklin Field Airport, is located approximately 0.8 mile southeast of the Project site. It is a public airfield consisting of two runways and primarily supports general aviation operations (propeller aircraft). The most recent data for the airfield indicates an average of 89 aircraft takeoffs/ landings per day (AirNav, 2018).

Public Transit

The Sacramento Regional Transit District (SacRT) operates 70 bus routes and 43 miles of light rail in Sacramento County. No SacRT bus or light rail lines serve the Project site.

Regulatory Setting

Federal

Federal Aviation Administration

All airports and navigable airspace not administered by the United States Department of Defense are under the jurisdiction of the Federal Aviation Administration (FAA). Federal Regulation Title 14 Section 77 establishes the standards and required notification for objects affecting navigable airspace. In general, projects involving features exceeding 200 feet in height above ground level or extending at a ratio greater than 50:1 (horizontal to vertical) from a public or military airport runway less than 3,200 feet long out to a horizontal distance of 20,000 feet are considered potential obstructions, and require notification to the FAA. In addition, the FAA requires a congested area plan for operating a helicopter (with external load) near residential dwellings.

State

California Vehicle Code

The California Vehicle Code includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials (California Legislative Information, 2018).

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning and maintaining state routes, highways, and freeways. Caltrans maintains jurisdictional authority of I-5 in the study area. Caltrans has developed the Guide for the Preparation of Traffic Impact Studies (December 2002) for use when assessing state facilities.

Within the Guide for the Preparation of Traffic Impact Studies (TIS), the following criteria are a starting point in determining when a TIS for a project is needed (Caltrans, 2002):

1. Generates over 100 peak hour trips assigned to a State highway facility.

2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS “C” or “D”).

3. Generates 1 to 49 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing significant delay; unstable or forced traffic flow conditions (LOS “E” or “F”).

The Project would not generate over 100 peak hour trips to I-5 during construction or operation. Therefore, a stand-alone TIS is not considered necessary and the level of analysis below is considered consistent with the Guide for the Preparation of Traffic Impact Studies.

Senate Bill 743

With the adoption of the Senate Bill 375 in 2008, the State Legislature signaled its commitment to encourage land use and transportation planning decisions and investments to reduce vehicle miles traveled and thereby contribute to the reduction of greenhouse gas emissions, as required by the California Global Warming Solutions Act of 2006 (Assembly Bill 32).

On September 27, 2013, Senate Bill 743 was signed into law. Senate Bill 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, Level of Service, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). Senate Bill 743 required the Office of Planning and Research to propose revisions to the CEQA *Guidelines* establishing new criteria to “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” (Public Resources Code Section 21099(b)(1).)

The new CEQA *Guidelines* Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA *Guidelines* criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses (which in turn reduces vehicle trips). Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. Sacramento County is currently engaged in this

process and has not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a traffic impact. As a lead agency, SMUD may elect to develop its own significance thresholds or may opt to use the thresholds of "host" jurisdictions (i.e., for projects within Sacramento County, SMUD would use the County's thresholds).

Local

Sacramento County General Plan

The 2030 General Plan Circulation Element provides the framework for Sacramento County decisions concerning the countywide transportation system, which includes various transportation modes and related facilities. The third section of the Circulation Element establishes goals, policies and implementation programs organized into nine sub-sections: Mobility; Roadways; Transit; Bicycle and Pedestrian Facilities; Transportation System Management; Rail Transportation; Air Transportation; Smart Growth Streets; and Scenic Highways. The following 2030 General Plan policies related to performance of the circulation system are applicable to the Project:

> **Policy CI-9:** Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the 2030 General Plan. The areas outside the Urban Service Boundary are considered rural.

Impacts and Mitigation Measures

a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Construction and Decommissioning

Project construction and decommissioning of the existing substation would require hauling of equipment and materials as well as worker commute trips to and from the Project area along local arterial roadways. These trips would add to existing traffic volumes on the local roadways. Construction activities would require an average of approximately seven workers daily, with a peak of approximately 20 workers. Consistent with the assumptions made Section 3.3, Air Quality, construction workers would generate a peak of 40 one-way trips per day (20 round trips). Trucks would be needed to export excavated soils from the Project site and import fill to the Project site during

the 28-week substation construction phase. Based on the estimated quantities of exported soil and imported fill, this would result in, on average, seven daily one-way truck trips.[4] In total, the peak construction trip generation would be 47 daily vehicle trips.

Because the Project would not result in 100 or more new trips during the a.m. or p.m. peak commute hours, the Project would not result in a substantial traffic increase in relation to the existing traffic load and capacity of the highway system (I-5). As noted previously, the segment of I-5 closest to the Project site currently has an ADT of 55,900 vehicles. The peak temporary increase of 47 one-way trips per day would represent a minimal increase (about 0.08 percent) in ADT on I-5. On Franklin Boulevard, this temporary increase would equate to a 2.5 percent increase in the current ADT. The magnitude of these increases is within the range of typical daily variation in traffic levels (usually on the order of ± 5 percent) that might be expected on the major roadways serving the Project site, and roadway operating conditions on these roadways would remain substantially similar to current conditions. Decommissioning activities would require fewer daily truck trips compared to Project construction; therefore, roadway operating conditions also would remain similar to current conditions.

Based on these minor temporary increases to traffic volumes (construction would last 10 months, with peak construction traffic only occurring for one-third of this period; decommissioning would last 4 months), temporary construction- and decommissioning-related trips are not considered to significantly affect roadway operations over existing conditions on any utilized roadways. Construction would be consistent with 2030 General Plan Policy CI-9. There are no designated bikeways or pedestrian facilities in the Project vicinity, and the Project site is not served by public transportation. Furthermore, construction of the Project or decommissioning of the existing substation would not interfere with any planned bicycle, pedestrian, or public transit facilities.

The maximum daily construction-period traffic increase of 47 vehicle trips would not represent a substantial increase on I-5 ADT during the 10-month construction period. Therefore, construction and decommissioning of the Project would not generate traffic volumes that could be considered inconsistent with any congestion management plans for I-5.

Based on the discussion above, impacts from construction- and decommissioning-related trips to the circulation system would be ***less than significant***.

Operation

The substation would not be permanently staffed and would be operated by SMUD. SMUD maintenance employees would visit approximately twice per month to conduct routine checks and maintenance. Overall, operation and maintenance of the Project

[4] 610 total truckloads of material = 1,220 one-way truck trips; 28 weeks of construction, 6 days per week = 168 work days. 1,220/168 = 7.26 daily truck trips.

would not result in a perceptible increase in traffic, and therefore would not significantly affect roadway operations over existing conditions on any utilized roadways. Operation and maintenance activities would be consistent with 2030 General Plan Policy CI-9. Furthermore, operation and maintenance activities would only generate approximately two vehicle trips per month, and would therefore not generate traffic volumes that could be considered inconsistent with any congestion management plans for I-5. There are no designated bikeways or pedestrian facilities in the Project vicinity, and the Project site is not served by public transportation and would not interfere with any planned bicycle, pedestrian, or public transit facilities. Therefore, impacts from Project operation to the circulation system would be ***less than significant***.

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As discussed above in the Regulatory Setting, the provisions of this section shall apply statewide in July 1, 2020. Since no VMT thresholds have been adopted yet, no further analysis is required and ***no impact*** related to CEQA *Guidelines* section 15064.3, subdivision (b) would occur.

c. 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)?

Construction of the Project or decommissioning activities would not require any permanent modifications to existing public roadways or other transportation infrastructure. Access to the construction laydown area would be located on Franklin Boulevard just north of the substation location; it would be used for construction staging, including equipment and materials storage. Construction equipment, delivery trucks, and workers would enter the construction site via the new service road from Franklin Boulevard. Because this rural roadway is not heavily traveled and has adequate line-of-sight in all directions, construction-related egress and ingress from Project work areas or existing substation site into and along public roadways is not anticipated to create any hazards to the public.

Construction or decommissioning work that would occur within and above public road rights-of-way (i.e., installation/removal of 69kV line) could increase hazards. No full roadway closures are anticipated during construction of the substation or decommissioning of the existing substation; however, traffic control may be necessary for brief single-lane closures on Franklin Boulevard during portions of the overhead line installation/removal and for the safety of crews working adjacent to the travel lanes. Flagging and signs would be utilized to direct traffic. While the affected portions of Franklin Boulevard (where overhead line installation/removal would occur) is rural and does not carry a high volume of traffic, **Mitigation Measure TRA-1** (Roadway Disruption Control Plan) is required to minimize the impact of any temporary lane closures/disruptions from line installation/removal. The impact would be reduced to ***less***

than significant with mitigation. Once operational, the Project would not result in any activities or vehicle trips that could increase motorist or roadway hazards.

> ***Mitigation Measure TRA-1: Roadway Disruption Control Plan.*** Prior to commencement of construction, SMUD shall prepare and submit a Roadway Disruption Control Plan to the County of Sacramento for review and approval. The Plan shall include detailed information on the following:
>
> 1. Locations and duration of any public travel lane/roadway closures or disruptions.
>
> 2. Placement of temporary signing and traffic control measures, as required, to ensure safe and adequate traffic flow.
>
> 3. Ways to ensure access for emergency vehicles through affected roadway segments.

d. Would the project result in inadequate emergency access?

As discussed above under criterion c), brief lane closures may be required on Franklin Boulevard to accommodate installation of the overhead line connecting the Lambert Substation to the existing 12/69kV line that runs along the east side of Franklin Boulevard, or removal of the line connecting to the existing substation. Such lane closures could temporarily restrict or impede emergency access along the affected roadway segment. However, implementation of **Mitigation Measure TRA-1** would ensure that emergency vehicle access could continue unimpeded during such lane closures, and the impact would be reduced to ***less than significant with mitigation***.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.18 Tribal Cultural Resources					
a)	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 the scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
	i) 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	☐	☒	☐	☐
	ii) 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 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Environmental Setting

Native American Heritage Commission Communication and Tribal Consultation

SMUD conducted communication with the Native American Heritage Commission (NAHC) and tribal consultation as required by PRC Section 21074 beginning in June 2018. SMUD requested a search of the Sacred Land Files maintained by the NAHC, and on June 7, 2018 SMUD received a letter from the NAHC that stated the search had returned negative results.

SMUD notified three tribes of the Project under AB52: Wilton Rancheria, Ione Band of Miwok Indians (IBMI), and United Auburn Indian Community of the Auburn Rancheria (UAIC) on June 12, 2018. United Auburn and Wilton Rancheria responded within 30 days of the AB52 notification, requesting formal consultation. A response was not received from IBMI until July 20, 2018 asking for formal consultation. Several follow-up email attempts were sent to Ione Band through November 2018 to discuss the details of the Project. The Chairperson explained she would flag the Project for the cultural committee on November 2nd.

SMUD scheduled an on-site meeting for tribal consultation with UAIC and Wilton Rancheria on August 2, 2018. Representative for UAIC, Tribal Historic Preservation Officer (THPO) Marcos Guerrero, was present at this on-site meeting, and communicated to representatives of SMUD and ESA that UAIC knew of no resources that would be

impacted by the Project, but requested that mitigation measures be implemented for unanticipated discoveries of tribal cultural resources. THPO Guerrero emailed SMUD on August 8, 2018 to confirm that consultation between SMUD and UAIC was closed, and reiterated that mitigation measures for unanticipated discoveries should be implemented.

A representative from Wilton Rancheria did not attend the August 2, 2018 consultation meeting; however, a representative for Wilton Rancheria contacted SMUD by email on October 17, 2018, requesting information on the archaeological survey conducted on August 2, 2018. The result of the archaeological survey, which was that no tribal cultural resources were observed, was communicated to Wilton Rancheria via SMUD on October 18, 2018. On November 14, 2018, Antonio Ruiz and Jesus Tarango, representatives of Wilton Rancheria, met with SMUD at the Project site. After review, the only concern that the Tribe had with the Project is when ground disturbance occurs, even in areas of existing or prior development, there is a possibility that Native American artifacts and/or human remains may be uncovered. If resources are found, work will stop and SMUD will contact the necessary tribes and agencies. An email was received from Wilton Rancheria on November 19, 2018, concluding consultation.

On January 10, 2019, SMUD and IBMI met in Plymouth, California at the IBMI office. The cultural committee verbally agreed that they defer to UAIC and Wilton Rancheria and would not consult on the Project.

All three tribes, UAIC, Wilton, and IBMI confirmed on 6 March 2019, 8 March 2019, and 1 May 2019, respectively, that no further consultation on the Project for decommissioning work is required.

Regulatory Setting

Federal

The Project is not a federal undertaking, federally funded, or federally permitted, and thus no federal regulations related to tribal cultural resources are applicable to the Project.

State

Public Resources Code 21074; 21083.09

In September 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the Public Resources Code concerning the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze a project's impacts on "tribal cultural resources," separately from paleontological resources (PRC Section 21074; 21083.09). The Bill defines "tribal cultural resources" in a new section of the PRC, Section 21074. AB 52 also requires lead agencies to engage

in additional consultation procedures with respect to California Native American tribes (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

Local

Sacramento County General Plan

Sacramento County recognizes the importance of significant cultural resources, which are also often tribal cultural resources. The 2030 General Plan (Sacramento County, 2017) seeks to protect these resources by implementing policies that "Promote the inventory, protection and interpretation of the cultural heritage of Sacramento County, including historical and archaeological settings, sites, buildings, features, artifacts and/or areas of ethnic historical, religious or socioeconomic importance." The 2030 General Plan includes the following applicable policies related to tribal cultural resources:

> **Policy CO-152.** Consultations with Native American tribes shall be handled with confidentiality and respect regarding sensitive cultural resources on traditional tribal lands.
>
> **Policy CO-153.** Refer projects with identified archeological and cultural resources to the Cultural Resources Committee to determine significance of resource and recommend appropriate means of protection and mitigation. The Committee shall coordinate with the Native American Heritage Commission in developing recommendations.
>
> **Policy CO-155.** Native American burial sites encountered during preapproved surveyor during construction shall, whenever possible, remain in situ. Excavation and reburial shall occur when in situ preservation is not possible or when the archeological significance of the site merits excavation and recording procedure. On-site reinternment shall have priority. The project developer shall provide the burden of proof that off-site reinternment is the only feasible alternative. Reinternment shall be the responsibility of local tribal representatives.
>
> **Policy CO-158.** As a condition of approval of discretionary permits, a procedure shall be included to cover the potential discovery of archaeological resources during development or construction.

Impacts and Mitigation Measures

a. 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 the scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. 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

ii. 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 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No tribal cultural resources listed, or eligible for listing, in the California Register of Historical Resources, or listed on a local register, were identified in the Project site through the background research, and no tribal cultural resources were identified during the pedestrian survey. In addition, no tribal cultural resources were identified by the representative for UAIC, IMBI, or Wilton Rancheria. Therefore, no impact would occur to previously recorded or known tribal cultural resources. The Project would excavate to approximately one foot below the current surface within the substation footprint and to approximately five feet below the surface for the placement of electrical vaults. While unlikely, there is the potential to encounter previously unidentified tribal cultural resources during construction or decommissioning of the existing substation. Impacts to previously unidentified tribal cultural resources encountered through construction or decommissioning activities could be potentially significant. Impacts to previously unidentified buried tribal cultural resources would be reduced to ***less than significant with implementation of mitigation***: **Mitigation Measure TCR-1** (Inadvertent Discoveries).

> ***Mitigation Measure TCR-1: Inadvertent Discoveries.*** Develop a standard operating procedure, points of contact, timeline and schedule for the project so all possible damages can be avoided, or alternatives and cumulative impacts properly accessed. If potential tribal cultural resources, archaeological resources, other cultural resources, articulated, or disarticulated human remains are discovered by Native American Representatives or Monitors from interested Native American Tribes, qualified cultural resources specialists, or other Project personnel during construction activities, work will cease within 100 feet of the find (based on the apparent distribution of cultural resources), whether or not a Native American Monitor from an interested Native American Tribe is present, and SMUD should immediately notify Wilton Rancheria and UAIC and the appropriate Federal and State Agencies. Such provisions are stated in the Archaeological Resources Protection Act (ARPA) [16 USC 469], Native American Graves Protection and Repatriation Act (NAGPRA) [25 U.S.C. 3001-30013], Health and Safety Code section 7050.5, and Public Resources Code section 5097.9 et al. A qualified cultural resources specialist and Native American Representatives and Monitors from culturally affiliated Native American Tribes will assess the significance of the find and make recommendations for further evaluation and

treatment as necessary. These recommendations will be documented in the project record. For any recommendations made by interested Native American Tribes which are not implemented, a justification for why the recommendation was not followed will be provided in the project record.

If adverse impacts to tribal cultural resources, unique archaeological resources, or other cultural resources occurs, then consultation with UAIC and Wilton Rancheria regarding mitigation contained in the PRC Sections 21084.3(a) and (b) and CEQA Guidelines Section 15370 should occur, in order to coordinate for compensation for the impact by replacing or providing substitute resources or environments.

If no tribal cultural resources are identified during construction or decommissioning activities, no further mitigation is required.

If tribal cultural resources are identified during construction or decommissioning activities that have the potential to be adversely affected by the project, SMUD will develop mitigation measures to minimize those impacts. These mitigation measures could include the following or equally effective mitigation measures (as identified in PRC 21084.3):

1. Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

2. treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

    a. protecting the cultural character and integrity of the resource;

    b. protecting the traditional use of the resource; or

    c. protecting the confidentiality of the resource.

3. permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

4. protecting the resource.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.19 Utilities and Service Systems				
Would the project:				
a) 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 impacts?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Setting

Water Supply

The Project is located in unincorporated southwestern Sacramento County and is located within the Sacramento County Water Agency's Zone 13 (LAFCO, 2009; SCWA, 2009). Therefore, potable water is supplied to the area by the Sacramento County Water Agency, which serves all unincorporated areas of Sacramento County (SCWA, 2010; SCWA, 2018b). As mentioned in Section 2.4.1, Project Components, the Project would not require a water supply.

Stormwater

As described in Section 3.9, the Project site is located in the Lower Sacramento River watershed. The Sacramento River is located approximately 7 miles west of the Project site. The RD 1002 irrigation canal is located along the southern border of the Project site and drains toward the Snodgrass Slough. No other streams or drainages cross the

Project site. The Project site is relatively flat. Most stormwater in the project area infiltrates the open fields or is collected in drainage swales and roadside ditches.

Wastewater Treatment

The Project is not located within the Sacramento Area Sewer District (SASD) service area or the Sacramento Regional County Sanitation District (SRCSD) service area. The majority of properties within the area dispose of wastewater using on-site sanitary sewer systems. As described in Section 2.4.1, Project Components, the Project would not require a connection to a sanitary sewer system.

Solid Waste

Kiefer Landfill, a 1,084-acre landfill with a permitted disposal area of 660 acres, is the primary solid waste disposal facility in Sacramento County. Kiefer Landfill is located at Kiefer Boulevard and Grant Line Road, approximately 22 miles from the Project site. Kiefer Landfill is permitted to accept 10,815 tons/day and has a remaining capacity of 112,900,000 cubic yards. Kiefer Landfill is permitted to accept mixed municipal waste, sludge, and construction and demolition waste. The cease operation date for Kiefer Landfill is January 1, 2064 (CalRecycle, 2018).

Energy

Electricity

SMUD is the nation's sixth largest community-owned utility and provides electricity to the majority of Sacramento along with a portion of Placer County. SMUD serves a population of approximately 1.5 million and an area that is 900 square miles (SMUD, 2018a). SMUD's largest single source of power is the Cosumnes Power Plant, a gas-fired power plant in southern Sacramento County. SMUD also uses a mix of hydropower, natural gas-fired generators, solar, wind, hydro, and biomass, as well as power purchased on the wholesale market (SMUD, 2018b). In 2016, SMUD's power mix included approximately 41 percent natural gas, 23 percent large hydroelectric, and 20 percent renewable resources including: 11 percent biomass and bio-waste, 4 percent wind, 3 percent solar, and 1 percent each of geothermal and eligible hydroelectric. Additionally, 16 percent of SMUD's power mix came from unspecified sources (CEC, 2016). SMUD was the first large electric utility in the state to procure 20 percent of its power from sources that meet the guidelines set forth in the California Renewables Portfolio Standard (RPS). SMUD is on track to meet the December 31, 2020 goal of 33 percent renewable resources and the December 31, 2050 goal of 50 percent renewable resources (SMUD, 2018b).

Gas and Diesel

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles

(CEC, 2018a). Diesel fuel is the second largest transportation fuel used in California, representing 17 percent of total fuel sales behind gasoline. Nearly all heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and construction equipment have diesel engines. (CEC, 2018b). According to the State Board of Equalization, approximately 15.5 billion gallons of gasoline, including aviation gasoline, and 3.1 billion gallons of diesel, including off-road diesel, were sold in California in 2017 (BOE, 2018a, 2018b). In Sacramento County, it is estimated that 599 million gallons of gasoline and 48 million gallons of diesel were sold in 2017 (CEC, 2018c).

Regulatory Setting

Federal

There are no applicable Federal regulations for utilities and service systems.

State

Porter-Cologne Water Quality Control Act

The State of California's Porter-Cologne Water Quality Control Act gives the authority of water quality regulation to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). The Central Valley RWQCB serves the Project area. The Central Valley RWQCB prepares and updates the Basin Plan for the surface water and groundwater under its jurisdiction. Additionally, the Central Valley RWQCB issues National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements in accordance with the Clean Water Act NDPES program. See Section 3.9, Hydrology and Water Quality, where the Porter-Cologne Water Quality Control Act is described in more detail.

NPDES Construction General Permit

Construction activities disturbing 1.0 acre or more of land, which includes the Project, are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit) and must apply for Construction General Permit coverage. As a part of this process, the applicant must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). This plan is required to include BMPs to reduce impacts to water quality and to reduce or eliminate non-stormwater discharges. The risk assessment and SWPPP must be prepared by a State-Qualified SWPPP Developer (QSD). See Section 3.9, Hydrology and Water Quality, for more detailed discussion relative to water quality.

California Integrated Waste Management Act

The Integrated Waste Management Act of 1989 (Pub. Res. Code Section 40050 et seq.), as amended, required each local agency to divert 50 percent of all solid waste

generated within the local agency by January 1, 2000. The Act requires local agencies to maximize the use of all feasible source reduction, recycling, and composting options before using transformation (incineration of solid waste to produce heat or electricity) or land disposal. The Act also resulted in the creation of the State agency now known as CalRecycle. Under the Act, local governments develop and implement integrated waste management programs consisting of several types of plans and policies, including local construction and demolition ordinances described in more detail below. The Act also set into place a comprehensive statewide system of permitting, inspections, and maintenance for solid waste facilities, and authorized local jurisdictions to impose fees based on the types and amounts of waste generated.

2016 California Green Building Standards Code

As amended, California's Green Building Standards Code (CALGreen; Title 24 Cal. Code Regs., Part 11) requires that nonresidential building projects recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste, or meet a local construction and demolition waste management ordinance, whichever is more stringent (Section 5.408.1). Additionally, 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing must be reused or recycled unless contaminated by disease or pest infestation (Section 5.408.3). The 2016 version of the code increased the minimum diversion requirement for nonhazardous construction and demolition waste to 65 percent from 50 percent in response to Assembly Bill 341, which declared that it is the policy goal of the State that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020. Sacramento County implements the state diversion requirement of 65 percent (Sacramento County, 2018).

Warren-Alquist Act

The 1975 Warren-Alquist Act (Pub. Res. Code Section25000 et seq.) established the California Energy Resources Conservation and Development Commission, now known as the CEC. The Act established a State policy to reduce wasteful, uneconomical and unnecessary uses of energy by employing a range of measures. The Act also was the driving force behind the creation of Appendix F to the CEQA Guidelines.

Renewables Portfolio Standard (RPS)

The state's Renewables Portfolio Standard (RPS) was established in 2002 via SB 1078, which required 20 percent of the state's energy portfolio to be supplied by renewable sources such as solar, wind, hydroelectricity, geothermal, and bioenergy renewable energy by 2017. RPS goals have been accelerated over time to require the state's energy portfolio to be supplied by renewable sources in increasingly higher percentages. Since 2011, the RPS target has required all electricity retailers in the state to procure 33 percent of their energy sales from renewable sources by the end of 2020 (CPUC, 2018b). SB 350, passed in 2015, directs California utilities to further increase

the amount of renewable energy to be delivered to customers to 50 percent by December 31, 2050. SB 100, passed in 2018, revised the goal of the program to achieve a 50 percent renewable resources target by December 31, 2026, and a 60 percent target by December 31, 2030. Additionally, SB 100 created a policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

CARB Heavy Duty Regulations

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation requires diesel trucks that operate in California to be upgraded to reduce emissions. Newer heavier trucks must meet PM filter requirements beginning in 2012. Lighter and older heavier trucks must be replaced starting in 2015. By 2023 nearly all trucks would have 2010 model year engines or equivalent (CARB, 2018). In 2004, CARB adopted a fourth tier of increasingly stringent advanced after treatment for new off-road compression-ignition engines, including those found in construction equipment. These "Tier 4" standards were phased-in across product lines from 2008 through 2015 and reduced exhaust emission levels by up to 95 percent compared to previous control strategies. In 2007, CARB first approved the Off-Road Regulation that requires off-road fleets to reduce their emissions by retiring, replacing, or repowering older engines (CARB, 2016).

Impacts and Mitigation Measures

a. 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?

The Project consists of a new electric substation and associated electric lines, which is the subject of the environmental analysis contained in this Initial Study. Any adverse effects identified for the Project would be reduced to less than significant upon implementation of mitigation measures described in the various environmental topic sections of the Initial Study. The Project itself would not result in the construction or relocation of new or expanded electric power facilities other than the components described in Chapter 2, Project Description. Therefore, ***no impact*** would occur regarding electric power facilities. No natural gas or telecommunications facilities would be constructed by the Project; therefore, ***no impact*** would occur. As described in Section 2.4.3, Operation and Maintenance Activities, the Project would not be permanently staffed and would not involve the development of any permanent facilities that would generate wastewater. The substation would not have a restroom or plumbing. During construction or decommissioning of the existing substation, temporary portable toilets may be used on-site. Wastewater and waste generated from on-site temporary sanitary facilities would be collected by a third-party provider of the portable toilet facilities and would be disposed of at an off-site disposal or treatment facility.

Construction of the substation would result in new impervious surfaces which could increase the volume of stormwater runoff. However, the increase in impervious surfaces would not be significant and would be designed to allow for some amount of runoff to infiltrate on-site. As described in Section 3.10, Hydrology and Water Quality, stormwater would be managed with drainage features per the SWPPP. The Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage facilities. ***No impact*** would occur.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Section 2.4.1, Project Components, states that the Project would not require a water supply. Therefore, ***no impact*** would occur.

c. Would the project result in a determination by the wastewater treatment provider that 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?

As described under criterion a), the Project would not require a connection to a sanitary sewer system and would not be served by a wastewater treatment provider. Portable toilets would be used during Project construction and decommissioning of the existing substation. Given the small construction crew required (seven workers with a maximum crew of 20 workers) the wastewater generated by these portable toilets would be minimal. Waste generated by these facilities would be collected by a third-party provider of the portable toilet facilities and would be disposed of at an off-site disposal or treatment facility. The Project would not significantly affect the capacity of wastewater treatment providers that serve the Project area. ***No impact*** would occur***.***

d. 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?

Construction of the Project would generate small amounts of debris and waste including lumber, metals, other recyclable and non-recyclable construction-related wastes. The salvageable components from the decommissioned substation would be removed for reuse and the non-reusable materials would be recycled or scrapped. In accordance with the 2016 CALGreen Code, the Project would divert 65 percent of nonhazardous construction and demolition waste through recycling and salvage. Additionally, in accordance with this code, the project would reuse or recycle 100 percent of trees, stumps, rocks, vegetation, and soils that are not contaminated. Therefore, implementation of the CALGreen code requirements would reduce the amount of construction and decommissioning related waste that would be disposed of at a landfill. Project operation would not generate solid waste. Routine maintenance would require

SMUD employees to visit the site; however, any solid waste generated during Project operation and maintenance would be negligible.

Kiefer Landfill is the primary solid waste disposal facility in Sacramento County. This landfill is permitted to accept construction related waste and debris and has a remaining capacity of 112,900,000 cubic yards. Kiefer landfill has sufficient permitted capacity to accommodate the solid waste generated by Project construction, decommissioning, and operation. Therefore, impacts would be ***less than significant***

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

the Project would comply with the California Integrated Waste Management Act and the CALGreen Code during construction, operation and decommissioning. Therefore, the Project would comply with all relevant federal, state, and local regulations. ***No impact*** would occur.

		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.20 Wildfire					
Would the project: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Environmental Setting

Designated Wildfire Hazard Zones

The California Department of Fire and Forestry (CalFire) maintains maps describing regions or relative wildfire risk in the state and local responsibility areas. The Project would not be located in an area designated as a Very High Fire Hazard Severity Zone and is not located in a state responsibility area (CAL FIRE, 2008).

In 2018, the California Public Utilities Commission (CPUC) developed the CPUC High Fire Threat District Map, which identifies tiers of elevated risk for fires associated with utilities. Many stakeholders were involved in the development of the CPUC High Fire Threat District Map including investor owned and publicly owned electric utilities, communications infrastructure providers, public interest groups, and local public safety agencies, CalFire, and other stakeholders. Areas with an elevated level of risk for power line related fires are designated as Tier 2 (Elevated) and Tier 3 (Extreme). Areas designated as Tier 2 or 3 risk are subject to more restrictive safety standards. Although SMUD is not regulated by the CPUC, SMUD has committed to meet or exceed CPUC requirements for Tier 2 and 3 areas (SMUD, 2018). The Project would not be located in an area mapped as Tier 2 or Tier 3 (CPUC, 2018).

Fire Environment

As noted in the Safety Element of the 2030 General Plan, Sacramento County is much less vulnerable to major wildland fires, in contrast to surrounding counties that do not share the relatively flat topography of the county, and policies that limit urbanization of wildland areas (County of Sacramento, 2017). However, wildfires can occur in grasslands and fallow agricultural fields and can present complex challenges for communities situated in the urban-rural interface. Grass fires can travel very fast and threaten nearby residential areas as well as critical infrastructure.

The risk of wildland fires is generally a function of weather conditions such as temperature, humidity, and wind as well as vegetation cover, and terrain. Therefore, the season of increased fire risk within the Project area is generally from early spring through late fall due to high temperatures and low moisture content in the air (SMUD, 2018). Risks generally associated with wildfire include the potential for damage to or loss of structures or land and the potential for health impacts. Wildfire smoke poses a health risk as it contains $PM_{2.5}$, which can cause long-term, respiratory and heart issues (Sacramento County, 2017).

Fire Protection and Emergency Response

The Project is located in a Local Responsibility Area (LRA). Within LRAs, fire protection is provided by local entities, fire departments, and by CalFire under contract to local government (CalFire, 2012). Section 3.15, Public Services, describes the fire protection services provided by a number of local entities including the Cosumnes Community Services District Fire Department, the Elk Grove Fire Department, and the Courtland Fire Department. The County of Sacramento recently updated its emergency evacuation plan, which outlines operations and suggests major routes that could be utilized in the event of an emergency requiring mass or local evacuation such as I-5, I-80, State Highway 50, State Highway 99, State Highway 16, and State Highway 160. Actual evacuation routes would be identified by emergency responders in the event of an evacuation (Sacramento Emergency Services, 2018).

Regulatory Setting

Federal

There are no federal regulations pertaining to wildfire that would be applicable to the Project.

State

California Public Utilities Commission General Orders

Although SMUD is publicly owned utility and is not regulated by the CPUC, SMUD has committed to meeting or exceeding industry standards with regard to vegetation

management and fire hazard mitigation (SMUD, 2018). Regarding vegetation management, SMUD uses requirements established by the CPUC for investor owned utilities as accepted thresholds for vegetation management requirements (SMUD, 2019). These requirements, created by the CPUC through General Orders, are outlined below.

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 35, which requires that vegetation management activities be performed in order to establish necessary and reasonable clearances.

- Rule 38, which establishes minimum vertical, horizontal, and radial clearances of wires from other wires.

California Emergency Response Plan

Pursuant to the Emergency Services Act (Gov't Code §8550 et seq.), California has 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. The plan is administered by the State Office of Emergency Services (OES). 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 RWQCBs (in this case, the San Diego RWQCB), the local air districts (in this case, the San Diego 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 multi-agency response efforts whenever state agencies are involved.

Local

Sacramento County General Plan

The Safety Element of the 2030 General Plan contains the following goal and policies related to safety requirements (County of Sacramento, 2017).

> **Goal:** Minimize the loss of life, injury, and property damage due to fire hazards.

SA-23: The County shall require that all new development meets the local fire district standards for adequate water supply and pressure, fire hydrants, and access to structures by firefighting equipment and personnel.

SA-24: The County shall require, unless it is deemed infeasible to do so, the use of both natural and mechanical vegetation control in lieu of burning or the use of chemicals in areas where hazards from natural cover must be eliminated, such as levees and vacant lots.

Sacramento County Local Hazard Mitigation Plan Update

The Local Hazard Mitigation Plan includes a risk assessment of existing hazards in the county such as severe weather, dam failure, flooding, earthquakes, wildfire, drought etc. The plan also contains a mitigation strategy and recommended county-wide action items (Sacramento County, 2016).

Sacramento County Evacuation Plan

The County of Sacramento recently updated its emergency evacuation plan which outlines operations and suggests major routes that could be utilized in the event of an emergency requiring mass or local evacuation.

SMUD Draft 2018 Local Hazard Mitigation Plan

The Draft Local Hazard Mitigation Plan (LHMP) identifies hazards which could impact SMUD infrastructure, or be caused by SMUD infrastructure and impact surrounding areas. Within this document, SMUD assesses local hazards and identifies mitigation strategies to reduce the potential risk faced by SMUD and surrounding communities. This draft plan was posted for public comments and will be considered for approval by the SMUD Board of Directors, Cal OES, and FEMA.

Within the LHMP, SMUD outlined mitigation measures and strategies to reduce the risk of wildfire within its service area. These mitigation measures include vegetation management, the installation of materials designed to reduce the risk of sparking, increased monitoring of equipment, visual and infrared inspections on substation equipment, and increasing the size of substation plots to allow for space between substations and adjacent properties and structures. (SMUD, 2018).

Impacts and Mitigation Measures

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The Project would be located along Franklin Boulevard, which is an arterial collector route, as identified on the Sacramento County Emergency Evacuation Plan. Thus, should the Project's construction coincide with an emergency of the scale requiring

evacuation, construction could result in delays contributing to temporary impairment of an evacuation process. Construction and decommissioning may require temporary single-lane closures; however, no full road closures are anticipated during construction or decommissioning. Because there are no prolonged road closures or impairments anticipated during construction or decommissioning, the Project would not impair implementation or physically interfere with an adopted emergency response or evacuation plan; the impact would be ***less than significant***.

Implementation of **Mitigation Measure TRA-1** (Roadway Disruption Control Plan) requires that signing and traffic control measures be used to ensure safe and adequate traffic flow. Additionally, this mitigation measure requires that adequate access for emergency vehicles be maintained. Implementation of Mitigation Measure TRA-1 would further reduce impacts to emergency response and evacuation plans.

b. 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?

The Project structures are not intended for and would not be used for occupation. Therefore, the Project would not expose project occupants to increased risks associated with wildfire. However, the Project is located near scattered residences, and decommissioning would occur approximately 100 feet from an existing residence. Therefore, the following analysis focuses on the potential for Project construction, decommissioning, and operation to increase the exposure of residences to wildfire risks.

The Project is on relatively flat terrain and is not in a Very High Fire Hazard Severity Zone or a High Fire Threat District (CalFire, 2007, 2008; CPUC, 2018). Although the fuels normally associated with wildfire such as dry brush, chaparral, and forests are not present near the site, grass fires could occur and could be spread by prevailing winds, known to occur in the region (Sacramento Valley Basinwide Air Pollution Control Council TAC, 2015).

Construction and Decommissioning

During Project construction and decommissioning, the primary fire hazards would involve the use of vehicles and equipment with internal combustion engines. Heat or sparks from construction vehicles and equipment could ignite dry vegetation and cause a fire, particularly during the dry, hot conditions from spring to late fall. In particular, activities such as welding increase the risk of sparks which could result in ignition. Therefore, depending on the time of year (as seasonality may affect climate conditions, prevailing winds, and vegetation/fuels) the increase in sources of potential ignition associated with Project construction and decommissioning could result in a minor increase in the risk of wildfire in the area. The Project is not located in an area of elevated wildfire risk and the phases of Project construction and decommissioning would be temporary and limited in duration (approximately 28 weeks for construction

and 16 weeks for decommissioning). Therefore, Project operation and decommissioning would result in a ***less than significant impact***.

Operation

Electrical lines can start a fire if an object such as a tree limb, kite, or mylar balloon simultaneously contacts the power line conductors and a second object, such as the ground or a portion of the supporting pole. System component failures and accidents during maintenance activities can also cause line faults that result in arcing on power lines. Power lines are also subject to conductor-to-conductor contact, which can occur when extremely high winds force two conductors on a single pole to oscillate so excessively that they contact one another. This contact can result in arcing (sparks) that could ignite nearby vegetation. Aging, failing equipment increases the risk of system failures and faults.

The Project would update substation and electrical line equipment, reducing the risk of a system failure or line fault due to aging equipment. Therefore, relative to existing conditions, the Project would improve the reliability and resiliency of the substation and electrical line equipment, reducing the risk of a system failure or line fault, which could result in a source of ignition. The proposed substation would have a larger footprint and would have a greater separation from surrounding structures than the existing substation, reducing the risk of a structural fire. Additionally, in accordance with Sacramento County Fire Code, the substation would require a 30-foot minimum defensible space clearance (Sacramento County Code 597 § 1, 1984). The proposed substation would be constructed in accordance with applicable standards outlined in the California Building Code, which are designed to reduce wildland fire risk.

While the Project would result in additional overhead electrical lines, the increase in risk of ignition associated with the additional line would be minimal relative to baseline conditions. Additionally, as outlined in SMUD's LHMP, SMUD is committed to meeting or exceeding industry standards for vegetation management as required by CPUC GO 95. Other measures outlined in the LHMP such as substation inspections, equipment monitoring, and increasing the size of the substation plot to increase the distance between the substation and electrical lines and nearby structures would further reduce any risk of ignition created by the additional electrical lines.

The Project is not located in an area of high wildfire risk and is intended to update aging infrastructure, which would reduce the risk of potential ignition from Project components. Measures outlined by SMUD in the LHMP would further reduce any additional risk introduced by the larger substation and additional electrical lines to a less than significant level. As a result, project construction, operation, and decommissioning would result in a ***less than significant impact*** with regard to wildfire risks.

c. 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?

The Project would include decommissioning of an existing substation and construction, operation and maintenance of a new substation. Construction of the new substation would require the construction of a new paved access road. As described under criterion b), vegetation clearances around SMUD equipment would be required. These components are considered as part of the Project and the environmental impacts that would result from the inclusion of these components are analyzed throughout this document on a resource-by-resource basis. The Project would not require the installation or maintenance of infrastructure that has not been considered in this document. As a result, impacts would be ***less than significant***.

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?

The Project would not have any occupants and thus could not expose residents to increased fire risk. The Project is proposed upon terrain that is relatively level; therefore, the risk of landslides or post fire slope instability would be minimal. As described under criterion b), the Project would update existing infrastructure, which would aid in reducing wildfire risk during project operation. Project construction and decommissioning would result in a minimal increase in wildfire risk. As a result, the project would have a less than significant impact on wildfire risk and would not significantly exacerbate the risk of post-fire flooding or landslides. Therefore, the potential for Project operation to exacerbate the risk of flooding and mudslides as a result of post-fire slope instability would be ***less than significant.***

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact
3.21 Mandatory Findings of Significance				
Would the project:				
a) Does 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?	☐	☒	☐	☐
b) Does 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)	☐	☒	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impacts and Mitigation Measures

a. Does 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?

The Project would be located in an area that has been previously disturbed by agricultural uses. Although there are biological resources in the Project area, including special-status species, as described in Section 3.4, Biological Resources, the potential impacts of the Project to biological resources would be reduced to less than significant with implementation of recommended mitigation measures. Therefore, the Project would not 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, nor substantially reduce the number or restrict the range of a rare or endangered plant or animal.

The Project site does not contain any known sensitive cultural resources. Implementation of mitigation measures in Section 3.5, Cultural Resources, and Section 3.18, Tribal Cultural Resources, would ensure that the Project would not eliminate important examples of the major periods of California history or prehistory.

b. Does 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)

Potential impacts associated with the Project include impacts on agriculture and forestry resources, air quality, biological resources, cultural resources, geology/soils, hazards, hydrology and water quality, transportation, and tribal cultural resources. However, mitigation measures have been identified to reduce these potential impacts and would be implemented by SMUD as identified in the mitigation and monitoring reporting program (Appendix A).

Past, present, and reasonably foreseeable projects in the vicinity of the Project include the future widening of Franklin Boulevard to four lanes, the SMUD Rio Cosumnes Correctional Center Substation Project, and the SMUD Franklin Electric Transmission Project.

The Project would not contribute incrementally to considerable environmental changes when considered in combination with other projects in the area. Potential impacts associated with the Project are primarily short-term (construction-related), and shall be mitigated to less-than-significant levels. Potential short-term cumulative impacts would only occur if construction of the Project occurred simultaneously with other projects in the vicinity. The Rio Cosumnes project is anticipated to be constructed between February 2019 and June 2020, which would only overlap with construction of the Lambert Substation during the last couple months of the Rio Cosumnes construction schedule. The Franklin Transmission project includes future rebuild of approximately 1.3 miles of existing single-circuit 69kV line to double-circuit along Franklin Boulevard from Point Pleasant Road to Lambert Road. This construction would involve replacing the existing poles with taller and stronger poles to meet the loading, conductor height, and clearance requirements. However, this rebuild would occur when SMUD installs a second 224MVA transformer at the Franklin Bulk Substation when future load growth warrants the additional capacity, which is beyond the construction period for the Lambert Substation project. The future widening of Franklin Boulevard will occur in approximately ten years. The Project has considered this project in the site design and the Lambert Substation has been set back further than originally in order to accommodate this future road widening.

Given that implementation of the Project would largely result in short-term impacts that would be mitigated to less-than-significant levels, when considered in conjunction with

other past, present, or future projects within the vicinity of the Project, the Project's contribution to any cumulative impacts would be less than considerable and impacts would be less than significant with mitigation.

c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The Project has the potential to have environmental effects that could cause substantial direct or indirect adverse effects on human beings; however, the implementation of mitigation measures would reduce such impacts to less-than-significant levels. The Project's impacts relating to air quality, hazards, hydrology, and transportation would be reduced to less than significant with implementation of **Mitigation Measures AQ-1, HAZ-1, HAZ-2, HAZ-3, HYD-1, and TRA-1**.

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APPENDIX A – MITIGATION MONITORING AND REPORTING PROGRAM

APPENDIX A
MITIGATION MONITORING AND REPORTING PROGRAM

Introduction

This mitigation monitoring and reporting program summarizes identified mitigation measures, implementation schedule, and responsible parties for the Lambert Substation Project (the Project). SMUD will use this mitigation monitoring and reporting program to ensure that identified mitigation measures, adopted as conditions of project approval, are implemented appropriately. This monitoring program meets the requirements of CEQA Guidelines Section 15074(d), which mandates preparation of monitoring provisions for the implementation of mitigation assigned as part of project approval or adoption.

Mitigation Implementation and Monitoring

SMUD will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the Project. While SMUD has ultimate responsibility for ensuring implementation, others may be assigned the responsibility of actually implementing the mitigation. SMUD will retain the primary responsibility for ensuring that the Project meets the requirements of this mitigation plan and other permit conditions imposed by participating regulatory agencies.

SMUD will designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during project construction. The designated personnel will be responsible for submitting documentation and reports to SMUD on a schedule consistent with the mitigation measure and in a manner necessary for demonstrating compliance with mitigation requirements. SMUD will ensure that the designated personnel have authority to require implementation of mitigation requirements and will be capable of terminating project construction activities found to be inconsistent with mitigation objectives or project approval conditions.

SMUD and its appointed contractor will also be responsible for ensuring that its construction personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of Project construction. In addition to the prescribed mitigation measures, Table A-1 Mitigation Measures for Project Construction and Operation lists each identified environmental resource being affected, the corresponding monitoring and reporting requirement, and the party responsible for ensuring implementation of the mitigation measure and monitoring effort.

Mitigation Enforcement

SMUD will be responsible for enforcing mitigation measures. If alternative measures are identified that would be equally effective in mitigating the identified impacts, implementation of these alternative measures will not occur until agreed upon by SMUD.

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TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Agriculture and Forestry Resources	**e. Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use?**	***AG-1: Establish Agreement and Coordinate Construction Activities with Agricultural Landowners.*** Sixty (60) days prior to the start of Project construction, SMUD shall secure a signed agreement with property owner(s) of active farmland (i.e., currently being prepared or used for agricultural production, or developed with agricultural infrastructure) that will be used for construction or other Project-related activities. The purpose of this agreement will be to set forth the use of farmland during construction in order to: (1) schedule proposed construction activities at a location and time when damage to agricultural operations would be minimized, and (2) ensure that any areas damaged or disturbed by construction are restored to a condition mutually agreed upon by the landowner and SMUD. SMUD shall coordinate with the agricultural landowners in the affected areas where active farmland will be temporarily disturbed to determine when and where construction should occur in order to minimize damage to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons. If damage or destruction does occur, SMUD shall perform restoration activities on the disturbed area in order to return the area to a pre-determined condition or the pre-construction condition, whichever option is agreed upon by the landowner and SMUD. This could include activities such as soil preparation, regrading, and reseeding. If in the event that the land cannot be restored or that the planting will be interrupted, there will exist in the agreement another form of compensation for the loss of condition or the loss of harvest production. This measure applies to agricultural landowners with land that is impacted by the Project.	Before, during, and after construction	N/A	SMUD	N/A	Construction of the substation
Air Quality	**b. 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?**	***AQ-1: Implement Applicable SMAQMD Basic Construction Emission Control Practices.*** SMUD will comply with the following measures to reduce emissions of fugitive dust and construction equipment exhaust: • Water all exposed surfaces at least two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways. • Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speed on unpaved roads to 15 miles per hour. • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by California Code of Regulations [CCR] Title 13, Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. Equipment will be checked by a certified mechanic and determined to be running in proper condition before it is operated.	During construction	N/A	Contractor	SMUD and SMAQMD	All Project components

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Biological Resources	**a. 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?**	***BIO-1: Western Pond Turtle – Preconstruction Survey and Avoidance.*** Prior to commencement of any construction, silt fencing shall be installed along the southern edge of the Project site to inhibit any western pond turtles from entering the Project footprint. Prior to the fence installation, a qualified biologist shall conduct a preconstruction survey to ensure no western pond turtle is present within the Project footprint. Should any western pond turtles be detected in the vicinity of the Project footprint, the biological monitor shall relocate any western pond turtles found within the construction footprint to suitable habitat away from the Project site. Once the biologist determines that no western pond turtles occur within the proposed fence location, the silt fencing shall be installed under the direct supervision of the qualified biologist. The fencing shall remain intact throughout the duration of the Project.	Before and throughout construction	Throughout construction	SMUD and Contractor	SMUD and qualified biologist	Construction of substation and subtransmission lines near irrigation canal
Biological Resources	**See above.**	***BIO-2: Giant garter snake – Preconstruction Survey and Avoidance*** Ground disturbing activities will be performed during the active period for giant garter snake, which extends from May 1 and October 1, to the extent feasible. Direct mortality is not anticipated because snakes are expected to actively move and avoid danger. Within 24 hours prior to initial grading a qualified biologist shall conduct a preconstruction survey for giant garter snake within 200 feet of the Project site. Surveys shall be repeated if a lapse in construction activity of 7 days or greater has occurred. The biologist shall be on-call and available to go to the project site if any snakes are encountered during construction activities. If a giant garter snake is encountered during construction, SMUD shall stop work and notify the qualified biologist immediately. The biologist shall monitor the snake until it leaves on its own. SMUD shall notify CDFW and USFWS by telephone or email within 24 hours of a giant garter snake observation. Work can resume once the biologist has determined that the snake would not be harmed and has given authorization to resume work. If ground disturbing activities are anticipated to extend into the inactive season (October 2 through April 30), silt fencing shall be installed before October 1 along the perimeter of the irrigation canal to further exclude giant garter snake from entering the work area. The fencing shall be installed under the direct supervision of a biologist. SMUD will maintain the exclusion fencing for the duration of the Project's construction activities.	Before and throughout construction	Throughout construction	SMUD and Contractor	SMUD and qualified biologist	Construction of substation and subtransmission lines near irrigation canal
Biological Resources	**See above.**	***BIO-3: Special-status Birds – Preconstruction Survey and Avoidance.*** If construction (including equipment staging and vegetation removal) occurs during the breeding season for migratory birds and raptors (between February 1 and August 31) and for Swainson's hawk (between March 1 and September 15), SMUD shall retain a qualified biologist to conduct a preconstruction nesting bird and raptor survey before the onset of construction activities. The preconstruction nesting bird and raptor surveys shall be conducted within 14 days prior to commencement of construction activities between February 1 and September 15 (to encompass all birds and raptors). Surveys for raptor nests, including burrowing owl, shall extend 500 feet from the Project site. Surveys for Swainson's hawk and white-tailed kite shall extend 0.5 mile from the Project site. A report shall be prepared and submitted to SMUD following the preconstruction survey to document the results. If no active nests are detected during the preconstruction survey, no additional mitigation is required so long as construction commences within 14 days of the preconstruction survey.	Before and throughout construction	Throughout construction	Qualified biologist	SMUD	All Project components

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Biological Resources (cont.)		If an active nest is found in the survey area, a buffer will be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season (August 31) or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project site (this date varies by species). The extent of these buffers will be determined by the biologist and will depend on the bird species, level of construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species. No project activity shall commence within the buffer areas until a qualified biologist has determined, in coordination with CDFW, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. CDFW guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers for Swainson's hawk nests, but the size of the buffer may be decreased if a qualified, biologist and SMUD determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of active nests by a qualified biologist during construction activities shall be required if the biologist determines a particular activity has the potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases.					
Biological Resources	**See above.**	***BIO-4: Special-status Birds – Avian-safe Pole and Substation Configuration.*** To minimize the risk of collision or electrocution associated with operation of the Project, replacement and newly constructed poles will be designed using avian-safe configurations, as applicable, as described in SMUD's existing Avian Protection Plan.	Before and throughout construction	N/A	SMUD	N/A	All Project components
Biological Resources	**See above.**	***BIO-5: Worker Environmental Awareness Training Program*** All construction personnel shall attend a mandatory Worker Environmental Awareness Training (WEAT) Program prior to working in the project area. The program shall summarize relevant laws and regulations that protect biological resources, discuss sensitive habitats and special-status species with the potential to occur in the project area, and provide instructions to comply with all Project mitigation measures. The Program shall provide the following instruction regarding any special-status species or other wildlife species that are observed in the project area during construction: If protected wildlife enters the project area, construction will cease until the wildlife moves out of harm's way on its own accord. If the wildlife cannot or does not move out of harm's way on its own accord, SMUD field crews shall contact SMUD Environmental Services at (916) 732-5836, who will report the sighting to the Project biologist or agency (USFWS and/or CDFW), as appropriate. SMUD Environmental Services will have authority to stop activities until appropriate corrective measures have been completed or it is determined that the wildlife will not be harmed. Capture and relocation of trapped or injured wildlife may only be attempted by qualified biologists.	Before construction	Before and during construction until all workers are trained	Qualified biologist	SMUD	All Project components

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Biological Resources	**See above.**	***BIO-6: General Construction Measures*** The following general construction measures shall be implemented in order to avoid unnecessary impacts to biological resources during construction of the Project: • To the extent possible, construction personnel shall minimize the work area footprint and the duration at a work area site. • Construction personnel shall use existing paved and unpaved roads to access the work area where present. • Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the maximum extent feasible • Trash dumping, littering, open fires (such as barbecues), hunting, and pets shall be prohibited in work areas.	During construction	During construction	SMUD	SMUD	All project components
Biological Resources	**c. Would the project have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?**	Implement ***Mitigation Measure HYD-1.***	Before construction begins	Before and during construction	SMUD	RWQCB	All Project components
Cultural Resources	**b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**	***CUL-1: Worker Environmental Awareness Training for Cultural Resources and Inadvertent Discovery of Cultural Resources*** SMUD shall retain a qualified archaeologist meeting the Secretary of the Interior standards (Qualified Archaeologist) prior to the commencement of construction. The Qualified Archaeologist (or his/her designee) shall conduct a Worker Environmental Awareness Training (WEAT) for all construction workers prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). The training session shall focus on the recognition of the types of archaeological resources that could be encountered within the Project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction personnel attended the training. If construction or other Project personnel observe any evidence of prehistoric cultural resources (freshwater shells, beads, bone tool remnants or an assortment of bones, stone tools, grinding rocks, or soil changes such as subsurface ash lens or soil darker in color than surrounding soil, etc.) or historic-era cultural resources (adobe foundations or walls, structures and remains with square nails, refuse deposits or bottle dumps, often associated with wells or old privies), all work within 50 feet must immediately cease, and a Secretary of the Interior qualified archaeologist must be consulted to assess the significance of the cultural resource and formulate appropriate measures for their treatment. Potential treatment methods for significant and potentially significant resources may include, but would not be limited to, no action (i.e., resources determined not to be significant); avoidance of the resource through changes in construction methods or Project design; or implementation of a program of testing and data recovery, in accordance with applicable state requirements and/or in consultation with Native American tribes to whom the resource could have ancestral or traditional importance.	Before construction	N/A	SMUD	N/A	All Project components requiring ground disturbance.

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Cultural Resources	**c. Would the project disturb any human remains, including those interred outside of formal cemeteries?**	***CUL-2: Implement State and Country Requirements for Addressing Discovery of Human Remains and Site Protection*** If potential human remains are encountered, all work will halt within 100 feet of the find and SMUD will be contacted by on-site construction crews. SMUD will contact the Sacramento County coroner in accordance with PRC Section 5097.98 and California Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC). As provided in PRC Section 5097.98, the NAHC will identify the person or persons believed most likely to be descended from the deceased Native American. The most likely descendent will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.	Before construction	N/A	SMUD	N/A	All Project components requiring ground disturbance.
Geology and Soils	**b. Would the project result in substantial soil erosion or the loss of topsoil?**	Implement ***Mitigation Measure HYD-1.***	Before construction begins	Before and during construction	SMUD	RWQCB	All Project components
Geology and Soils	**f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**	***GEO-1: Worker Environmental Awareness Training for Paleontological Resources and Inadvertent Discovery of Paleontological Resources*** SMUD shall retain a professional archaeologist prior to the commencement of construction. The archaeologist (or his/her designee) shall conduct a Worker Environmental Awareness Training (WEAT) for all construction workers prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction/decommissioning personnel attended the training. If construction or other Project personnel discover any potential fossils during construction or decommissioning activities, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until a Qualified Paleontologist meeting the standards of the SVP (2010) has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it should be salvaged following the standards of the SVP (2010) and curated with a certified repository.	Before construction	N/A	SMUD	N/A	All Project components requiring ground disturbance.
Hazards and Hazardous Materials	**a, b. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or 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?**	Implement ***Mitigation Measure HYD-1***	Before construction begins	Before and during construction	SMUD	RWQCB	All Project components

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Hazards and Hazardous Materials	**See above.**	***HAZ-1: Worker Training for Hazardous Materials.*** SMUD shall implement an environmental training program to communicate environmental concerns and appropriate work practices to all field personnel, including spill prevention, emergency response measures, and proper BMP implementation. All personnel will review all site-specific plans, including but not limited to the health and safety plan (as required by Cal/OSHA).	Before construction begins	Before and during construction until all workers are trained	SMUD	SMUD	All Project components
Hazards and Hazardous Materials	**See above.**	***HAZ-2: Hazardous Materials Business Plan (HMBP).*** SMUD will implement an HMBP at the Project, based on the use and storage of hazardous materials equal to or greater than 55 gallons of liquids, 500 pounds of solids, and/or 200 cubic feet of compressed gases. SMUD will prepare and file an operation-specific HMBP in accordance with local, state, and federal laws. The HMBP will identify site activities, provide an inventory of hazardous materials used on-site, provide a facilities map, and identify an emergency response plan/contingency plan.	Before and during construction. During operation	During construction and operation	SMUD	SMUD and Sacramento EMD	All Project components
Hazards and Hazardous Materials	**See above.**	***HAZ-3: Spill Prevention, Control and Countermeasures (SPCC) Plan.*** SMUD will implement its existing SPCC plan in accordance with state and federal requirements, including 40 CFR 112. The plan will identify engineering and containment measures for preventing oil releases into waterways. An SPCC plan is required when more than 1,320 gallons of petroleum products are present on-site (excluding vehicles).	Before and during construction. During operation	During construction and operation	SMUD	SMUD and Sacramento EMD	All Project components
Hydrology and Water Quality	**a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**	***HYD-1: Stormwater Pollution Prevention Plan*** A site-specific SWPPP shall be prepared in accordance with the terms of the NPDES Construction General Permit. It will require the construction contractor to incorporate the SWPPP's Best Management Practices (BMP) into all aspects of the Project. The BMPs shall include measures for management and operation of the construction site to control and minimize potential contribution of pollutants to stormwater runoff from these areas. These measures shall address site-specific methods for preventing and minimizing erosion and delivery of sedimentation through construction management practices to ensure control of potential water pollution sources. Potential BMPs may include, but would not be limited to, the following: • Temporary erosion control measures (such as silt fences, staked straw bales, and temporary revegetation) will be employed for disturbed areas. • Existing vegetation will be retained where possible. • Construction materials will be stored, covered, and isolated, including topsoil and chemicals, to prevent runoff losses and contamination of groundwater. • Topsoil removed during construction will be carefully stored and treated as an important resource. Berms will be placed around topsoil stockpiles to prevent runoff during storm events. • Fuel and vehicle maintenance areas will be established away from all drainage courses and designed to control runoff. • Disturbed areas will be re-vegetated after completion of construction activities. • Sanitary facilities for construction workers will be established.	Before construction begins	Before and during construction	SMUD	RWQCB	All Project components

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Hydrology and Water Quality	**c. 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:** **i. result in substantial erosion or siltation on- or off-site;** **ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;** **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** **iv. Impede or redirect flood flows?**	Implement ***Mitigation Measure HYD-1.***	Before construction begins	Before and during construction	SMUD	RWQCB	All Project components
Transportation	**c. 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)?**	***TRA-1: Roadway Disruption Control Plan*** Prior to commencement of construction, SMUD shall prepare and submit a Roadway Disruption Control Plan to the County of Sacramento for review and approval. The Plan shall include detailed information on the following: 1. Locations and duration of any public travel lane/roadway closures or disruptions. 2. Placement of temporary signing and traffic control measures, as required, to ensure safe and adequate traffic flow. 3. Ways to ensure access for emergency vehicles through affected roadway segments.	Prior to the commencement of construction	N/A	SMUD	N/A	All Project components
Tribal Cultural Resources	**a. 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 the scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**	***TCR-1: Inadvertent Discoveries*** Develop a standard operating procedure, points of contact, timeline and schedule for the project so all possible damages can be avoided, or alternatives and cumulative impacts properly accessed. If potential tribal cultural resources, archaeological resources, other cultural resources, articulated, or disarticulated human remains are discovered by Native American Representatives or Monitors from interested Native American Tribes, qualified cultural resources specialists, or other Project personnel during construction activities, work will cease within 100 feet of the find (based on the apparent distribution of cultural resources), whether or not a Native American Monitor from an interested Native American Tribe is present, and SMUD should immediately notify Wilton Rancheria and UAIC and the appropriate Federal and State Agencies. Such provisions are stated in the Archaeological Resources Protection Act (ARPA) [16 USC 469], Native American Graves Protection and Repatriation Act (NAGPRA)	Before and During construction	N/A	SMUD	N/A	All Project Components

TABLE A-1
MITIGATION MEASURES FOR PROJECT CONSTRUCTION AND OPERATION

Checklist Section	Environmental Criteria	Mitigation Measure	Implementation Duration	Monitoring Duration	Responsibility		Applicable Project Component
					Implementation	Monitoring	
Tribal Cultural Resources (cont.)	**i. 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** **ii. 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 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**	[25 U.S.C. 3001-30013], Health and Safety Code section 7050.5, and Public Resources Code section 5097.9 et al. A qualified cultural resources specialist and Native American Representatives and Monitors from culturally affiliated Native American Tribes will assess the significance of the find and make recommendations for further evaluation and treatment as necessary. These recommendations will be documented in the project record. For any recommendations made by interested Native American Tribes which are not implemented, a justification for why the recommendation was not followed will be provided in the project record. If adverse impacts to tribal cultural resources, unique archaeological resources, or other cultural resources occurs, then consultation with UAIC and Wilton Rancheria regarding mitigation contained in the PRC Sections 21084.3(a) and (b) and CEQA Guidelines Section 15370 should occur, in order to coordinate for compensation for the impact by replacing or providing substitute resources or environments. If no tribal cultural resources are identified during construction or decommissioning activities, no further mitigation is required. If tribal cultural resources are identified during construction or decommissioning activities that have the potential to be adversely affected by the project, SMUD will develop mitigation measures to minimize those impacts. These mitigation measures could include the following or equally effective mitigation measures (as identified in PRC 21084.3): 1. Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. 2. Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: a. protecting the cultural character and integrity of the resource; b. protecting the traditional use of the resource; or c. protecting the confidentiality of the resource. 3. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or place. 4. Protecting the resource.					

Note: SMAQMD = Sacramento Metropolitan Air Quality Management District

APPENDIX B –
NOTICE OF INTENT

SMUD®

Notice of Intent
To Adopt a Mitigated Negative Declaration

Re: Sacramento Municipal Utility District Lambert Substation Project

To Whom It May Concern:

Sacramento Municipal Utility District (SMUD) has prepared a Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the Lambert Substation Project (hereinafter referred to as the "Project"). The Draft IS/MND presents an analysis of the potential environmental effects associated with the proposed Project in accordance with the California Environmental Quality Act (CEQA). Pursuant to Section 15072 of the CEQA Guidelines, SMUD has prepared this Notice of Intent (NOI) to provide responsible agencies and other interested parties with notice of the availability of the Draft IS/MND and to solicit comments and concerns regarding environmental issues associated with the proposed Project.

SMUD is proposing to construct and operate a new 12.5 megavolt-ampere (MVA) substation on an approximately 0.9-acre site at the northwest corner of the Franklin Blvd and Lambert Rd intersection in Sacramento County, California. The purpose is to replace an existing substation that is located approximately 750 feet north of the proposed new substation site. The existing substation would be decommissioned following the energization of the proposed new substation. The proposed new substation would include a new 12.5 MVA transformer, 12 kilovolt (kV) circuit breakers, one 75-foot-tall steel tap pole, and potentially one 55-foot-tall riser pole situated within an enclosed chain-link fenced enclosure with security lighting. The proposed Project also would include one 200-foot-long 69kV overhead subtransmission line and two approximately 200- to 220-foot-long underground and/or overhead 12kV distribution lines. The proposed lines (supported by four new wood or steel poles) would connect the proposed substation to an existing 12/69kV line that runs along the east side of Franklin Boulevard and a 12kV distribution line on the north side of Lambert Road.

As lead agency, in accordance with the California Environmental Quality Act (CEQA), SMUD is distributing the Draft IS/MND to interested public and regulatory authorities for review and comment. SMUD will receive public/agency comments on the Draft IS/MND for a 30-day period beginning May 24, 2019 and ending June 24, 2019. The Draft IS/MND is available on SMUD's web page at: https://www.smud.org/en/about-smud/company-information/document-library/CEQA-reports.htm and hardcopies may be reviewed at the following locations: SMUD Customer Service Center, 6301 S Street, Sacramento, CA 95817; SMUD East Campus Operations Center, 4401 Bradshaw Road, Sacramento, CA 95827; Franklin Community Library, 10055 Franklin High Rd., Elk Grove, CA 95757; Cosumnes River Preserve, 13501 Franklin Blvd., Galt, CA 95632; and State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814.

To present the results of the draft IS/MND evaluation and to answer questions regarding the Proposed Project, SMUD will hold a public meeting on Thursday, June 13, 2019 at 6:00 p.m. at the Franklin Elementary School, 4011 Hood Franklin Rd, Elk Grove, CA 95757, in the

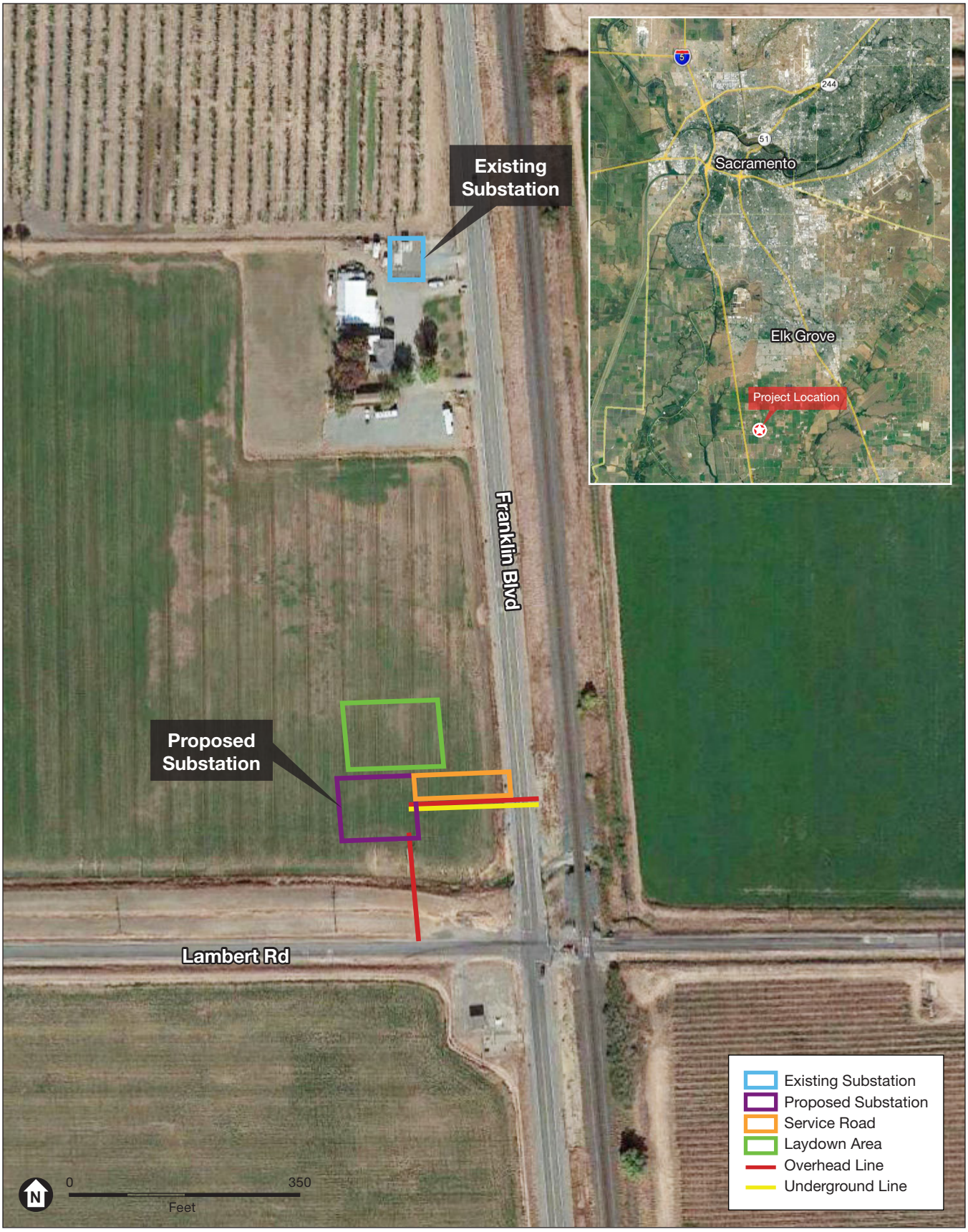
Multipurpose Room. The public is invited to attend this meeting to provide input on the Draft CEQA analysis. Written comments should be submitted to Ashlen McGinnis, SMUD, P.O. Box 15830, MS H201, Sacramento, CA 95852-1830 or by email to ashlen.mcginnis@smud.org before 5:00 p.m., June 24, 2019. If you have any questions please contact Ashlen McGinnis at (916) 732-6775 or at ashlen.mcginnis@smud.org.

The SMUD Board of Directors will consider adoption of the Final IS/MND for this project at two meetings, the SMUD Energy Resources and Customer Service (ERCS) Committee meeting and the SMUD Board of Directors meeting, at which the public may make oral comments. Both public meetings will be held at the SMUD Customer Service Center, 6301 S Street, Sacramento, CA 95817, in the Rubicon Conference Room. The ERCS Committee Meeting will be held on August 14, 2019 at 5:30 p.m. The Board will take no action at the ERCS Committee meeting. The Board meeting will be held on August 15, 2019 at 6:00 p.m.

We appreciate your time and effort to review the Draft IS/MND. Your comments regarding this project will be considered as part of future decisions to be made by SMUD.

Ashlen McGinnis, CEQA Project Manager
Sacramento Municipal Utility District

May 24, 2019
Date



SOURCE: Google Earth, 2018; ESA, 2019

Project Components and Location

APPENDIX C – AIR QUALITY

Lambert Substation Project (Construction Only)

Sacramento Metropolitan AQMD Air District, 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	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2021
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	590.31	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Schedule per Tables PD-1, PD-2, and PD-3 in the project description

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per PD-3

Demolition - estimated tons using measured area of concrete, metal fencing, and metal substation unit and 2400lbs/cy for concrete and 600lbs/cy for metal per CalRecycle

Grading - estimated using 1ft of soil removal/import per 5,700sqft exisitng site area

Trips and VMT - Assumed 7 workers on site with a total of 14 one-way trips per phase. Assumes 2 one-day water truck trips. Assumed 125 truckloads to remove onsite soil and 500 truckloads to

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - assume no HD equipment during sampling

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tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Rollers
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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					
2020	0.7209	7.3372	4.3505	0.0122	0.0315	0.3031	0.3346	8.5200e-003	0.2793	0.2878	0.0000	1,077.2900	1,077.2900	0.3249	0.0000	1,085.4119
2021	0.0452	0.4089	0.3282	6.6000e-004	6.8200e-003	0.0220	0.0288	1.6300e-003	0.0202	0.0219	0.0000	58.0952	58.0952	0.0166	0.0000	58.5092
Maximum	**0.7209**	**7.3372**	**4.3505**	**0.0122**	**0.0315**	**0.3031**	**0.3346**	**8.5200e-003**	**0.2793**	**0.2878**	**0.0000**	**1,077.2900**	**1,077.2900**	**0.3249**	**0.0000**	**1,085.4119**

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					
2020	0.7209	7.3372	4.3505	0.0122	0.0315	0.3031	0.3346	8.5200e-003	0.2793	0.2878	0.0000	1,077.2888	1,077.2888	0.3249	0.0000	1,085.4107
2021	0.0452	0.4089	0.3282	6.6000e-004	6.8200e-003	0.0220	0.0288	1.6300e-003	0.0202	0.0219	0.0000	58.0951	58.0951	0.0166	0.0000	58.5092
Maximum	**0.7209**	**7.3372**	**4.3505**	**0.0122**	**0.0315**	**0.3031**	**0.3346**	**8.5200e-003**	**0.2793**	**0.2878**	**0.0000**	**1,077.2888**	**1,077.2888**	**0.3249**	**0.0000**	**1,085.4107**

	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	N20	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-2-2020**	**6-1-2020**	2.6061	2.6061
2	**6-2-2020**	**9-1-2020**	2.5701	2.5701
3	**9-2-2020**	**12-1-2020**	2.6439	2.6439

4	**12-2-2020**	**3-1-2021**	0.3575	0.3575
5	**3-2-2021**	**6-1-2021**	0.2646	0.2646
		Highest	2.6439	2.6439

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	0.0000	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	3.0000e-005
Energy	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
Mobile	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
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	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	0.0000	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	3.0000e-005
Energy	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
Mobile	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

Waste						0.0000	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	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**	

	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	N20	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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation/Substation Site Construction	Building Construction	3/2/2020	7/31/2020	6	131	
2	Overhead 69kV and 12kV Construction	Building Construction	8/3/2020	12/4/2020	6	107	
3	Underground 12kV Construction	Building Construction	8/3/2020	12/4/2020	6	107	
4	Site Cleanup and Energization	Site Preparation	12/7/2020	12/18/2020	6	11	
5	Demolition, and fence removal	Demolition	1/18/2021	3/19/2021	6	53	
6	Grading and Hydroseeding	Grading	3/22/2021	4/9/2021	6	17	
7	Soil sampling	Building Construction	12/21/2020	1/15/2021	6	23	

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading and Hydroseeding	Rollers	1	8.00	78	0.48
Demolition, and fence removal	Rollers	1	8.00	9	0.56
Site Preparation/Substation Site Construction	Excavators	1	8.00	81	0.73

Underground 12kV Construction	Bore/Drill Rigs	1	8.00	81	0.73
Site Cleanup and Energization	Cranes	0	4.00	231	0.29
Site Cleanup and Energization	Forklifts	0	6.00	89	0.20
Overhead 69kV and 12kV Construction	Off-Highway Trucks	5	8.00	187	0.41
Demolition, and fence removal	Aerial Lifts	1	8.00	130	0.42
Demolition, and fence removal	Off-Highway Trucks	2	8.00	80	0.38
Site Preparation/Substation Site Construction	Rubber Tired Dozers	1	8.00	247	0.40
Underground 12kV Construction	Off-Highway Trucks	4	8.00	247	0.40
Site Cleanup and Energization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation/Substation Site Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Underground 12kV Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition, and fence removal	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Overhead 69kV and 12kV Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition, and fence removal	Cranes	1	8.00	81	0.73
Site Preparation/Substation Site Construction	Cranes	1	8.00	231	0.29
Overhead 69kV and 12kV Construction	Cranes	1	8.00	231	0.29
Underground 12kV Construction	Cranes	1	8.00	231	0.29
Site Preparation/Substation Site Construction	Generator Sets	1	8.00	89	0.20
Overhead 69kV and 12kV Construction	Bore/Drill Rigs	2	8.00	89	0.20
Underground 12kV Construction	Excavators	1	8.00	89	0.20
Site Cleanup and Energization	Off-Highway Trucks	4	8.00	187	0.41
Demolition, and fence removal	Rubber Tired Dozers	0	1.00	247	0.40
Site Preparation/Substation Site Construction	Off-Highway Trucks	4	8.00	402	0.38
Site Preparation/Substation Site Construction	Plate Compactors	1	8.00	8	0.43
Site Preparation/Substation Site Construction	Rubber Tired Loaders	2	8.00	203	0.36
Underground 12kV Construction	Other Construction Equipment	1	8.00	172	0.42
Underground 12kV Construction	Plate Compactors	1	8.00	8	0.43
Grading and Hydroseeding	Cranes	1	8.00	231	0.29
Grading and Hydroseeding	Aerial Lifts	1	8.00	63	0.31
Grading and Hydroseeding	Off-Highway Trucks	2	8.00	402	0.38

Grading and Hydroseeding	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition, and fence removal	Concrete/Industrial Saws	0	8.00	81	0.73
Grading and Hydroseeding	Concrete/Industrial Saws	0	8.00	81	0.73
Site Preparation/Substation Site Construction	Forklifts	0	6.00	89	0.20
Overhead 69kV and 12kV Construction	Forklifts	0	6.00	89	0.20
Underground 12kV Construction	Forklifts	0	6.00	89	0.20
Site Cleanup and Energization	Graders	0	8.00	187	0.41
Grading and Hydroseeding	Rubber Tired Dozers	0	1.00	247	0.40
Soil sampling	Cranes	0	4.00	231	0.29
Soil sampling	Forklifts	0	6.00	89	0.20
Soil sampling	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

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 Preparation/Substatio	12	14.00	2.00	1,250.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Overhead 69kV and 12kV Construction	9	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Underground 12kV Construction	10	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Cleanup and Energization	5	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Demolition, and fence removal	6	14.00	2.00	9.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Hydroseeding	6	14.00	2.00	53.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Soil sampling	0	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation/Substation Site Construction - 2020

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	0.3674	3.7603	2.0937	5.9000e-003		0.1561	0.1561		0.1440	0.1440	0.0000	517.7151	517.7151	0.1642	0.0000	521.8191
Total	**0.3674**	**3.7603**	**2.0937**	**5.9000e-003**		**0.1561**	**0.1561**		**0.1440**	**0.1440**	**0.0000**	**517.7151**	**517.7151**	**0.1642**	**0.0000**	**521.8191**

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	4.8000e-003	0.1796	0.0406	4.9000e-004	0.0105	6.4000e-004	0.0112	2.9000e-003	6.1000e-004	3.5100e-003	0.0000	47.8203	47.8203	2.7800e-003	0.0000	47.8898
Vendor	5.0000e-004	0.0147	4.1000e-003	3.0000e-005	7.7000e-004	8.0000e-005	8.4000e-004	2.2000e-004	7.0000e-005	2.9000e-004	0.0000	3.0996	3.0996	1.8000e-004	0.0000	3.1042
Worker	3.4100e-003	2.3100e-003	0.0254	7.0000e-005	6.7300e-003	5.0000e-005	6.7800e-003	1.7900e-003	4.0000e-005	1.8400e-003	0.0000	5.9673	5.9673	1.7000e-004	0.0000	5.9715
Total	**8.7100e-003**	**0.1966**	**0.0701**	**5.9000e-004**	**0.0180**	**7.7000e-004**	**0.0188**	**4.9100e-003**	**7.2000e-004**	**5.6400e-003**	**0.0000**	**56.8872**	**56.8872**	**3.1300e-003**	**0.0000**	**56.9655**

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	0.3674	3.7603	2.0937	5.9000e-003		0.1561	0.1561		0.1440	0.1440	0.0000	517.7145	517.7145	0.1642	0.0000	521.8184
Total	**0.3674**	**3.7603**	**2.0937**	**5.9000e-003**		**0.1561**	**0.1561**		**0.1440**	**0.1440**	**0.0000**	**517.7145**	**517.7145**	**0.1642**	**0.0000**	**521.8184**

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	4.8000e-003	0.1796	0.0406	4.9000e-004	0.0105	6.4000e-004	0.0112	2.9000e-003	6.1000e-004	3.5100e-003	0.0000	47.8203	47.8203	2.7800e-003	0.0000	47.8898
Vendor	5.0000e-004	0.0147	4.1000e-003	3.0000e-005	7.7000e-004	8.0000e-005	8.4000e-004	2.2000e-004	7.0000e-005	2.9000e-004	0.0000	3.0996	3.0996	1.8000e-004	0.0000	3.1042
Worker	3.4100e-003	2.3100e-003	0.0254	7.0000e-005	6.7300e-003	5.0000e-005	6.7800e-003	1.7900e-003	4.0000e-005	1.8400e-003	0.0000	5.9673	5.9673	1.7000e-004	0.0000	5.9715
Total	**8.7100e-003**	**0.1966**	**0.0701**	**5.9000e-004**	**0.0180**	**7.7000e-004**	**0.0188**	**4.9100e-003**	**7.2000e-004**	**5.6400e-003**	**0.0000**	**56.8872**	**56.8872**	**3.1300e-003**	**0.0000**	**56.9655**

3.3 Overhead 69kV and 12kV Construction - 2020

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	0.1431	1.4110	0.8500	2.3900e-003		0.0597	0.0597		0.0549	0.0549	0.0000	210.1295	210.1295	0.0680	0.0000	211.8285
Total	**0.1431**	**1.4110**	**0.8500**	**2.3900e-003**		**0.0597**	**0.0597**		**0.0549**	**0.0549**	**0.0000**	**210.1295**	**210.1295**	**0.0680**	**0.0000**	**211.8285**

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	4.1000e-004	0.0120	3.3500e-003	3.0000e-005	6.3000e-004	6.0000e-005	6.9000e-004	1.8000e-004	6.0000e-005	2.4000e-004	0.0000	2.5318	2.5318	1.5000e-004	0.0000	2.5355
Worker	2.7900e-003	1.8900e-003	0.0207	5.0000e-005	5.5000e-003	4.0000e-005	5.5400e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	4.8740	4.8740	1.4000e-004	0.0000	4.8775
Total	**3.2000e-003**	**0.0139**	**0.0241**	**8.0000e-005**	**6.1300e-003**	**1.0000e-004**	**6.2300e-003**	**1.6400e-003**	**1.0000e-004**	**1.7400e-003**	**0.0000**	**7.4058**	**7.4058**	**2.9000e-004**	**0.0000**	**7.4130**

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	0.1431	1.4110	0.8500	2.3900e-003		0.0597	0.0597		0.0549	0.0549	0.0000	210.1293	210.1293	0.0680	0.0000	211.8283
Total	**0.1431**	**1.4110**	**0.8500**	**2.3900e-003**		**0.0597**	**0.0597**		**0.0549**	**0.0549**	**0.0000**	**210.1293**	**210.1293**	**0.0680**	**0.0000**	**211.8283**

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	4.1000e-004	0.0120	3.3500e-003	3.0000e-005	6.3000e-004	6.0000e-005	6.9000e-004	1.8000e-004	6.0000e-005	2.4000e-004	0.0000	2.5318	2.5318	1.5000e-004	0.0000	2.5355
Worker	2.7900e-003	1.8900e-003	0.0207	5.0000e-005	5.5000e-003	4.0000e-005	5.5400e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	4.8740	4.8740	1.4000e-004	0.0000	4.8775
Total	**3.2000e-003**	**0.0139**	**0.0241**	**8.0000e-005**	**6.1300e-003**	**1.0000e-004**	**6.2300e-003**	**1.6400e-003**	**1.0000e-004**	**1.7400e-003**	**0.0000**	**7.4058**	**7.4058**	**2.9000e-004**	**0.0000**	**7.4130**

3.4 Underground 12kV Construction - 2020

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	0.1853	1.8527	1.2300	2.9900e-003		0.0827	0.0827		0.0761	0.0761	0.0000	262.1037	262.1037	0.0844	0.0000	264.2138
Total	**0.1853**	**1.8527**	**1.2300**	**2.9900e-003**		**0.0827**	**0.0827**		**0.0761**	**0.0761**	**0.0000**	**262.1037**	**262.1037**	**0.0844**	**0.0000**	**264.2138**

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	4.1000e-004	0.0120	3.3500e-003	3.0000e-005	6.3000e-004	6.0000e-005	6.9000e-004	1.8000e-004	6.0000e-005	2.4000e-004	0.0000	2.5318	2.5318	1.5000e-004	0.0000	2.5355
Worker	2.7900e-003	1.8900e-003	0.0207	5.0000e-005	5.5000e-003	4.0000e-005	5.5400e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	4.8740	4.8740	1.4000e-004	0.0000	4.8775
Total	**3.2000e-003**	**0.0139**	**0.0241**	**8.0000e-005**	**6.1300e-003**	**1.0000e-004**	**6.2300e-003**	**1.6400e-003**	**1.0000e-004**	**1.7400e-003**	**0.0000**	**7.4058**	**7.4058**	**2.9000e-004**	**0.0000**	**7.4130**

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	0.1853	1.8527	1.2300	2.9900e-003		0.0827	0.0827		0.0761	0.0761	0.0000	262.1034	262.1034	0.0844	0.0000	264.2135
Total	**0.1853**	**1.8527**	**1.2300**	**2.9900e-003**		**0.0827**	**0.0827**		**0.0761**	**0.0761**	**0.0000**	**262.1034**	**262.1034**	**0.0844**	**0.0000**	**264.2135**

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	4.1000e-004	0.0120	3.3500e-003	3.0000e-005	6.3000e-004	6.0000e-005	6.9000e-004	1.8000e-004	6.0000e-005	2.4000e-004	0.0000	2.5318	2.5318	1.5000e-004	0.0000	2.5355
Worker	2.7900e-003	1.8900e-003	0.0207	5.0000e-005	5.5000e-003	4.0000e-005	5.5400e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	4.8740	4.8740	1.4000e-004	0.0000	4.8775
Total	**3.2000e-003**	**0.0139**	**0.0241**	**8.0000e-005**	**6.1300e-003**	**1.0000e-004**	**6.2300e-003**	**1.6400e-003**	**1.0000e-004**	**1.7400e-003**	**0.0000**	**7.4058**	**7.4058**	**2.9000e-004**	**0.0000**	**7.4130**

3.5 Site Cleanup and Energization - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3300e-003	0.0862	0.0539	1.6000e-004		3.6400e-003	3.6400e-003		3.3500e-003	3.3500e-003	0.0000	14.1895	14.1895	4.5900e-003	0.0000	14.3042
Total	**9.3300e-003**	**0.0862**	**0.0539**	**1.6000e-004**	**0.0000**	**3.6400e-003**	**3.6400e-003**	**0.0000**	**3.3500e-003**	**3.3500e-003**	**0.0000**	**14.1895**	**14.1895**	**4.5900e-003**	**0.0000**	**14.3042**

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	4.0000e-005	1.2300e-003	3.4000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2603	0.2603	2.0000e-005	0.0000	0.2607
Worker	2.9000e-004	1.9000e-004	2.1300e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5011	0.5011	1.0000e-005	0.0000	0.5014
Total	**3.3000e-004**	**1.4200e-003**	**2.4700e-003**	**1.0000e-005**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**1.7000e-004**	**1.0000e-005**	**1.7000e-004**	**0.0000**	**0.7613**	**0.7613**	**3.0000e-005**	**0.0000**	**0.7621**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	9.3300e-003	0.0862	0.0539	1.6000e-004		3.6400e-003	3.6400e-003		3.3500e-003	3.3500e-003	0.0000	14.1895	14.1895	4.5900e-003	0.0000	14.3042
Total	**9.3300e-003**	**0.0862**	**0.0539**	**1.6000e-004**	**0.0000**	**3.6400e-003**	**3.6400e-003**	**0.0000**	**3.3500e-003**	**3.3500e-003**	**0.0000**	**14.1895**	**14.1895**	**4.5900e-003**	**0.0000**	**14.3042**

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	4.0000e-005	1.2300e-003	3.4000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2603	0.2603	2.0000e-005	0.0000	0.2607
Worker	2.9000e-004	1.9000e-004	2.1300e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5011	0.5011	1.0000e-005	0.0000	0.5014
Total	**3.3000e-004**	**1.4200e-003**	**2.4700e-003**	**1.0000e-005**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**1.7000e-004**	**1.0000e-005**	**1.7000e-004**	**0.0000**	**0.7613**	**0.7613**	**3.0000e-005**	**0.0000**	**0.7621**

3.6 Demolition, and fence removal - 2021

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					9.7000e-004	0.0000	9.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0250	0.2189	0.1831	2.3000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	20.1379	20.1379	6.5100e-003	0.0000	20.3008
Total	**0.0250**	**0.2189**	**0.1831**	**2.3000e-004**	**9.7000e-004**	**0.0147**	**0.0156**	**1.5000e-004**	**0.0135**	**0.0136**	**0.0000**	**20.1379**	**20.1379**	**6.5100e-003**	**0.0000**	**20.3008**

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	3.0000e-005	1.1900e-003	2.7000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3403	0.3403	2.0000e-005	0.0000	0.3408
Vendor	1.7000e-004	5.4200e-003	1.4500e-003	1.0000e-005	3.1000e-004	1.0000e-005	3.2000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.2436	1.2436	7.0000e-005	0.0000	1.2454
Worker	1.2800e-003	8.4000e-004	9.3900e-003	3.0000e-005	2.7200e-003	2.0000e-005	2.7400e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.3320	2.3320	6.0000e-005	0.0000	2.3336
Total	**1.4800e-003**	**7.4500e-003**	**0.0111**	**4.0000e-005**	**3.1100e-003**	**3.0000e-005**	**3.1400e-003**	**8.3000e-004**	**3.0000e-005**	**8.6000e-004**	**0.0000**	**3.9160**	**3.9160**	**1.5000e-004**	**0.0000**	**3.9198**

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					9.7000e-004	0.0000	9.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0250	0.2189	0.1831	2.3000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	20.1379	20.1379	6.5100e-003	0.0000	20.3007
Total	**0.0250**	**0.2189**	**0.1831**	**2.3000e-004**	**9.7000e-004**	**0.0147**	**0.0156**	**1.5000e-004**	**0.0135**	**0.0136**	**0.0000**	**20.1379**	**20.1379**	**6.5100e-003**	**0.0000**	**20.3007**

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	3.0000e-005	1.1900e-003	2.7000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3403	0.3403	2.0000e-005	0.0000	0.3408
Vendor	1.7000e-004	5.4200e-003	1.4500e-003	1.0000e-005	3.1000e-004	1.0000e-005	3.2000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.2436	1.2436	7.0000e-005	0.0000	1.2454
Worker	1.2800e-003	8.4000e-004	9.3900e-003	3.0000e-005	2.7200e-003	2.0000e-005	2.7400e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.3320	2.3320	6.0000e-005	0.0000	2.3336
Total	**1.4800e-003**	**7.4500e-003**	**0.0111**	**4.0000e-005**	**3.1100e-003**	**3.0000e-005**	**3.1400e-003**	**8.3000e-004**	**3.0000e-005**	**8.6000e-004**	**0.0000**	**3.9160**	**3.9160**	**1.5000e-004**	**0.0000**	**3.9198**

3.7 Grading and Hydroseeding - 2021

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					5.7000e-004	0.0000	5.7000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0177	0.1721	0.1263	3.4000e-004		7.2300e-003	7.2300e-003		6.6600e-003	6.6600e-003	0.0000	30.0133	30.0133	9.7100e-003	0.0000	30.2560
Total	**0.0177**	**0.1721**	**0.1263**	**3.4000e-004**	**5.7000e-004**	**7.2300e-003**	**7.8000e-003**	**6.0000e-005**	**6.6600e-003**	**6.7200e-003**	**0.0000**	**30.0133**	**30.0133**	**9.7100e-003**	**0.0000**	**30.2560**

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	1.9000e-004	6.9900e-003	1.6000e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.2000e-004	2.0000e-005	1.5000e-004	0.0000	2.0040	2.0040	1.2000e-004	0.0000	2.0069
Vendor	5.0000e-005	1.7400e-003	4.6000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3989	0.3989	2.0000e-005	0.0000	0.3995
Worker	4.1000e-004	2.7000e-004	3.0100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7480	0.7480	2.0000e-005	0.0000	0.7485
Total	**6.5000e-004**	**9.0000e-003**	**5.0700e-003**	**3.0000e-005**	**1.4200e-003**	**3.0000e-005**	**1.4500e-003**	**3.8000e-004**	**3.0000e-005**	**4.2000e-004**	**0.0000**	**3.1509**	**3.1509**	**1.6000e-004**	**0.0000**	**3.1549**

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					5.7000e-004	0.0000	5.7000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0177	0.1721	0.1263	3.4000e-004		7.2300e-003	7.2300e-003		6.6600e-003	6.6600e-003	0.0000	30.0133	30.0133	9.7100e-003	0.0000	30.2559
Total	**0.0177**	**0.1721**	**0.1263**	**3.4000e-004**	**5.7000e-004**	**7.2300e-003**	**7.8000e-003**	**6.0000e-005**	**6.6600e-003**	**6.7200e-003**	**0.0000**	**30.0133**	**30.0133**	**9.7100e-003**	**0.0000**	**30.2559**

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	1.9000e-004	6.9900e-003	1.6000e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.2000e-004	2.0000e-005	1.5000e-004	0.0000	2.0040	2.0040	1.2000e-004	0.0000	2.0069
Vendor	5.0000e-005	1.7400e-003	4.6000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3989	0.3989	2.0000e-005	0.0000	0.3995
Worker	4.1000e-004	2.7000e-004	3.0100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7480	0.7480	2.0000e-005	0.0000	0.7485
Total	**6.5000e-004**	**9.0000e-003**	**5.0700e-003**	**3.0000e-005**	**1.4200e-003**	**3.0000e-005**	**1.4500e-003**	**3.8000e-004**	**3.0000e-005**	**4.2000e-004**	**0.0000**	**3.1509**	**3.1509**	**1.6000e-004**	**0.0000**	**3.1549**

3.8 Soil sampling - 2020

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	0.0000	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**

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	4.0000e-005	1.1200e-003	3.1000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2366	0.2366	1.0000e-005	0.0000	0.2370
Worker	2.6000e-004	1.8000e-004	1.9400e-003	1.0000e-005	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4555	0.4555	1.0000e-005	0.0000	0.4558
Total	**3.0000e-004**	**1.3000e-003**	**2.2500e-003**	**1.0000e-005**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**1.6000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.6921**	**0.6921**	**2.0000e-005**	**0.0000**	**0.6928**

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	0.0000	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**

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	4.0000e-005	1.1200e-003	3.1000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2366	0.2366	1.0000e-005	0.0000	0.2370
Worker	2.6000e-004	1.8000e-004	1.9400e-003	1.0000e-005	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4555	0.4555	1.0000e-005	0.0000	0.4558
Total	**3.0000e-004**	**1.3000e-003**	**2.2500e-003**	**1.0000e-005**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**1.6000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.6921**	**0.6921**	**2.0000e-005**	**0.0000**	**0.6928**

3.8 Soil sampling - 2021

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	0.0000	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**

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	4.0000e-005	1.3300e-003	3.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3050	0.3050	2.0000e-005	0.0000	0.3055
Worker	3.2000e-004	2.1000e-004	2.3000e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5720	0.5720	2.0000e-005	0.0000	0.5724
Total	**3.6000e-004**	**1.5400e-003**	**2.6600e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.5000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.8771**	**0.8771**	**4.0000e-005**	**0.0000**	**0.8779**

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	0.0000	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**

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	4.0000e-005	1.3300e-003	3.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3050	0.3050	2.0000e-005	0.0000	0.3055
Worker	3.2000e-004	2.1000e-004	2.3000e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5720	0.5720	2.0000e-005	0.0000	0.5724
Total	**3.6000e-004**	**1.5400e-003**	**2.6600e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.5000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.8771**	**0.8771**	**4.0000e-005**	**0.0000**	**0.8779**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.0000	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
Unmitigated	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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.555851	0.039752	0.205040	0.120748	0.020349	0.005402	0.018507	0.022668	0.002052	0.002157	0.005939	0.000618	0.000915

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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**

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	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	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	3.0000e-005
Unmitigated	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	3.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					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	3.0000e-005
Total	**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**	**3.0000e-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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					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	3.0000e-005
Total	**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**	**3.0000e-005**

7.0 Water Detail

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**

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

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

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

Lambert Substation Project (Construction Only)

Sacramento Metropolitan AQMD Air District, Winter

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	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2021
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	590.31	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Schedule per Tables PD-1, PD-2, and PD-3 in the project description

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - Equipment per PD-3

Demolition - estimated tons using measured area of concrete, metal fencing, and metal substation unit and 2400lbs/cy for concrete and 600lbs/cy for metal per CalRecycle

Grading - estimated using 1ft of soil removal/import per 5,700sqft exisitng site area

Trips and VMT - Assumed 7 workers on site with a total of 14 one-way trips per phase. Assumes 2 one-day water truck trips. Assumed 125 truckloads to remove onsite soil and 500 truckloads to

Off-road Equipment - Equipment per Table PD-3

Off-road Equipment - assume no HD equipment during sampling

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	17.00
tblConstructionPhase	NumDays	0.00	11.00
tblConstructionPhase	NumDays	0.00	131.00
tblConstructionPhase	NumDays	0.00	107.00
tblConstructionPhase	NumDays	0.00	53.00
tblConstructionPhase	NumDays	0.00	107.00
tblConstructionPhase	NumDays	0.00	23.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	3/1/2020	4/9/2021
tblConstructionPhase	PhaseEndDate	3/1/2020	12/18/2020
tblConstructionPhase	PhaseEndDate	3/1/2020	7/31/2020
tblConstructionPhase	PhaseEndDate	3/1/2020	12/4/2020
tblConstructionPhase	PhaseEndDate	3/1/2020	3/19/2021
tblConstructionPhase	PhaseEndDate	3/1/2020	12/4/2020
tblConstructionPhase	PhaseStartDate	3/2/2020	3/22/2021
tblConstructionPhase	PhaseStartDate	3/2/2020	12/7/2020
tblConstructionPhase	PhaseStartDate	3/2/2020	8/3/2020
tblConstructionPhase	PhaseStartDate	3/2/2020	1/18/2021

tblConstructionPhase	PhaseStartDate	3/2/2020	8/3/2020
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	MaterialExported	0.00	212.00
tblGrading	MaterialImported	0.00	212.00
tblOffRoadEquipment	HorsePower	80.00	78.00
tblOffRoadEquipment	HorsePower	80.00	9.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	221.00	81.00
tblOffRoadEquipment	HorsePower	402.00	187.00
tblOffRoadEquipment	HorsePower	63.00	130.00
tblOffRoadEquipment	HorsePower	402.00	80.00
tblOffRoadEquipment	HorsePower	402.00	247.00
tblOffRoadEquipment	HorsePower	231.00	81.00
tblOffRoadEquipment	HorsePower	84.00	89.00
tblOffRoadEquipment	HorsePower	221.00	89.00
tblOffRoadEquipment	HorsePower	158.00	89.00
tblOffRoadEquipment	HorsePower	402.00	187.00
tblOffRoadEquipment	LoadFactor	0.38	0.48
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.50	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.41
tblOffRoadEquipment	LoadFactor	0.31	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.74	0.20
tblOffRoadEquipment	LoadFactor	0.50	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.41
tblOffRoadEquipment	OffRoadEquipmentType	Air Compressors	Rollers

tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Pavers	Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType	Rollers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,250.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	0.00	14.00
tblTripsAndVMT	WorkerTripNumber	0.00	14.00
tblTripsAndVMT	WorkerTripNumber	0.00	14.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblTripsAndVMT	WorkerTripNumber	15.00	14.00
tblTripsAndVMT	WorkerTripNumber	15.00	14.00
tblTripsAndVMT	WorkerTripNumber	0.00	14.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	6.2651	61.5315	39.7953	0.1035	0.2845	2.6652	2.9023	0.0771	2.4529	2.5163	0.0000	10,027.7632	10,027.7632	3.1514	0.0000	10,106.5468
2021	2.1637	21.3083	15.4741	0.0440	0.2403	0.8553	1.0956	0.0541	0.7870	0.8411	0.0000	4,294.9664	4,294.9664	1.2798	0.0000	4,326.9618
Maximum	**6.2651**	**61.5315**	**39.7953**	**0.1035**	**0.2845**	**2.6652**	**2.9023**	**0.0771**	**2.4529**	**2.5163**	**0.0000**	**10,027.7632**	**10,027.7632**	**3.1514**	**0.0000**	**10,106.5468**

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	lb/day										lb/day					
2020	6.2651	61.5315	39.7953	0.1035	0.2845	2.6652	2.9023	0.0771	2.4529	2.5163	0.0000	10,027.7632	10,027.7632	3.1514	0.0000	10,106.5468
2021	2.1637	21.3083	15.4741	0.0440	0.2403	0.8553	1.0956	0.0541	0.7870	0.8411	0.0000	4,294.9664	4,294.9664	1.2798	0.0000	4,326.9618
Maximum	**6.2651**	**61.5315**	**39.7953**	**0.1035**	**0.2845**	**2.6652**	**2.9023**	**0.0771**	**2.4529**	**2.5163**	**0.0000**	**10,027.7632**	**10,027.7632**	**3.1514**	**0.0000**	**10,106.5468**

	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	N20	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**

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	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	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
Mobile	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	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	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
Mobile	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	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	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	N20	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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description

1	Site Preparation/Substation Site Construction	Building Construction	3/2/2020	7/31/2020	6	131	
2	Overhead 69kV and 12kV Construction	Building Construction	8/3/2020	12/4/2020	6	107	
3	Underground 12kV Construction	Building Construction	8/3/2020	12/4/2020	6	107	
4	Site Cleanup and Energization	Site Preparation	12/7/2020	12/18/2020	6	11	
5	Demolition, and fence removal	Demolition	1/18/2021	3/19/2021	6	53	
6	Grading and Hydroseeding	Grading	3/22/2021	4/9/2021	6	17	
7	Soil sampling	Building Construction	12/21/2020	1/15/2021	6	23	

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading and Hydroseeding	Rollers	1	8.00	78	0.48
Demolition, and fence removal	Rollers	1	8.00	9	0.56
Site Preparation/Substation Site Construction	Excavators	1	8.00	81	0.73
Underground 12kV Construction	Bore/Drill Rigs	1	8.00	81	0.73
Site Cleanup and Energization	Cranes	0	4.00	231	0.29
Site Cleanup and Energization	Forklifts	0	6.00	89	0.20
Overhead 69kV and 12kV Construction	Off-Highway Trucks	5	8.00	187	0.41
Demolition, and fence removal	Aerial Lifts	1	8.00	130	0.42
Demolition, and fence removal	Off-Highway Trucks	2	8.00	80	0.38
Site Preparation/Substation Site Construction	Rubber Tired Dozers	1	8.00	247	0.40
Underground 12kV Construction	Off-Highway Trucks	4	8.00	247	0.40
Site Cleanup and Energization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation/Substation Site Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Underground 12kV Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition, and fence removal	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Overhead 69kV and 12kV Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition, and fence removal	Cranes	1	8.00	81	0.73
Site Preparation/Substation Site Construction	Cranes	1	8.00	231	0.29
Overhead 69kV and 12kV Construction	Cranes	1	8.00	231	0.29
Underground 12kV Construction	Cranes	1	8.00	231	0.29
Site Preparation/Substation Site Construction	Generator Sets	1	8.00	89	0.20
Overhead 69kV and 12kV Construction	Bore/Drill Rigs	2	8.00	89	0.20
Underground 12kV Construction	Excavators	1	8.00	89	0.20
Site Cleanup and Energization	Off-Highway Trucks	4	8.00	187	0.41
Demolition, and fence removal	Rubber Tired Dozers	0	1.00	247	0.40
Site Preparation/Substation Site Construction	Off-Highway Trucks	4	8.00	402	0.38
Site Preparation/Substation Site Construction	Plate Compactors	1	8.00	8	0.43
Site Preparation/Substation Site Construction	Rubber Tired Loaders	2	8.00	203	0.36
Underground 12kV Construction	Other Construction Equipment	1	8.00	172	0.42
Underground 12kV Construction	Plate Compactors	1	8.00	8	0.43
Grading and Hydroseeding	Cranes	1	8.00	231	0.29
Grading and Hydroseeding	Aerial Lifts	1	8.00	63	0.31
Grading and Hydroseeding	Off-Highway Trucks	2	8.00	402	0.38
Grading and Hydroseeding	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition, and fence removal	Concrete/Industrial Saws	0	8.00	81	0.73
Grading and Hydroseeding	Concrete/Industrial Saws	0	8.00	81	0.73
Site Preparation/Substation Site Construction	Forklifts	0	6.00	89	0.20
Overhead 69kV and 12kV Construction	Forklifts	0	6.00	89	0.20
Underground 12kV Construction	Forklifts	0	6.00	89	0.20
Site Cleanup and Energization	Graders	0	8.00	187	0.41
Grading and Hydroseeding	Rubber Tired Dozers	0	1.00	247	0.40
Soil sampling	Cranes	0	4.00	231	0.29
Soil sampling	Forklifts	0	6.00	89	0.20
Soil sampling	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

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 Preparation/Substatio	12	14.00	2.00	1,250.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Overhead 69kV and 12kV Construction	9	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Underground 12kV Construction	10	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Cleanup and Energization	5	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Demolition, and fence removal	6	14.00	2.00	9.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Hydroseeding	6	14.00	2.00	53.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Soil sampling	0	14.00	2.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation/Substation Site Construction - 2020

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	lb/day										lb/day					
Off-Road	5.6094	57.4085	31.9647	0.0901		2.3833	2.3833		2.1979	2.1979		8,712.7209	8,712.7209	2.7626		8,781.7870
Total	**5.6094**	**57.4085**	**31.9647**	**0.0901**		**2.3833**	**2.3833**		**2.1979**	**2.1979**		**8,712.7209**	**8,712.7209**	**2.7626**		**8,781.7870**

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	lb/day											lb/day				
Hauling	0.0748	2.7557	0.6467	7.4400e-003	0.1660	0.0100	0.1760	0.0454	9.5700e-003	0.0550		797.5608	797.5608	0.0480		798.7618
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.1383**	**3.0193**	**1.1060**	**8.9100e-003**	**0.2845**	**0.0119**	**0.2965**	**0.0771**	**0.0114**	**0.0885**		**946.5076**	**946.5076**	**0.0541**		**947.8596**

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	lb/day										lb/day					
Off-Road	5.6094	57.4085	31.9647	0.0901		2.3833	2.3833		2.1979	2.1979	0.0000	8,712.7209	8,712.7209	2.7626		8,781.7870
Total	**5.6094**	**57.4085**	**31.9647**	**0.0901**		**2.3833**	**2.3833**		**2.1979**	**2.1979**	**0.0000**	**8,712.7209**	**8,712.7209**	**2.7626**		**8,781.7870**

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	lb/day										lb/day					
Hauling	0.0748	2.7557	0.6467	7.4400e-003	0.1660	0.0100	0.1760	0.0454	9.5700e-003	0.0550		797.5608	797.5608	0.0480		798.7618
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345

Total	**0.1383**	**3.0193**	**1.1060**	**8.9100e-003**	**0.2845**	**0.0119**	**0.2965**	**0.0771**	**0.0114**	**0.0885**		**946.5076**	**946.5076**	**0.0541**		**947.8596**

3.3 Overhead 69kV and 12kV Construction - 2020

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	lb/day										lb/day					
Off-Road	2.6752	26.3737	15.8869	0.0447		1.1155	1.1155		1.0262	1.0262		4,329.4978	4,329.4978	1.4003		4,364.5040
Total	**2.6752**	**26.3737**	**15.8869**	**0.0447**		**1.1155**	**1.1155**		**1.0262**	**1.0262**		**4,329.4978**	**4,329.4978**	**1.4003**		**4,364.5040**

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	lb/day										lb/day					
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

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	lb/day										lb/day					
Off-Road	2.6752	26.3737	15.8869	0.0447		1.1155	1.1155		1.0262	1.0262	0.0000	4,329.4978	4,329.4978	1.4003		4,364.5040
Total	**2.6752**	**26.3737**	**15.8869**	**0.0447**		**1.1155**	**1.1155**		**1.0262**	**1.0262**	**0.0000**	**4,329.4978**	**4,329.4978**	**1.4003**		**4,364.5040**

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	lb/day										lb/day					
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

3.4 Underground 12kV Construction - 2020

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	lb/day										lb/day					

Off-Road	3.4629	34.6305	22.9898	0.0559		1.5459	1.5459		1.4230	1.4230		5,400.3717	5,400.3717	1.7390		5,443.8471
Total	**3.4629**	**34.6305**	**22.9898**	**0.0559**		**1.5459**	**1.5459**		**1.4230**	**1.4230**		**5,400.3717**	**5,400.3717**	**1.7390**		**5,443.8471**

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	lb/day										lb/day					
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

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	lb/day										lb/day					
Off-Road	3.4629	34.6305	22.9898	0.0559		1.5459	1.5459		1.4230	1.4230	0.0000	5,400.3717	5,400.3717	1.7390		5,443.8471
Total	**3.4629**	**34.6305**	**22.9898**	**0.0559**		**1.5459**	**1.5459**		**1.4230**	**1.4230**	**0.0000**	**5,400.3717**	**5,400.3717**	**1.7390**		**5,443.8471**

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	lb/day										lb/day					
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

3.5 Site Cleanup and Energization - 2020

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.6957	15.6667	9.8038	0.0294		0.6615	0.6615		0.6086	0.6086		2,843.8621	2,843.8621	0.9198		2,866.8561
Total	**1.6957**	**15.6667**	**9.8038**	**0.0294**	**0.0000**	**0.6615**	**0.6615**	**0.0000**	**0.6086**	**0.6086**		**2,843.8621**	**2,843.8621**	**0.9198**		**2,866.8561**

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	lb/day											lb/day				
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.6957	15.6667	9.8038	0.0294		0.6615	0.6615		0.6086	0.6086	0.0000	2,843.8621	2,843.8621	0.9198		2,866.8561
Total	**1.6957**	**15.6667**	**9.8038**	**0.0294**	**0.0000**	**0.6615**	**0.6615**	**0.0000**	**0.6086**	**0.6086**	**0.0000**	**2,843.8621**	**2,843.8621**	**0.9198**		**2,866.8561**

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	lb/day										lb/day					
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345

Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

3.6 Demolition, and fence removal - 2021

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	lb/day										lb/day					
Fugitive Dust					0.0368	0.0000	0.0368	5.5700e-003	0.0000	5.5700e-003			0.0000			0.0000
Off-Road	0.9419	8.2591	6.9082	8.6400e-003		0.5532	0.5532		0.5090	0.5090		837.6707	837.6707	0.2709		844.4437
Total	**0.9419**	**8.2591**	**6.9082**	**8.6400e-003**	**0.0368**	**0.5532**	**0.5900**	**5.5700e-003**	**0.5090**	**0.5145**		**837.6707**	**837.6707**	**0.2709**		**844.4437**

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	lb/day										lb/day					
Hauling	1.2300e-003	0.0450	0.0107	1.3000e-004	2.9500e-003	1.6000e-004	3.1100e-003	8.1000e-004	1.5000e-004	9.6000e-004		14.0275	14.0275	8.4000e-004		14.0485
Vendor	6.5500e-003	0.2042	0.0595	4.8000e-004	0.0120	5.9000e-004	0.0126	3.4600e-003	5.6000e-004	4.0200e-003		50.9504	50.9504	3.1000e-003		51.0278
Worker	0.0517	0.0355	0.3572	9.5000e-004	0.1065	7.2000e-004	0.1072	0.0283	6.6000e-004	0.0289		94.2430	94.2430	2.5100e-003		94.3058
Total	**0.0595**	**0.2847**	**0.4274**	**1.5600e-003**	**0.1215**	**1.4700e-003**	**0.1230**	**0.0325**	**1.3700e-003**	**0.0339**		**159.2209**	**159.2209**	**6.4500e-003**		**159.3820**

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	lb/day										lb/day					
Fugitive Dust					0.0368	0.0000	0.0368	5.5700e-003	0.0000	5.5700e-003			0.0000			0.0000
Off-Road	0.9419	8.2591	6.9082	8.6400e-003		0.5532	0.5532		0.5090	0.5090	0.0000	837.6707	837.6707	0.2709		844.4437
Total	**0.9419**	**8.2591**	**6.9082**	**8.6400e-003**	**0.0368**	**0.5532**	**0.5900**	**5.5700e-003**	**0.5090**	**0.5145**	**0.0000**	**837.6707**	**837.6707**	**0.2709**		**844.4437**

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	lb/day										lb/day					
Hauling	1.2300e-003	0.0450	0.0107	1.3000e-004	2.9500e-003	1.6000e-004	3.1100e-003	8.1000e-004	1.5000e-004	9.6000e-004		14.0275	14.0275	8.4000e-004		14.0485
Vendor	6.5500e-003	0.2042	0.0595	4.8000e-004	0.0120	5.9000e-004	0.0126	3.4600e-003	5.6000e-004	4.0200e-003		50.9504	50.9504	3.1000e-003		51.0278
Worker	0.0517	0.0355	0.3572	9.5000e-004	0.1065	7.2000e-004	0.1072	0.0283	6.6000e-004	0.0289		94.2430	94.2430	2.5100e-003		94.3058
Total	**0.0595**	**0.2847**	**0.4274**	**1.5600e-003**	**0.1215**	**1.4700e-003**	**0.1230**	**0.0325**	**1.3700e-003**	**0.0339**		**159.2209**	**159.2209**	**6.4500e-003**		**159.3820**

3.7 Grading and Hydroseeding - 2021

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	lb/day										lb/day					

Fugitive Dust					0.0675	0.0000	0.0675	7.5200e-003	0.0000	7.5200e-003			0.0000			0.0000
Off-Road	2.0828	20.2423	14.8617	0.0402		0.8511	0.8511		0.7830	0.7830		3,892.2352	3,892.2352	1.2588		3,923.7059
Total	**2.0828**	**20.2423**	**14.8617**	**0.0402**	**0.0675**	**0.8511**	**0.9187**	**7.5200e-003**	**0.7830**	**0.7905**		**3,892.2352**	**3,892.2352**	**1.2588**		**3,923.7059**

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	lb/day										lb/day					
Hauling	0.0226	0.8263	0.1957	2.4000e-003	0.0542	2.8800e-003	0.0571	0.0148	2.7500e-003	0.0176		257.5378	257.5378	0.0154		257.9224
Vendor	6.5500e-003	0.2042	0.0595	4.8000e-004	0.0120	5.9000e-004	0.0126	3.4600e-003	5.6000e-004	4.0200e-003		50.9504	50.9504	3.1000e-003		51.0278
Worker	0.0517	0.0355	0.3572	9.5000e-004	0.1065	7.2000e-004	0.1072	0.0283	6.6000e-004	0.0289		94.2430	94.2430	2.5100e-003		94.3058
Total	**0.0808**	**1.0660**	**0.6124**	**3.8300e-003**	**0.1728**	**4.1900e-003**	**0.1769**	**0.0466**	**3.9700e-003**	**0.0505**		**402.7312**	**402.7312**	**0.0210**		**403.2559**

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	lb/day										lb/day					
Fugitive Dust					0.0675	0.0000	0.0675	7.5200e-003	0.0000	7.5200e-003			0.0000			0.0000
Off-Road	2.0828	20.2423	14.8617	0.0402		0.8511	0.8511		0.7830	0.7830	0.0000	3,892.2352	3,892.2352	1.2588		3,923.7059
Total	**2.0828**	**20.2423**	**14.8617**	**0.0402**	**0.0675**	**0.8511**	**0.9187**	**7.5200e-003**	**0.7830**	**0.7905**	**0.0000**	**3,892.2352**	**3,892.2352**	**1.2588**		**3,923.7059**

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	lb/day										lb/day					
Hauling	0.0226	0.8263	0.1957	2.4000e-003	0.0542	2.8800e-003	0.0571	0.0148	2.7500e-003	0.0176		257.5378	257.5378	0.0154		257.9224
Vendor	6.5500e-003	0.2042	0.0595	4.8000e-004	0.0120	5.9000e-004	0.0126	3.4600e-003	5.6000e-004	4.0200e-003		50.9504	50.9504	3.1000e-003		51.0278
Worker	0.0517	0.0355	0.3572	9.5000e-004	0.1065	7.2000e-004	0.1072	0.0283	6.6000e-004	0.0289		94.2430	94.2430	2.5100e-003		94.3058
Total	**0.0808**	**1.0660**	**0.6124**	**3.8300e-003**	**0.1728**	**4.1900e-003**	**0.1769**	**0.0466**	**3.9700e-003**	**0.0505**		**402.7312**	**402.7312**	**0.0210**		**403.2559**

3.8 Soil sampling - 2020

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	lb/day										lb/day					
Off-Road	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**

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	lb/day											lb/day				
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345
Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

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	lb/day										lb/day					
Off-Road	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**

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	lb/day										lb/day					
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
Vendor	7.9400e-003	0.2241	0.0679	4.9000e-004	0.0120	1.1800e-003	0.0132	3.4600e-003	1.1300e-003	4.6000e-003		51.3825	51.3825	3.2300e-003		51.4633
Worker	0.0556	0.0396	0.3914	9.8000e-004	0.1065	7.4000e-004	0.1072	0.0283	6.8000e-004	0.0289		97.5644	97.5644	2.8100e-003		97.6345

Total	**0.0635**	**0.2637**	**0.4593**	**1.4700e-003**	**0.1185**	**1.9200e-003**	**0.1205**	**0.0317**	**1.8100e-003**	**0.0335**		**148.9469**	**148.9469**	**6.0400e-003**		**149.0978**

3.8 Soil sampling - 2021

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	lb/day										lb/day					
Off-Road	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**

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	lb/day										lb/day					
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
Vendor	6.5500e-003	0.2042	0.0595	4.8000e-004	0.0120	5.9000e-004	0.0126	3.4600e-003	5.6000e-004	4.0200e-003		50.9504	50.9504	3.1000e-003		51.0278
Worker	0.0517	0.0355	0.3572	9.5000e-004	0.1065	7.2000e-004	0.1072	0.0283	6.6000e-004	0.0289		94.2430	94.2430	2.5100e-003		94.3058
Total	**0.0582**	**0.2397**	**0.4167**	**1.4300e-003**	**0.1185**	**1.3100e-003**	**0.1198**	**0.0317**	**1.2200e-003**	**0.0329**		**145.1934**	**145.1934**	**5.6100e-003**		**145.3336**

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	lb/day										lb/day					
Off-Road	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**

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	lb/day										lb/day					
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
Vendor	6.5500e-003	0.2042	0.0595	4.8000e-004	0.0120	5.9000e-004	0.0126	3.4600e-003	5.6000e-004	4.0200e-003		50.9504	50.9504	3.1000e-003		51.0278
Worker	0.0517	0.0355	0.3572	9.5000e-004	0.1065	7.2000e-004	0.1072	0.0283	6.6000e-004	0.0289		94.2430	94.2430	2.5100e-003		94.3058
Total	**0.0582**	**0.2397**	**0.4167**	**1.4300e-003**	**0.1185**	**1.3100e-003**	**0.1198**	**0.0317**	**1.2200e-003**	**0.0329**		**145.1934**	**145.1934**	**5.6100e-003**		**145.3336**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	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
Unmitigated	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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.555851	0.039752	0.205040	0.120748	0.020349	0.005402	0.018507	0.022668	0.002052	0.002157	0.005939	0.000618	0.000915

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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	lb/day										lb/day					
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
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**

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	lb/day										lb/day					

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
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**

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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

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 D – BIOLOGICAL RESOUCES

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Clarksburg (3812145) OR Isleton (3812125) OR Courtland (3812135) OR Florin (3812144) OR Bruceville (3812134) OR Thornton (3812124) OR Elk Grove (3812143) OR Galt (3812133) OR Lodi North (3812123))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Accipiter cooperii	Cooper's hawk	Birds	ABNKC12040	115	2	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	951	47	None	Candidate Endangered	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Ambystoma californiense	California tiger salamander	Amphibians	AAAAA01180	1176	1	Threatened	Threatened	G2G3	S2S3	null	CDFW_WL-Watch List, IUCN_VU-Vulnerable	Cismontane woodland, Meadow & seep, Riparian woodland, Valley & foothill grassland, Vernal pool, Wetland
Anthicus sacramento	Sacramento anthicid beetle	Insects	IICOL49010	13	1	None	None	G1	S1	null	IUCN_EN-Endangered	Interior dunes
Ardea alba	great egret	Birds	ABNGA04040	43	3	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ardea herodias	great blue heron	Birds	ABNGA04010	155	3	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	1971	20	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	766	37	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Branchinecta mesovallensis	midvalley fairy shrimp	Crustaceans	ICBRA03150	128	16	None	None	G2	S2S3	null	null	Vernal pool, Wetland
Brasenia	watershield	Dicots	PDCAB01010	33	1	None	None	G5	S3	2B.3	null	Marsh & swamp,

schreberi												Wetland
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	2	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2460	278	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Carex comosa	bristly sedge	Monocots	PMCYP032Y0	29	16	None	None	G5	S2	2B.1	null	Coastal prairie, Freshwater marsh, Marsh & swamp, Valley & foothill grassland, Wetland
Centromadia parryi ssp. parryi	pappose tarplant	Dicots	PDAST4R0P2	39	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Chaparral, Coastal prairie, Marsh & swamp, Meadow & seep, Valley & foothill grassland
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Dicots	PDAPI0M051	17	1	None	None	G5T4	S2	2B.1	null	Marsh & swamp, Salt marsh, Wetland
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	1	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	155	2	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Riparian forest
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Dicots	PDCUS01111	6	1	None	None	G5T4T5	SH	2B.2	null	Marsh & swamp, Wetland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	271	3	Threatened	None	G3T2	S2	null	null	Riparian scrub
Downingia pusilla	dwarf downingia	Dicots	PDCAM060C0	132	4	None	None	GU	S2	2B.2	null	Valley & foothill grassland, Vernal pool, Wetland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	176	4	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1344	22	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters,

												South coast standing waters, Wetland
Falco columbarius	merlin	Birds	ABNKD06030	36	5	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Estuary, Great Basin grassland, Valley & foothill grassland
Gratiola heterosepala	Boggs Lake hedge-hyssop	Dicots	PDSCR0R060	99	4	None	Endangered	G2	S2	1B.2	BLM_S-Sensitive	Freshwater marsh, Marsh & swamp, Vernal pool, Wetland
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	Riparian	CTT61420CA	68	1	None	None	G2	S2.2	null	null	Riparian forest
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	Riparian	CTT61430CA	33	3	None	None	G1	S1.1	null	null	Riparian forest
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Dicots	PDMAL0H0R3	173	30	None	None	G5T3	S3	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Freshwater marsh, Marsh & swamp, Wetland
Hydrochara ricksecker	Ricksecker's water scavenger beetle	Insects	IICOL5V010	13	1	None	None	G2?	S2?	null	null	Aquatic, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters
Hypomesus transpacificus	Delta smelt	Fish	AFCHB01040	27	6	Threatened	Endangered	G1	S1	null	AFS_TH-Threatened, IUCN_EN-Endangered	Aquatic, Estuary
Juglans hindsii	Northern California black walnut	Dicots	PDJUG02040	5	1	None	None	G1	S1	1B.1	SB_USDA-US Dept of Agriculture	Riparian forest, Riparian woodland
Lasiurus blossevillii	western red bat	Mammals	AMACC05060	128	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Cismontane woodland, Lower montane coniferous forest, Riparian forest, Riparian woodland
Laterallus jamaicensis coturniculus	California black rail	Birds	ABNME03041	303	1	None	Threatened	G3G4T1	S1	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Brackish marsh, Freshwater marsh, Marsh & swamp, Salt marsh, Wetland
Lathyrus jepsonii var. jepsonii	Delta tule pea	Dicots	PDFAB250D2	131	10	None	None	G5T2	S2	1B.2	SB_BerrySB-Berry Seed Bank, SB_RSABG-Rancho Santa Ana Botanic Garden	Freshwater marsh, Marsh & swamp, Wetland
Legenere limosa	legenere	Dicots	PDCAM0C010	83	14	None	None	G2	S2	1B.1	BLM_S-Sensitive	Vernal pool, Wetland
Lepidium latipes var. heckardii	Heckard's pepper-grass	Dicots	PDBRA1M0K1	14	2	None	None	G4T1	S1	1B.2	null	Valley & foothill grassland, Vernal pool
Lepidurus packardi	vernal pool tadpole shrimp	Crustaceans	ICBRA10010	324	34	Endangered	None	G4	S3S4	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Lilaeopsis masonii	Mason's lilaeopsis	Dicots	PDAPI19030	197	7	None	Rare	G2	S2	1B.1	null	Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland
Limosella australis	Delta mudwort	Dicots	PDSCR10030	59	7	None	None	G4G5	S2	2B.1	null	Brackish marsh, Freshwater

												marsh, Marsh & swamp, Riparian scrub, Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	435	30	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Melospiza melodia	song sparrow ("Modesto" population)	Birds	ABPBXA3010	92	36	None	None	G5	S3?	null	CDFW_SSC-Species of Special Concern	null
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	Herbaceous	CTT44110CA	126	18	None	None	G3	S3.1	null	null	Vernal pool, Wetland
Nycticorax nycticorax	black-crowned night heron	Birds	ABNGA11010	37	4	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Riparian forest, Riparian woodland, Wetland
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	Fish	AFCHA0209K	31	4	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters
Orcuttia tenuis	slender Orcutt grass	Monocots	PMPOA4G050	100	2	Threatened	Endangered	G2	S2	1B.1	SB_UCBBG-UC Berkeley Botanical Garden	Vernal pool, Wetland
Orcuttia viscida	Sacramento Orcutt grass	Monocots	PMPOA4G070	12	1	Endangered	Endangered	G1	S1	1B.1	null	Vernal pool, Wetland
Phalacrocorax auritus	double-crested cormorant	Birds	ABNFD01020	39	3	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Pogonichthys macrolepidotus	Sacramento splittail	Fish	AFCJB34020	15	2	None	None	GNR	S3	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Aquatic, Estuary, Freshwater marsh, Sacramento/San Joaquin flowing waters
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	2229	1	None	Candidate Threatened	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	126	33	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp, Wetland
Scutellaria galericulata	marsh skullcap	Dicots	PDLAM1U0J0	39	2	None	None	G5	S2	2B.2	null	Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Wetland
Scutellaria lateriflora	side-flowering skullcap	Dicots	PDLAM1U0Q0	13	12	None	None	G5	S2	2B.2	null	Marsh & swamp, Meadow & seep, Wetland
Spirinchus thaleichthys	longfin smelt	Fish	AFCHB03010	46	4	Candidate	Threatened	G5	S1	null	CDFW_SSC-Species of Special Concern	Aquatic, Estuary
Sylvilagus bachmani riparius	riparian brush rabbit	Mammals	AMAEB01021	16	1	Endangered	Endangered	G5T1	S1	null	null	Riparian forest
Symphyotrichum lentum	Suisun Marsh aster	Dicots	PDASTE8470	173	7	None	None	G2	S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden, SB_USDA-US Dept of Agriculture	Brackish marsh, Freshwater marsh, Marsh & swamp, Wetland
Taxidea taxus	American	Mammals	AMAJF04010	559	1	None	None	G5	S3	null	CDFW_SSC-	Alkali marsh,

	badger										Species of Special Concern, IUCN_LC-Least Concern	Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Thamnophis gigas	giant gartersnake	Reptiles	ARADB36150	366	15	Threatened	Threatened	G2	S2	null	IUCN_VU-Vulnerable	Marsh & swamp, Riparian scrub, Wetland
Trifolium hydrophilum	saline clover	Dicots	PDFAB400R5	49	5	None	None	G2	S2	1B.2	null	Marsh & swamp, Valley & foothill grassland, Vernal pool, Wetland
Valley Oak Woodland	Valley Oak Woodland	Woodland	CTT71130CA	91	1	None	None	G3	S2.1	null	null	Cismontane woodland
Xanthocephalus xanthocephalus	yellow-headed blackbird	Birds	ABPBXB3010	13	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Marsh & swamp, Wetland

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654
http://kim_squires@fws.gov

In Reply Refer To:
Consultation Code: 08FBDT00-2018-SLI-0327
Event Code: 08FBDT00-2018-E-00600
Project Name: Lamber Substation

August 02, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08FBDT00-2018-SLI-0327

Event Code: 08FBDT00-2018-E-00600

Project Name: Lamber Substation

Project Type: LAND - MANAGEMENT PLANS

Project Description: Substation swap

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.32150391094696N121.44531117374515W

Counties: Sacramento, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

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

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Large-flowered Fiddleneck *Amsinckia grandiflora* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5558	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

24 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812145, 3812144, 3812143, 3812135, 3812134, 3812133, 3812125 3812124 and 3812123;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2	G5T4
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4T5
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	4.2	S3	G3
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Navarretia eriocephala	hoary navarretia	Polemoniaceae	annual herb	May-Jun	4.3	S4?	G4?
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	1B.1	S2	G2
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	1B.1	S1	G1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous	May-	1B.2	S3	G3

			herb (emergent)	Oct(Nov)			
Scutellaria galericulata	marsh skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G5
Scutellaria lateriflora	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	Jul-Sep	2B.2	S2	G5
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 09 October 2018].

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