DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
FOR THE
PROPOSED SKEDADDLE INTERCONNECTION PROJECT

LASSEN MUNICIPAL UTILITY DISTRICT
65 S. ROOP STREET
SUSANVILLE CA 96130

June 2019

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Acronyms and Abbreviations

°F	Degrees Fahrenheit
AAM	Annual Arithmetic Mean
AB	Assembly Bill
AMSL	Above Mean Sea Level
APCD	Air Pollution Control District
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
ARD	Aquatic Resources Delineation
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BRA	Biological Resources Assessment
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CALEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act of 1984
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act of 1977
CO	Carbon Monoxide
CO2e	Carbon Dioxide Equivalent.
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CWA	Clean Water Act
CWS	Carson Wandering Skipper
D.	Decision
dBA	100A-weighted decibels
DOF	Department of Finance
ECA	Essential Connectivity Areas
EIR	Environmental Impact Report
EO	Executive Order
ESA	Environmental Site Assessment

FESA	Federal Endangered Species Act of 1973
FHSZ	Fire Hazard Severity Zone
FLPMA	Federal Land Policy and Management Act
GHG	Greenhouse Gas
GO 95	General Order 95
GSPs	Groundwater Sustainability Plans
HFTD	High Fire Threat District
HHZ	High Hazard Zone
IEEE	Institute of Electrical and Electronics Engineers
IPaC	Information for Planning and Consultation
IS	Initial Study
ITP	Incidental Take Permit
kG	Kilogram
kV	Kilovolt
KVA	Key Viewing Areas
lbs	Pounds
LMUD	Lassen Municipal Utility District
LRA	Local Responsibility Areas
MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MVA	Megavolt-ampere
MVAR	Mega Volt Ampere Reactive
NA	Not Applicable
NAAQS	National ambient air quality standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O3	Ozone
OHWM	Ordinary high-water mark
OSHA	Occupational Safety and Health Administration
Pb	Lead
PIA	Project Impact Area
PM10	Suspended Particulate Matter -10 micrometers or less in diameter
PM2.5	Suspended Particulate Matter - 2.5 micrometers or less in diameter
PPM	Parts per million
PRC	Public Resources Code
PRMMP	Paleontological Resources Monitoring and Mitigation Plan

PRPA	Paleontological Resources Preservation Act
RECs	Recognized environmental conditions
ROGs	Reactive organic compounds
ROW	Right of Way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory control and data acquisition
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SIR	Susanville Indian Rancheria
SO2	Sulfur Dioxide
SRA	State Responsibility Area
SSC	Species of Special Concern
SVP	Society of Vertebrate Paleontology
SWCA	SWCA Environmental Consultants
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TCR	Tribal Cultural Resources
THPO	Tribal Historic Preservation Office
UCMP	University of California Museum of Paleontology
UG/M3	Micrograms per cubic meter
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WDR	Waste Discharge Requirement

DRAFT INITIAL STUDY/NEGATIVE DECLARATION
FOR THE
LASSEN MUNICIPAL UTILITY DISTRICT
PROPOSED SKEDADDLE INTERCONNECTION PROJECT

1. INTRODUCTION

1.1 Environmental Checklist

1. **Project Title:**
   Proposed Skedaddle Interconnection Project (Project)

2. **Lead Agency Name and Address:**
   Lassen Municipal Utility District (LMUD)
   65 S. Roop Street
   Susanville, CA 96130

3. **Contact Person and Phone Number:**
   Amy Cuellar
   Navigant
   916-631-3211

4. **Project Location:**
   Lassen County, California

5. **Project Sponsor's Name and Address:**
   LMUD
   65 S. Roop Street
   Susanville, CA 96130

6. **General Plan Designation:**
   The general Project area is currently undeveloped, vacant. The area is surrounded by undeveloped land to the north and west, with residential agricultural land to the east and south.

7. **Zoning:**
   The Project area is inclusive of Assessor Parcel Numbers (APNs) 121-050-10-11 and 121-050-24-11, which are zoned Upland Conservation District-Geothermal Combining District and Upland Conservation District-Design Combining District, respectively. Upland Conservation District zoning can include agriculture, power generation, airstrips, poultry, dairy and hog farms, geothermal, gas and oil.

8. **Description of Project: (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)**
   The Project is described in detail in Chapter 2, Project Description.

9. **Surrounding land uses and setting: Briefly describe the Project's surroundings:**
   LMUD is proposing the development of the Project to be constructed near the unincorporated community of Wendel, Lassen County, California. LMUD owns two parcels in Section 19, Township 29N, Range 16E (APNs 121-050-10-11 and 121-050-24-11). The parcels are surrounded by

undeveloped land to the north and west, and residential agricultural land to the east and south. The Sierra Pacific Power Company d/b/a Nevada Energy (NV Energy) 345-kilovolt (kV) Reno-Alturas line is in an easement that crosses APN 121-050-11 in a northwesterly direction on the eastern end.

10. **Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement.)**
    Other agencies and their required authorizations/coordination include the following:

Agency	Permit/Approval
Lahontan Regional Water Quality Control Board (RWQCB)	Waste Discharge Requirements (WDRs) for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers (USACE) to Be Outside of Federal Jurisdiction (General WDR Order No. 2004-0004-Department of Water Quality)
Lahontan RWQCB	Statewide General Construction Storm Water Permit under the National Pollutant Discharge Elimination System and preparation of a Stormwater Pollution Prevention Plan (SWPPP)
Lassen County	Encroachment Permit Grading Permit
California Department of Fish and Wildlife (CDFW)	Coordination on removal of existing distribution line and poles on CDFW land

Other construction related permits, as identified in this document, would be obtained by the selected contractors as necessary prior to construction

11. **Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code (PRC) section 21080.3.1? If so, has consultation begun?**

Native American tribes identified by the Native American Heritage Commission (NAHC) were initially contacted in 2017. All but two deferred consultation or did not reply to emails, letters and/or phone calls. Additional consultation is ongoing with the Susanville Indian Rancheria (SIR) and the Honey Lake Paiute tribes. Additional information is included in Section 3.18 - Tribal Cultural Resources.

1.2 CEQA Findings

As the California Environmental Quality Act (CEQA) lead agency, LMUD finds that the Project would be implemented without causing a significant adverse impact on the environment. Mitigation measures, as proposed herein, would be implemented to reduce any potentially significant impacts to less than significant levels.

Cumulative Impacts

CEQA requires that LMUD assess whether the incremental effects of the Project would be significant when viewed in connection with the effects of other projects. Based on the analysis presented herein, 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.

Growth-Inducing Impacts

The Project is needed in this area of LMUD's service territory to improve the capacity, efficiency and reliability of service to the LMUD system and to improve voltage conditions during summer peak load conditions. The Project would provide the means for increased development of renewable resources in northern California; therefore, contributing to both regional and statewide renewable energy goals and environmental priorities. The Project would be consistent with LMUD's established strategic direction but would not foster economic or population growth.

1.3 Purpose of the Document

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to evaluate the potential environmental impacts of the Project and to disclose potential environmental impacts. This IS/MND assesses the environmental effects of the Project as required under CEQA (California PRC Section 21000 et seq.), in accordance with the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations (CCR)). CEQA and the State CEQA Guidelines require 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 the CEQA lead agency, LMUD prepared this IS/MND to determine whether the Project may have a significant impact on the environment. In accordance with Sections 15063 and 15074 of the State CEQA Guidelines, an Environmental Impact Report (EIR) must be prepared if there is substantial evidence supporting a fair argument that a proposed project under review may have a potentially significant impact on the environment. A Negative Declaration (ND) or MND is a written statement prepared by the lead agency describing the reasons why a proposed project would not have a significant impact on the environment, and therefore, would not require preparation of an EIR (State CEQA Guidelines Section 15371). According to Section 15070 of the State CEQA Guidelines, an ND or MND for a project subject to CEQA should be prepared when either:

- The IS shows that there is no substantial evidence, considering the whole record before the lead agency, that the project may have a significant impact on the environment; or
- The IS identifies potentially significant impacts, but:
    - Revisions in the project plans or proposals before the proposed IS/MND is 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, considering the whole record before the agency, that the proposed project as revised may have a significant impact on the environment.

LMUD has analyzed the potential environmental impacts created by the Project, determined that impacts are less than significant or can be reduced to less than significant with the implementation of mitigation measures, and has prepared this IS/MND. The IS/MND has been prepared to provide an opportunity for interested agencies and the public to provide comment. Pending public review and LMUD Board of Directors approval, this IS/MND will be filed pursuant to Section 15075 of the State CEQA Guidelines.

1.4 Document Organization

This IS/MND is organized into the following chapters:

- Chapter 1- **Introduction,** provides summary information about the Project, describes the public review process for the IS/MND, and includes the CEQA determination.
- 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 current State CEQA Guidelines is used to make one of the following conclusions for impacts:
    - No impact: The Project would have no impact on the resource area under evaluation.
    - Less than significant impact: The Project's adverse impacts on a resource area would not exceed established thresholds of significance.
    - Less than significant impact with mitigation i: Proposed mitigation measures would reduce the Project's adverse impacts to below established thresholds of significance. Mitigation measures are noted after each impact discussion as appropriate.
    - Potentially Significant Impact: The Project would have a substantial, or potentially substantial, adverse change in physical conditions within the general area.
- A **List of Preparers**, which identifies the individuals who contributed to the IS/MND and a **References** list, which identifies the information sources used in preparing this document, are also included. The **Appendices** also contain technical reports and other information to supplement the IS/MND.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture & Forestry	☐ 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

DETERMINATION:

Based on this initial evaluation:

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

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

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

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

Patrick Kelley
Signature

6-17-19
Date

Patrick Kelley
Printed Name: Doug Smith, General Manager

Lassen Municipal Utility Dist.
For: Lassen Municipal Utility District

2. PROJECT DESCRIPTION

2.1 Introduction

LMUD is a local public agency established in 1986 under the California Municipal Utility District Act with a mission to provide reliable electrical service at a reasonable rate. LMUD currently serves 10,500 customers over a 1,933-square mile service territory. LMUD owns 425 miles of distribution lines, 80 miles of 60-kV transmission lines and operates nine substations served by their 60-kV transmission system.

LMUD is proposing the development of the Project to be constructed in the unincorporated area of Wendel, Lassen County, California. The Project would include the following components (underlined below):

- Skedaddle Substation – a 345/60-kV electrical substation.
- Shaffer Substation – a 345-kV electrical substation.
- Overhead 60-kV electrical transmission line to interconnect the Skedaddle Substation into LMUD's existing 60-kV transmission system via the new 60-kV Antola Road Switching Station.
- Access roads to provide access to and between the Skedaddle and Shaffer substations.
- Overhead 345-kV transmission line to interconnect the Skedaddle and Shaffer substations.
- Overhead 345-kV transmission line interconnection of the Shaffer Substation to the existing NV Energy 345-kV Reno-Alturas line.
- Temporary construction staging areas including one located south of proposed substations (approximately 1000 by 300 feet) and another area to the east of Shaffer Substation (approximately 400 by 300 feet).

LMUD would construct, own and operate the Skedaddle Substation, access roads, 60-kV transmission interconnection, Antola Road Switching Station, and on-site electric transmission interconnections to the point of change of ownership between Skedaddle and Shaffer substations. NV Energy would construct, own and operate the Shaffer Substation and the two sections of 345-kV transmission line required to interconnect the Shaffer Substation to the existing NV Energy Reno-Alturas 345-kV line. Figure 1 provides an overview of the Project site and Figure 2 provides an overview of the Project area and all proposed components. For the purposes of compliance with CEQA, all LMUD and NV Energy components are considered part of the Project, with LMUD serving as the Lead Agency.

2.2 Project Objectives

LMUD has determined that the Project is needed in this area of LMUD's service territory to improve the capacity, efficiency and reliability of service to the LMUD system and to improve voltage conditions during summer peak load conditions. The Project would provide the means for increased development of renewable resources in northern California; therefore, contributing to both regional and statewide renewable energy goals and environmental priorities. The Project would also be consistent with LMUD's established strategic direction.

The design, construction, operation and maintenance of the Project would meet or exceed the requirements of the National Electrical Safety Code and the U.S. Department of Labor Occupational Safety and Health (OSHA) Standards as well as LMUD and NV Energy requirements for the safety and protection of landowners and their property.

2.3 Project Location and Existing Conditions

LMUD is proposing that the Project be constructed in the unincorporated area of Wendel, Lassen County, California. LMUD currently owns two parcels in Section 19, Township 29N, Range 16E identified as APNs 121-050-10-11 (approximately 162 acres) and 121-050-24-11 (approximately 84 acres) (see Figure 1). The parcels are located north of Wendel Road and west of Helman Road and are addressed as 736415 Wendel Road. The parcels have a current land use type of Upland Conservation and are currently undeveloped open land. The Skedaddle and Shaffer substations would be located near the middle of APN 121-050-10-11 (see Figure 2).

The area is surrounded by undeveloped land to the north and west, with residential agricultural land to the east and south. The NV Energy 345-kV Reno-Alturas line is in an easement that crosses APN 121-050-10-11 in a northwesterly direction on the eastern end. There would be no federal lands crossed by the Project. The entire Project study area that was considered in this IS/MND included 147 acres. The Project is expected to result in 14 acres of permanent disturbance and 10 acres of temporary disturbance for construction and staging activities.

2.4 Project Components

2.4.1 Skedaddle Substation

The proposed Skedaddle 345/60-kV Substation would occupy approximately two acres (423 by 195 feet) and consist of electrical equipment needed to operate the facility and include transmission lines in and out. Figures 3a and 3b provides General Arrangement and One-Line Diagram of the proposed Skedaddle Substation.

The Skedaddle Substation would be surrounded by a chain link fence approximately eight feet in height and covered with multiple strands of barbed wire at the top. The fence would be adequately grounded in accordance with best electric utility practices and tied to the station ground grid. The ground grid system would be adequately designed to meet Institute of Electrical and Electronics Engineers (IEEE) 80 requirements. The following components would also be included within the fenced area:

- Two 345/60-kV, 50 megavolt-ampere (MVA) substation transformers (a primary and a spare), a 60-kV, 50MVA Phase Shifting Transformer and all monitoring devices, lightning arresters, nitrogen system for the spare transformer, control panels, bushings, instrument transformers, oil containment structures and other accessories.
- A 345-kV yard section that includes the appropriate breakers, switches and bus work to connect the incoming 345-kV line to the 345/60-kV transformers. The yard would also have surveillance equipment to remotely monitor, interrogate, control, protect, secure, communicate and acquire data for the operation of the substation.
- A 60-kV yard section that includes the appropriate breakers, switches and bus work to connect outgoing/incoming 60-kV lines to the 345/60-kV transformer. The yard would also have surveillance equipment to remotely monitor, interrogate, control, protect, secure, communicate and acquire data for the operation of the substation.
- Vaults, covers, ducts, and other underground equipment, materials and supplies.
- Substation relay, metering, and control enclosures.

LMUD would also install other electric equipment as necessary, including but not limited to instrument transformers, protective relaying, metering and control equipment, remote supervisory control and data acquisition (SCADA) equipment, telemetering equipment, an auxiliary alternating current and direct current power system, an electric grounding system, and an underground conduit and cable trench system.

2.4.2 Skedaddle 60-kV Electric Transmission Line and Antola Road Switching Station

The proposed 60-kV transmission line route would cross LMUD owned land, Lassen County road right-of-way (ROW), private property within existing LMUD easements and decommissioned Union Pacific Railroad ROW. LMUD currently owns approximately two miles of the decommissioned railroad ROW in the Project area (see Figure 2). There is also an existing LMUD 12-kV distribution line along the north side of Wendel Road. Approximately two miles of this line would be removed and replaced with the proposed 60-kV transmission line within the same LMUD easement area.

The 60-kV transmission line would terminate at the proposed Antola Switching Station to be located near the southeast intersection of Antola and Fish and Game roads. The Antola Switching Station would connect the Skedaddle Substation into the existing LMUD 60-kV transmission system. Figures 4a and 4b provide an Elevation Drawing and General Arrangement of the Antola Switching Station Detail.

The proposed 60-kV transmission line would be designed for one 60-kV three-phase (three conductors) circuit and one static wire. The line would generally be constructed using 60 to 65-foot above ground level steel poles and include three 68-foot-tall steel poles. A typical illustration of the single-pole structure is included as Figure 5. The span length between poles is approximately 300 feet.

LMUD has an existing 34.5-kV transmission line which is located approximately 100 feet south of the decommissioned railroad (now owned by LMUD). This line currently supplies voltage at 12.5-kV and includes a 34.5-kV transmission line which has been out of service for approximately 10 years. The 12.5-kV will be relocated as under build to the proposed 60-kV transmission line. Approximately 2,310 feet of this LMUD distribution line extends through a CDFW wildlife refuge. As mitigation for a potentially significant impact to Aesthetics, this line will be removed after the relocation of the 12.5-kV line and completion of Project construction (see Section 3.1 and mitigation measure AES-1). In accordance with direction from the CDFW, five of the existing poles will remain in place, with all the hardware moved, to serve as potential nesting locations. Where feasible, LMUD will install platforms with lip around outside edges to provide for additional nesting space.

2.4.3 Access Roads

Access to the substations would be from a permanent road constructed from Wendel Road. The road surface would be 20 feet wide, include a gravel base and be constructed in a south to north orientation just east of the 60-kV transmission line and continue in an easterly direction to provide access to the substations. As shown on Figure 2, a short temporary road would also be graded to provide access for wire pulling activities from the 345-kV transmission line to the Shaffer substation. Appropriate drainage features would extend beyond the road surface. A fence and gate would be installed beginning at the access road entrance at Wendel Road to secure the area and restrict unauthorized access.

There is an existing 12-foot wide maintenance access road running along the top of the decommissioned railroad ROW which would be used to provide continual access to that segment of the proposed 60-kV electrical transmission line. No new roads would be constructed in this area. Other portions of the proposed 60-kV transmission line route would be readily accessible from public roads and would not require new access roads.

2.4.4 Shaffer Substation (NV Energy)

The Shaffer Substation would be constructed, owned, operated and maintained by NV Energy. The fenced area of the proposed 345-kV Shaffer Substation would occupy approximately nine acres (500 by 800 feet). The Shaffer Substation would be surrounded by chain link fence approximately eight feet in height and covered with multiple strands of barbed wire at the top. The fence would be adequately grounded in accordance with best electric utility practices and tied to the station ground grid. The ground grid system would be adequately designed to meet IEEE 80 requirements.

The following components would also be included within the Shaffer Substation fenced area:

- Six 345-kV circuit breakers and associated bus work.
- Two switchable 50 Mega Volt Ampere Reactive (MVAR) bus capacitor banks with voltage controlled and manual switching capability.
- One 345-kV 15 MVAR fixed reactor with a neutral reactor.
- Associated substation bus work, switches, relaying, metering, security, telecommunications, control enclosure, oil containment structures and other accessories.

NV Energy would also install other electric equipment as necessary, including but not limited to, instrument transformers, protective relaying, remote SCADA equipment, telemetering equipment, an alternating current and direct current power system, an electric grounding system, and an underground conduit and cable trench system. Figure 6a provides an Elevation drawing and Figure 6b provides a Preliminary Plan View of the proposed Shaffer Substation. Figure 7 shows the electrical interconnection of the two substations.

2.4.5 Shaffer 345-kV Electric Transmission Line

The Project would include a short section (approximately 200 feet) of new overhead 345-kV electric transmission line to interconnect the substations. Two short sections (one feed from the north and one from the south of approximately 500 feet each) of new overhead 345-kV transmission line are also required to interconnect the new Shaffer Substation to the existing Reno-Alturas 345-kV line. For the proposed arrangement, these transmission lines would include the placement of two steel three-pole angle dead-end structures in the existing easement to turn and connect the line to Shaffer Substation. The 345-kV structures are typically 100 to 120 feet tall. The 345-kV transmission line conductor would consist of two bundled 954 aluminum conductor steel reinforced, which would be 1.2 inches in diameter. The transmission line would also include one steel shield wire 0.375 inches in diameter and one optical ground wire 0.646 inches in diameter to protect the conductors from lightning strikes and interconnect to the shield wire and fiber optic communication cable in the existing line. The distance between the existing structure and an added similar structure would be approximately 80 feet. The typical distance between structures on this line would be approximately 800 to 1200 feet. All poles would be electrically grounded through use of copper clad

ground rods buried in the pole excavations. The line would meet or exceed the requirements of the National Electric Safety Code.

2.4.6 Construction/Staging

It is estimated that a total of 10 acres would be needed for temporary construction and staging. In addition to the areas shown on Figure 2, some structures would also be assembled along the edge of the existing roadway and then erected in the former railroad ROW. These areas would be approximately 75 feet in length by 12 feet wide. All Project construction activities, , including parking, staging, temporary work pads, poles placement locations and wire pull sites, would be conducted within designated areas.

2.4.7 Upgrades at Existing Substations

As part of the Project, NV Energy would be required to implement certain upgrades at their existing Bordertown, Hilltop, and Fort Sage 345-kV substations. Both Bordertown and Hilltop are in California and Fort Sage is in Nevada. The scope of work is generally control equipment and relay upgrades and lightning arrestor replacements that would occur within the existing substation fenced areas with no new ground disturbance.

2.5 Design Characteristics

Table 2-1 outlines typical design characteristics that are applicable to the Project. Final design characteristics would be determined during the Project's detail design phase.

Table 2-1
Typical Design Characteristics

60-kV Transmission Line	Total distance - 4.21 miles (including approximately 1.0 mile on LMUD property, 0.43 miles in Lassen County road ROW, 0.77 miles on private property within existing LMUD easements and 2.0 miles in former Railroad ROW (owned by LMUD).
Type of structure	Single-steel pole
Structure height	60 to 65 feet with three poles at 68 feet
Span length	Approximately 300 feet
Number of structures per mile	Approximately 17
ROW width	100 feet (LMUD property), 35 feet (County ROW, and private ROW) and 150 feet (former railroad ROW)
345-kV Transmission Line	Three-line sections totaling approximately 700 feet
Type of structure	Two steel three-pole angle dead-end structures
Structure height	100 to 120 feet

Table 2-1 Typical Design Characteristics	
Land disturbed (approximate): **Temporary** Parking, wire pulling, splicing sites, laydown, and other construction staging **Permanent** Skedaddle Substation, Shaffer Substation, transmission lines, Antola Switching Station and applicable access roads	The total area cleared, graded or otherwise disturbed for the Project is estimated to be approximately 24 acres. Including: 10 acres of temporary disturbance for construction parking, wire pulling, splicing, laydown, and staging. 14 acres of permanent disturbance including footprint of Skedaddle Substation (approximately 2 acres), footprint of the Shaffer Substation (approximately 9 acres), Antola Switching Station (0.07 acres), less than 0.02 acres for all the transmission towers and proposed access roads (approximately 2.5 acres).
Voltage	60,000 Volts (or 60-kV) and 345,000 Volts (or 345-kV)
Circuit configuration	Single circuit 60-kV with 12-kV under build and 345-kV
Conductor sizes	1.1 and 1.2 inch
Ground clearance of conductor	23 feet minimum
Pole foundation depth	7 to 14 feet and possibly up to 20 feet depending upon soil conditions and structure types.
*All design characteristics identified herein are approximate; changes may be necessary based on final engineering requirements, but any changes would comply with all applicable regulations, and proposed mitigation measures.	

2.6 Project Construction, Operation and Maintenance

The following section generally describes the activities that are anticipated to occur before and during Project construction, operation and maintenance.

2.6.1 Construction Workforce and Activities

Construction activities would generally include clearing, grading, soil compaction, excavation, trenching, assembling and erecting structures, wire stringing, clean up and site reclamation. Table 2-2 includes approximate information on the workers and types of construction equipment expected to be used to construct the Project. Depending on the component being constructed, the numbers of workers and vehicles would vary.

Table 2-2
Typical Substation, Transmission Line and Access Road Construction
Estimated Workers and Equipment Required for the Project*

Activity	Number of Workers	Number of Vehicles	Type of Equipment
Skedaddle Substation (LMUD)			
Site management	1	1	office trailer
Grading, drainage, resurfacing	6	5	dump truck bulldozer roller backhoe/bobcat water truck
Land Survey	2	1	pickup truck
Perimeter Fence Construction	4	6	2-ton truck Skid steer with drills flatbed truck

Table 2-2 Typical Substation, Transmission Line and Access Road Construction Estimated Workers and Equipment Required for the Project*			
Activity	**Number of Workers**	**Number of Vehicles**	**Type of Equipment**
			backhoe concrete truck roller
Civil Construction (including foundations, underground, conduit, ground grid, etc.)	10	9	truck mounted drill rig 2-ton truck dump truck Flatbed truck Water truck Concrete delivery trucks trencher tractors forklift
Electrical (grounding, below ground conduits, conductors, circuit breakers, etc.) and steel erection	12	10	crane lift truck pickup trucks forklift front loader manlifts service trucks
Transformer set-up	6	4	crane forklift processing trailer low bed truck
Shaffer Substation (NV Energy)			
Site Management and Quality Control	1	1	office trailer
Grading, drainage, resurfacing	12	10	dump truck bulldozer earth mover/scraper roller compactor backhoe/bobcat equipment transport water truck
Land Survey	2	1	pickup truck
Perimeter Fence Construction	8	8	2-ton truck skid steer with drills flatbed truck backhoe concrete truck material transport roller
Civil Construction (including foundations, underground, conduit, ground grid, etc.)	20	18	truck mounted drill rig 2-ton truck dump truck Flatbed truck material transport Concrete delivery trucks trencher tractors forklift
Electrical (grounding, below ground	24	20	crane

Table 2-2 Typical Substation, Transmission Line and Access Road Construction Estimated Workers and Equipment Required for the Project*			
Activity	**Number of Workers**	**Number of Vehicles**	**Type of Equipment**
conduits, conductors, circuit breakers, etc.) and steel erection			lift truck pickup trucks forklift front loader manlifts material transport service trucks
Electrical Upgrades at Bordertown, Hilltop, and Ft Sage	6	6	lift truck pickup trucks manlifts service trucks
60-kV and 345-kV Transmission Line Interconnections, Antola Switching Station and Access Roads			
Land Survey	3	2	pickup trucks
Hole Digging	3	2	hole digger excavator pickup truck
Material Haul	2	2	pole haul truck material transport
Structure Erection	4	4	line truck mobile crane bucket truck pickup truck
Conductoring and Pulling	12	9	drum puller splicing truck double-wheeled tensioner wire reel trailer line truck bucket truck sagging equipment pickup trucks mobile crane
Clean-up	4	2	Pickup trucks
Rehabilitation	2	1	Pickup truck
Access Road Construction	5	5	dump truck bulldozer roller backhoe/bobcat water truck
*includes the removal of the existing 12-kV and 34.5 kV LMUD distribution line segments.			

2.6.2 Construction Schedule

The Project's construction schedule is estimated to be 24 months. Construction by both LMUD and NV Energy would occur concurrently. Skedaddle Substation work would occur over approximately eight months. The 60-kV transmission line Antola Switching Station and access road construction would take approximately three months. Shaffer Substation work would occur over approximately 18 months.

Construction crews would normally work during weekday daylight hours Monday through Friday unless otherwise required for Project safety. Weekend work could be scheduled to minimize customer impacts

for necessary line outages or for construction efficiency. All construction activities would abide by any applicable Lassen County guidelines, including any applicable noise ordinances. The size and composition of the workforce would vary daily/weekly, depending on the phase of construction with numbers of workers and vehicles not to exceed those identified in Table 2-2.

2.6.3 Substation and Antola Switching Station Construction

Site preparation activities would include the clearing of vegetation, and grading of substation pads. The grading for the substation sites would be designed to balance cut and fill quantities. If excess soil is not suitable for structural fill it would be properly handled in accordance with all applicable laws and regulations. Structural footings and underground utilities, along with electrical conduit and the ground grid would then be installed, followed by above ground structures and equipment. A chain link fence approximately eight feet in height with multiple strands of barbed wire at the top would be constructed around each substation for security and to restrict unauthorized persons and wildlife from entering. Fences would be grounded in accordance with best utility practices and tied to the station ground grid. Substation sites would be finished graded and covered with gravel or road base material.

Steel structures would be erected on concrete footings to support buses, switches, overhead conductors, instrument transformers, and other electrical equipment, and to terminate incoming circuits. Supports for the aluminum bus structures would be fabricated from low-profile tubular steel components. Structures within the substation would be grounded to the station-grounding grid. Equipment would be bolted or welded securely to slabs and footings to exceed Uniform Building Code seismic requirements. Additional equipment that would be installed includes high-voltage circuit breakers and air switches, high-voltage instrument transformers, control and power cables, metering, protective relays, and communication equipment.

The substations would include control enclosures that would likely be constructed of prefabricated steel or concrete. Major equipment to be installed inside the control enclosure would consist of relay and control panels, alternating current and direct current load centers to provide power to equipment inside and outside the control enclosure, battery banks to provide a back-up power supply, heating/cooling systems to prevent equipment failure, and communications equipment for remote control and monitoring of essential equipment.

Control cables would be pulled from panels in the control enclosure through the underground conduits and concrete trench system to the appropriate equipment. After the cables are connected, the controls would be set to the proper settings, and all equipment and communications would be tested before it is energized.

2.6.4 Transmission Line Construction

Construction of the transmission line structures and conductoring of the line would generally occur as described below.

Mobilization and Staging

The crews would mobilize to the site approximately one week prior to the start of work. During this time, they would transport equipment and construction materials to the construction staging areas.

Preconstruction Surveying and Staking

The initial activity prior to construction includes engineering surveys and staking. This would include marking structure locations, anchor sites, staging and material yards, and wire pulling sites. Additional staking may be required just prior to construction to refresh previously installed stakes and flagging and/or delineate any sensitive resource areas identified during the preconstruction field surveys.

ROW Preparation

To establish sufficiently sized work areas, pull sites, and staging areas, some vegetation clearing, and grading would be conducted. In all locations, vegetation removal would be minimized to the extent possible. Because the structure sites and the structure stringing sites require a fairly flat surface, the areas may be graded, and soil may be imported to achieve the necessary elevation. To accommodate construction equipment and activities of the 345-kV tap line to the Shaffer Substation and two angle structures, temporary work pads measuring 200 feet by 200 feet in size would be needed for each transmission structure; these areas are included in the construction staging areas identified on Figure 2. For construction of the 60-kV transmission line from the Skedaddle Substation to the Antola Switching Station there would be minimal temporary disturbance. Some pole structures would be assembled along the edge of the existing roadway on the decommissioned railroad ROW (which is owned by LMUD) and then elevated into position. These assembly areas would be approximately 75 feet in length by 12 feet wide.

Structure Installation

To install the transmission structures, holes would be excavated. All holes for the 345-kV construction would be excavated using augers or other back-hoe type equipment and would be approximately four to six feet in diameter and approximately seven to 14 feet deep and possibly up to 20 feet deep depending upon soil conditions and structure types. Additionally, holes for typical 60-kV pole structures would be approximately three feet in diameter and buried depth of eight to 12 feet. Structures with large angles would have concrete foundations approximately six feet in diameter and 25 feet deep. All 60-kV structures are self-supporting and would not require guy wires. The two 345-kV angle structures are not self-supporting and would require six guy wires and anchors per structure. Blasting, while not expected, may be required in rocky areas where normal excavation methods are unable to meet excavation specifications.

Materials including structure materials, insulators, hardware, and guy wire anchors, would be delivered to by flatbed truck, and assembled on site using a crane or other heavy construction equipment. Crews would attach insulators, travelers, and hardware to the structure to form a complete unit. The assembled transmission structures would then be placed into the excavated holes using a large mobile crane. Structure assembly and mounting of associated line hardware would take place at each site and assembled structures raised and placed in pre-dug holes. The structure pole bases would be buried in the ground and backfilled with engineered fill or foundation. Guy wires to support the structures would be used to plumb the structures.

Conductor Installation

The conductor would be installed onto new transmission structures by a sock line (a small cable used to pull conductor) attached to the end of the new conductor and pulled into the travelers using the pulling equipment staged at the pulling sites. Once the conductor is pulled into place, sags between the structures would be adjusted to a pre-calculated level. The line would be installed with a minimum ground clearance of 23 feet. The new conductor would then be clipped into the end of each insulator on each structure, the travelers removed, and vibration dampers and other hardware installed. Shield wire and optical ground wire installation would be accomplished in a similar manner.

The ground wire and conductor would be strung using power pulling equipment at one end and power braking or tensioning equipment at the other end. Sites for tensioning equipment and pulling equipment are approximately 5,000 feet apart. Pulling equipment can be positioned on either end of a 5000-foot section with the tensioner in the center (meaning 5000 feet in either direction from the center). The tensioning site is an area approximately 150 feet by 60 feet. The tensioner, line truck, and wire trailer that would be needed for stringing and anchoring the ground wire or conductors are located at this site. The tensioner, along with the puller, maintains tension on the ground wire or conductor. Maintaining tension ensures adequate ground clearance and is necessary to avoid damage to the ground wire, conductor, or any objects below them during the stringing operation. The pulling site requires two-thirds the area of the tension site. A puller and trucks would be needed for the pulling and temporary anchoring of the conductor, shield wire, and optical ground wire.

For public protection during wire installation, temporary guard structures would be erected over obstacles including recreational trails, railroad beds, roadways, existing power lines, and other structures. Guard structures would consist of H-frame poles placed on either side of the obstacle or equipment capable of guarding the crossing. These structures or equipment prevent ground wire, conductors, or other equipment from falling on an obstacle. Equipment for erecting guard structures includes augers, line trucks, pole trailers, and cranes. Guard structures may not be required on small roads or other minor obstacles. On such occasions, other safety measures such as barriers, flagmen, or other traffic controls would be used. After the wires are installed, the temporary guard structures would be removed.

Line Removal Activities

Approximately two miles of the existing LMUD 12-kV distribution line along the north side of Wendel Road would be removed and replaced with the proposed 60-kV transmission line within the same LMUD easement area. Access to the area will be from Wendel Road.

The existing 34.5-kV transmission line located approximately 100 feet south of the decommissioned railroad (now owned by LMUD) would also be removed as mitigation for a potentially significant impact to Aesthetics. This line would be removed after the relocation of the 12.5-kV line to the proposed 60-kV transmission line and after completion of Project construction (see Section 3.1 and mitigation measure AES-1). In accordance with direction from the CDFW, five of the existing poles will remain in place, with all the hardware removed, to serve as potential nesting locations. Where feasible, LMUD will install platforms with lip around outside edges to provide for additional nesting space.

Removal activities would include detaching the wire (conductor) from the insulators on the poles, pulling

and winding wire from the center of the 10,000-foot run, most likely due to 5000 feet normally being within the capability of wire handling equipment. Poles would be removed either by being cut at ground level or would be pulled out and backfilled with engineering fill. Poles would then be lowered to the ground with a derrick truck and hardware/insulators unbolted and detached from poles and hauled out by the derrick trucks and tow dollies. Access to the area will be from an existing unimproved dirt trail.

2.6.5 Access Roads

A permanent 20-foot wide gravel surfaced access road would be constructed alongside eastern side of the 60-kV transmission line from Wendel Road north to the substations on LMUD owned property. This road would be used during construction and for ongoing operation and maintenance activities. The removal of some natural vegetation would be required for the access road. The area would not be chemically treated unless it is necessary to comply with the regulatory requirements.

A short temporary access road would also be graded to gain access further east to the area underneath the existing 345-kV line. This is necessary to get equipment in to pull wire from the line to the Shaffer Station (see Figure 2).

2.6.6 Clean Up and Reclamation

All Project areas would be kept in an orderly condition throughout the construction period. Refuse and trash, including stakes and flags, would be removed and appropriately disposed of. Surplus materials, equipment, and construction debris would be removed at the completion of construction activities. No construction equipment oil or fuel would be drained on the ground. Oils or chemicals would be hauled to an approved site for disposal. The contractor would be required to leave each work site in a condition as near to the preconstruction condition as possible. Following construction and clean up, reclamation would be completed. Areas disturbed by construction activities be recontoured, recompacted, scarified, and seeded, as appropriate. There would then be an effort to close or restrict vehicle access to areas that have been seeded until the reclamation success criteria have been met.

2.7 Operation and Maintenance

The Skedaddle and Shaffer substations and Antola Switching Station would function as unmanned sites and would be operated and maintained by existing service technicians. Ground maintenance patrols would monitor the transmission line ROW periodically utilizing the new access road or existing roads. Operation and maintenance activities would occur at all Project components and include replacing damaged equipment and routine maintenance. No new permanent employees would be required for Project operation and maintenance.

2.8 Other Permits and Approvals

In accordance with the conditions of the System Impact Study, dated October 2013 and the Facilities Study, dated November 2016, LMUD would be responsible for acquiring any necessary federal, state, county and local land use and environmental permits and authorizations required for all components of the Project, including those to be owned by NV Energy. A list of the permits and authorizations required by the Project was previously included in Chapter 1 – subsection 10.

In addition, California Government Code Section 53091, 53096; Public Utilities Code Section 12808.5. Governs the applicability of building and zoning ordinances. Pursuant to the Lassen County code, a Conditional Use Permit is typically required for the approval of certain uses of land or types of businesses which are not allowed as a matter of right in a particular land use. Construction of the Project would normally require such an authorization.

LMUD, as a public agency, is exempt from County zoning ordinances regarding the construction of facilities for the production, generation, or transmission of electrical energy. Lassen County therefore, is not required in this instance to make discretionary action decisions related to this project. California Government Code Section 53091 subdivisions (d) and (e) expressly provide this exemption. As LMUD proposes to connect the Project at a voltage in excess of 100,000 volts exemption under Government Code section 53096 and Public Utilities Code section 12808.5 is applicable. In order to satisfy the public notice requirements under Government Code section 53096 and Public Utilities Code 12808.5, LMUD provided notice of a public hearing 10 days prior (March 14, 2019) to the public hearing which occurred on March 26, 2019.

LMUD does not own any other property that has the acreage and necessary features for a successful interconnection project. LMUD representatives were unable to identify any other sites owned by LMUD with sufficient space suitable for the installation of the proposed facilities. LMUD received, considered and responded to all comments from the public as well as any interested persons or agencies, at the required public hearing on this matter.

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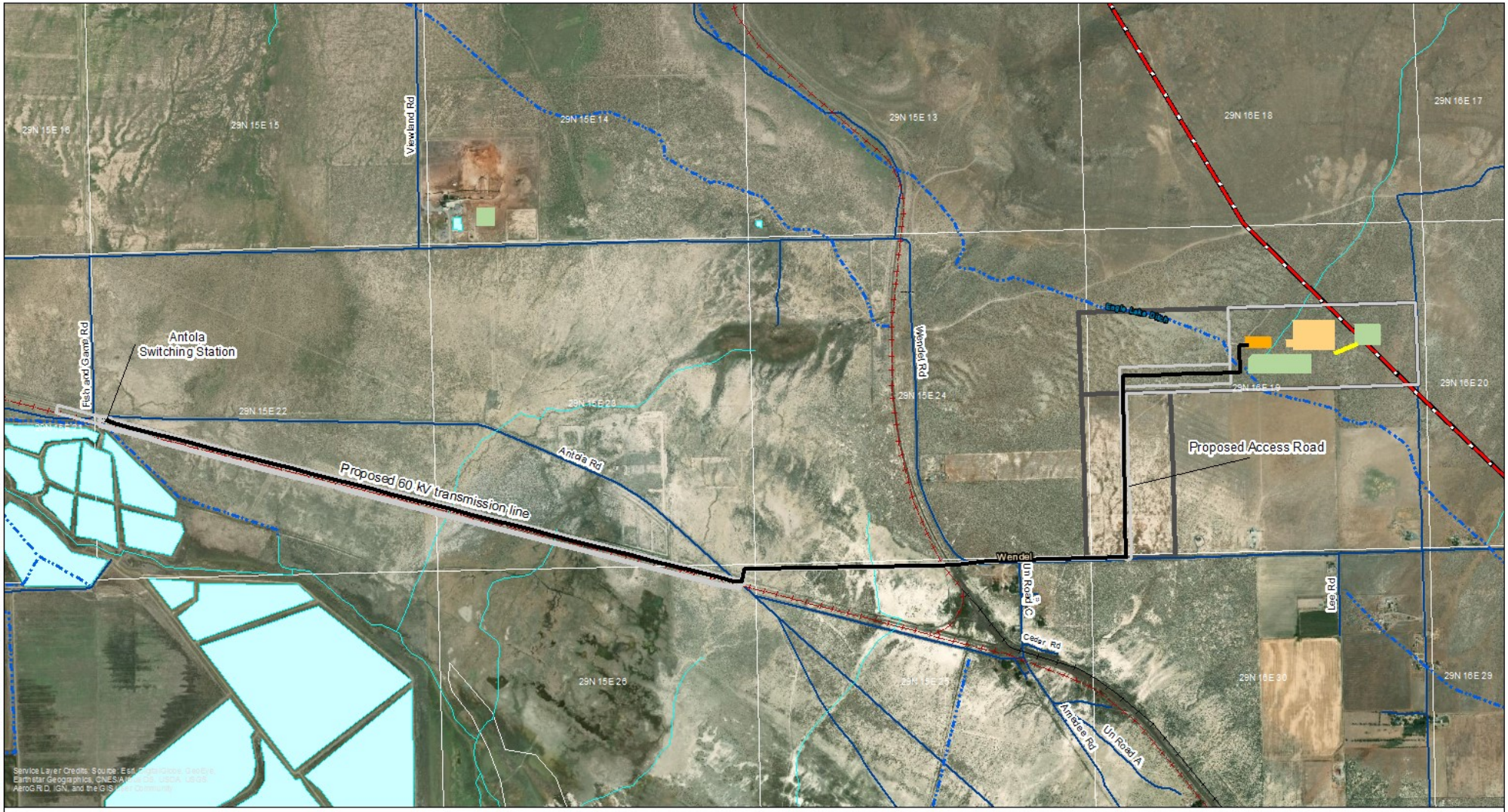
Figure 1. Skedaddle Project Site

June 2019

LASSEN MUNICIPAL UTILITY DISTRICT



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- Skedaddle Study Area
- LMUD Parcel
- Reno-Alturas 345-kV
- Hydro
- Intermittent StreamRiver
- Canal / Ditch / Artificial Path
- Intermittent Lake / Pond
- local_roads
- Union Pacific Railroad
  - Active
  - Abandoned / Out of Service
- TemporaryAccessRoad
- Skedaddle Substation
- Shaffer Substation
- Temporary Construction Staging
- Proposed 60kV Transmission Line

0 0.1 0.2 0.4 Mile

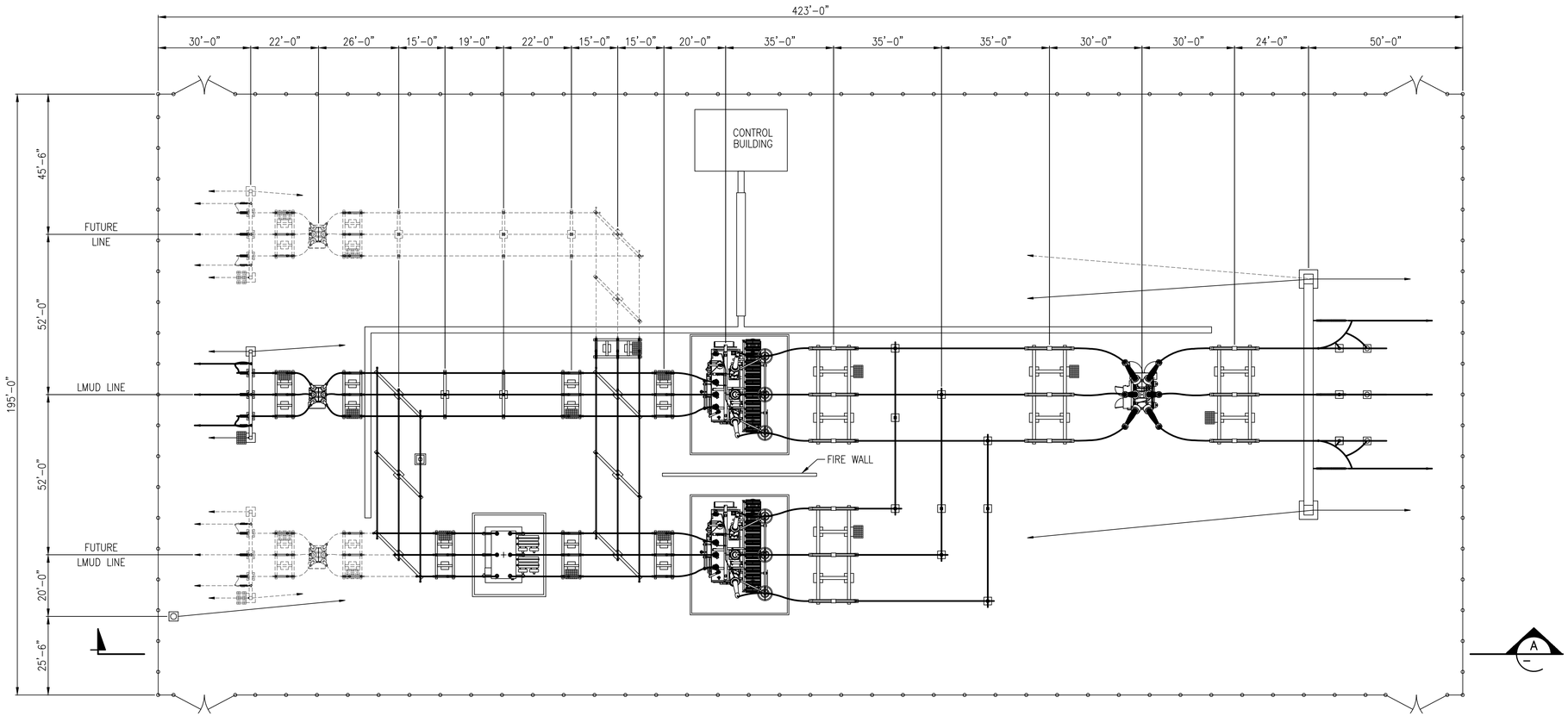
1 inch = 1,500 feet
Map Scale: 1:18,000

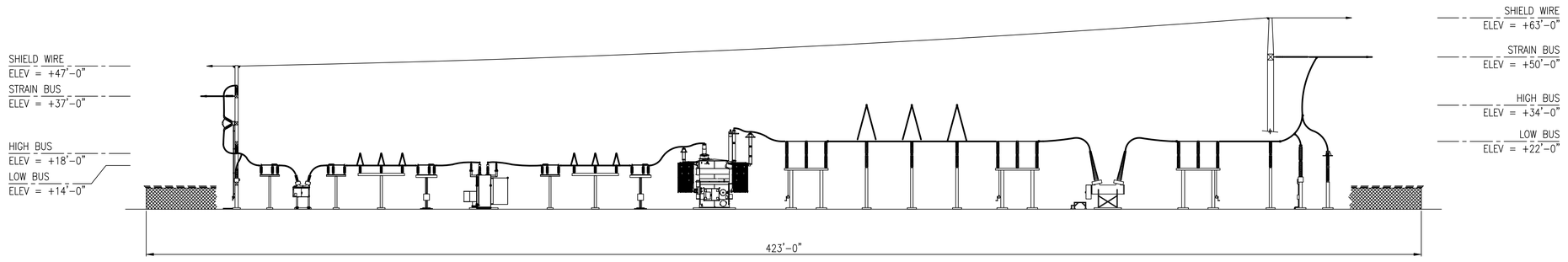
N

Figure 2. Skedaddle Project Overview

June 2019

LASSEN MUNICIPAL UTILITY DISTRICT





SECTION A
SCALE 1" = 20'-0"

0 10 20 40 60 FEET
1" = 20'

PRELIMINARY
04/18/18
ONLY

THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT, TAKING INTO CONSIDERATION THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWER'S CLIENT IS GRANTED.

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	REFERENCE DRAWINGS
A	ISSUED FOR REVIEW						* *

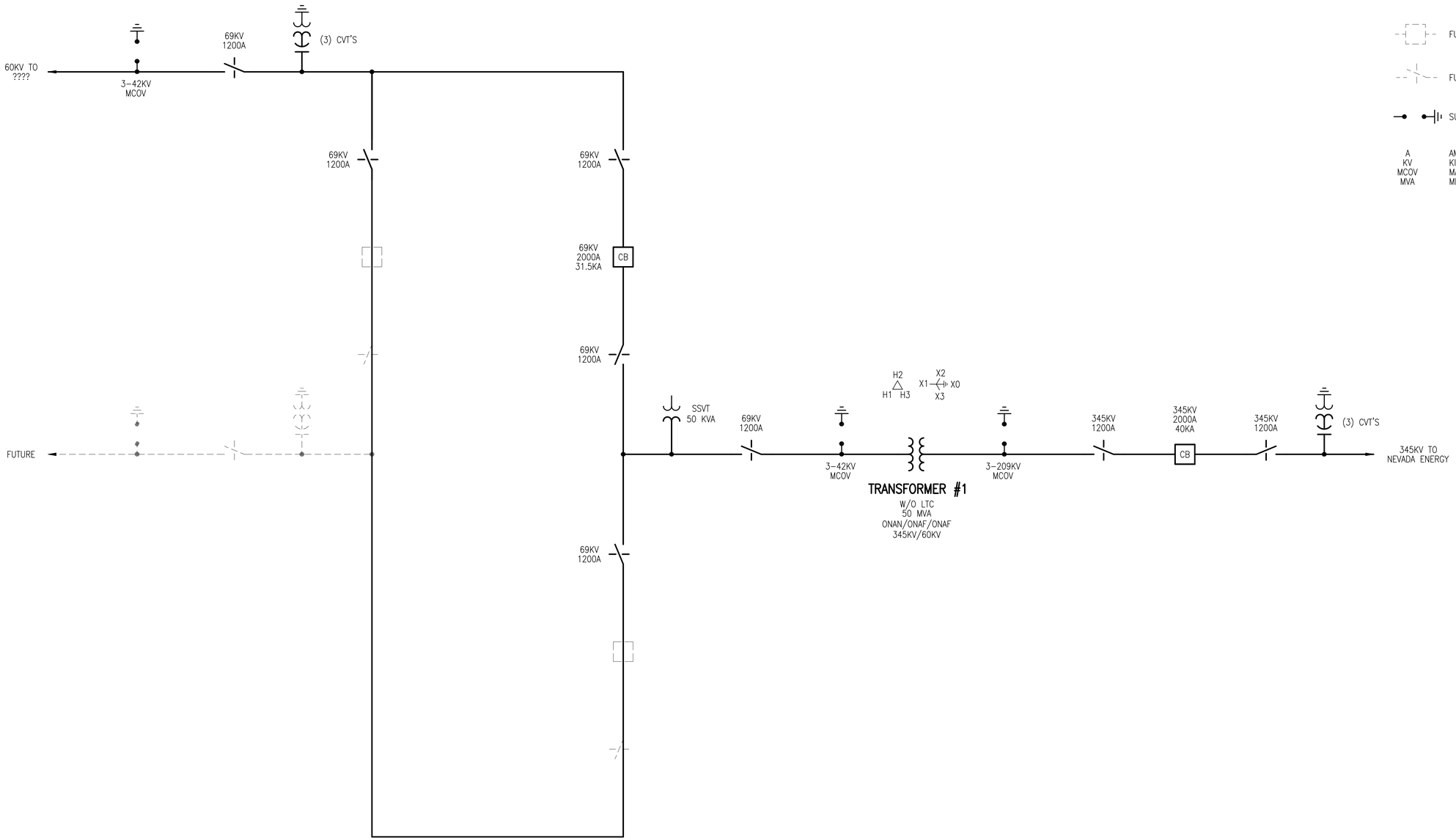
DSGN	JEM	03/31/17
DRN	JEM	03/31/17
CKD		
SCALE:	1" = 20'-0"	
FOR 24x36 DWG ONLY		

POWER ENGINEERS

LASSEN MUD
SKEDADDLE SUBSTATION
GENERAL ARRANGEMENT PLAN

JOB NUMBER *
REV A
DRAWING NUMBER E1-1

lassengp.dwg



LEGEND

- POWER TRANSFORMER
- CB — CIRCUIT BREAKER
- GROUP OPERATED DISCONNECT SWITCH
- FUTURE CIRCUIT BREAKER
- FUTURE GROUP OPERATED DISCONNECT SWITCH
- SURGE ARRESTER (MCOV)

A	AMPS
KV	KILOVOLTS
MCOV	MAXIMUM CONTINUOUS OPERATING VOLTAGE
MVA	MEGA VOLT AMPERE

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	REFERENCE DRAWINGS
A	ISSUED FOR REVIEW						* *

DSGN	JEM	03/31/17
DRN	JEM	03/31/17
CKD		

SCALE: NONE

FOR 24x36 DWG ONLY

POWER ENGINEERS

LASSEN MUD

SKEDADDLE SUBSTATION

ONE-LINE DIAGRAM

JOB NUMBER *

REV A

DRAWING NUMBER E8-1

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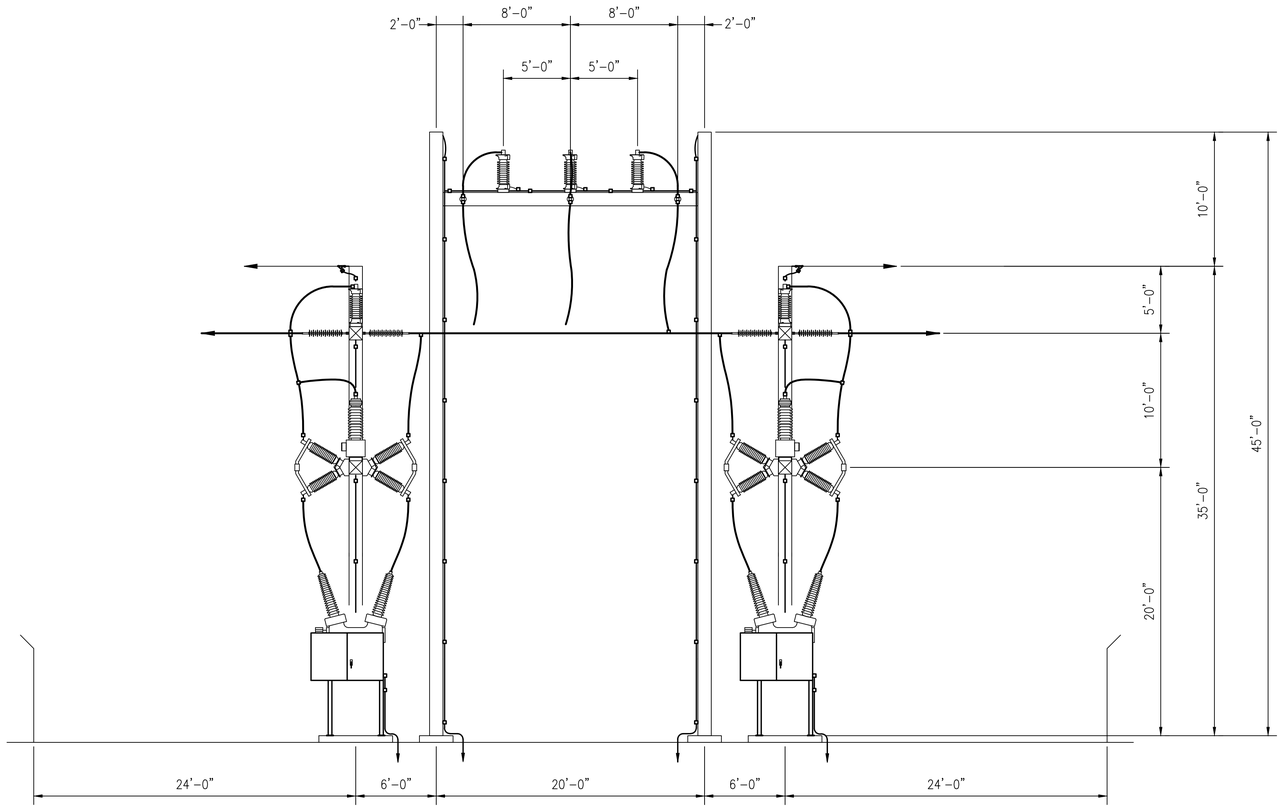

PRELIMINARY
03/06/18
ONLY

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3/16" = 1'- 0"

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*	*					

REFERENCE DRAWINGS	
*	*

DSGN	JEM	06/28/17
DRN	RR	06/28/17
CKD		

SCALE: 3/16" = 1'-0"
FOR 24x36 DWG ONLY

POWER ENGINEERS

LASSEN MUD
69KV TAP SUBSTATION
ELEVATION

JOB NUMBER *
REV *
DRAWING NUMBER
ELEVATION

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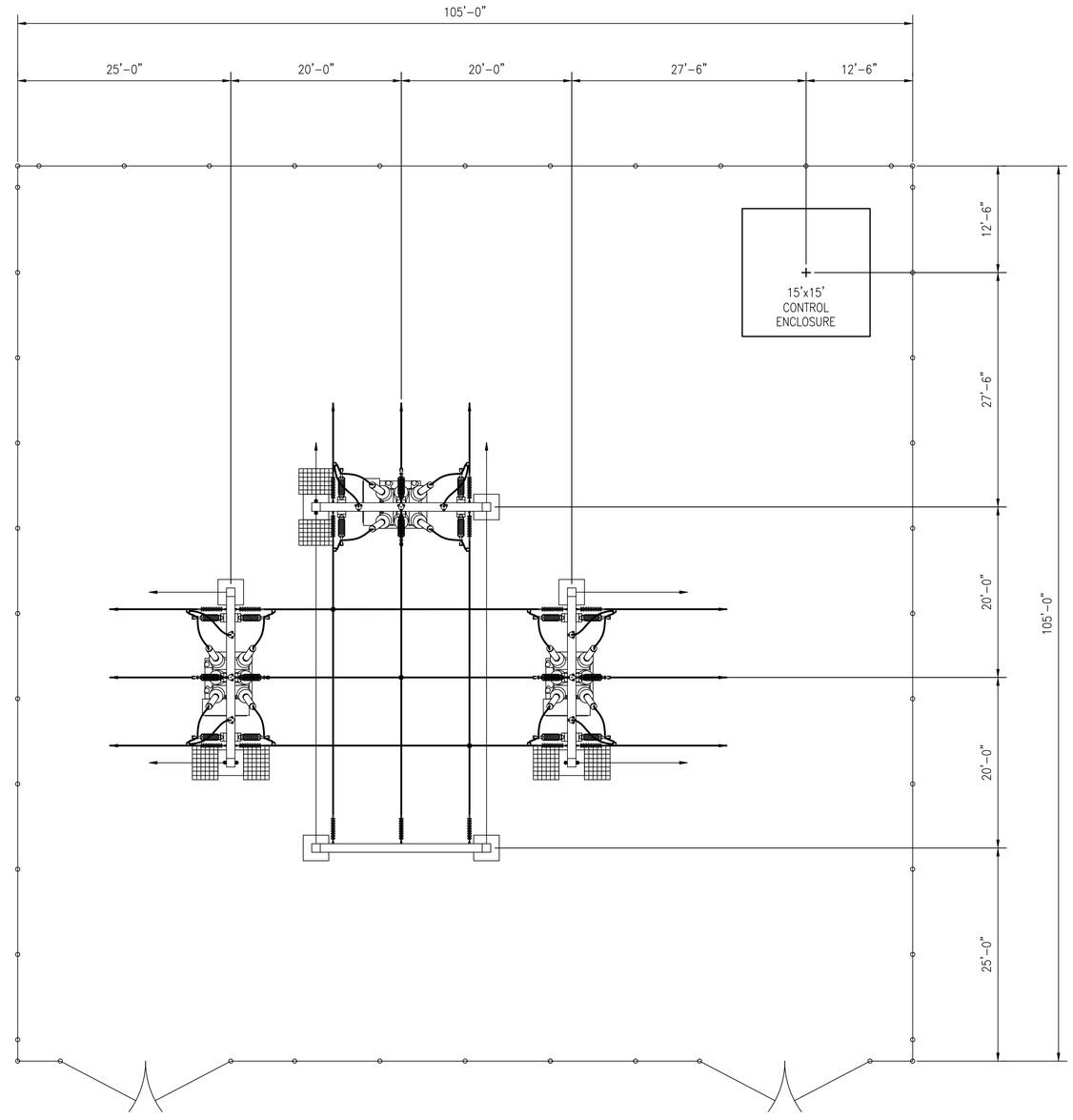

PRELIMINARY
05/16/18
ONLY

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1/8" = 1'- 0"

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
*	*					

REFERENCE DRAWINGS	
*	*

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DRN	RR	06/28/17
CKD		

SCALE: 1/8" = 1'-0"
FOR 24x36 DWG ONLY

POWER ENGINEERS

LASSEN MUD
ANTOLA ROAD SWITCHING STATION
GENERAL ARRANGEMENT PLAN

JOB NUMBER *
REV *
DRAWING NUMBER E1-1

lassengo.dwg

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
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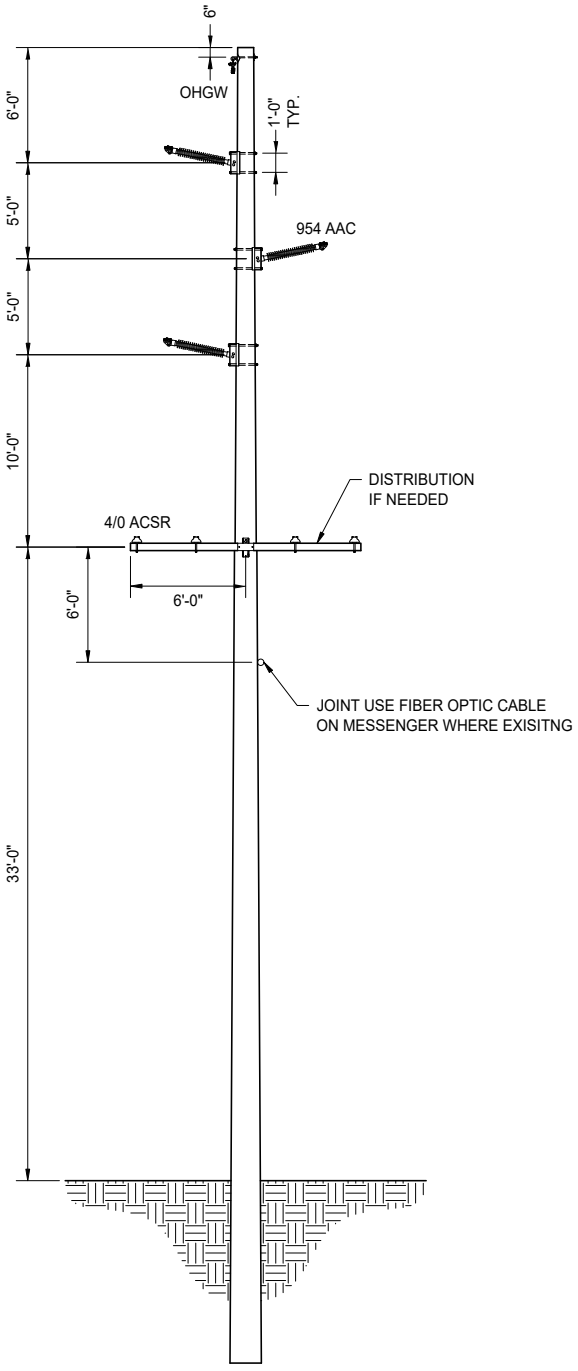


FIGURE 5

DSGN	SH	03/05/18		
DRN	DO	03/05/18		
CKD	JT	03/05/18		
SCALE:	1"=10'			
FOR 8.5x11 DWG ONLY				

REFERENCE DRAWINGS

POWER ENGINEERS

LASSEN MUNICIPAL UTILITY DISTRICT

PRELIMINARY STRUCTURE CONFIGURATIONS

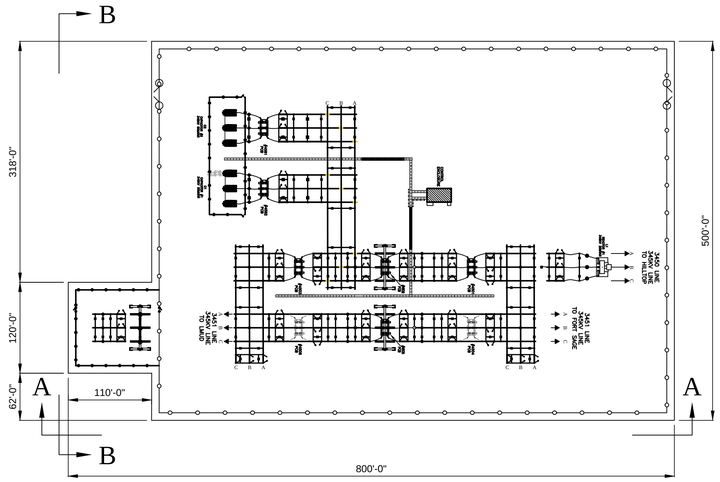
TYPICAL TANGENT STRUCTURE WITH DISTRIBUTION UNDERBUILD

JOB NUMBER 145928

REV *

DRAWING NUMBER

069.102.dwg



Preliminary
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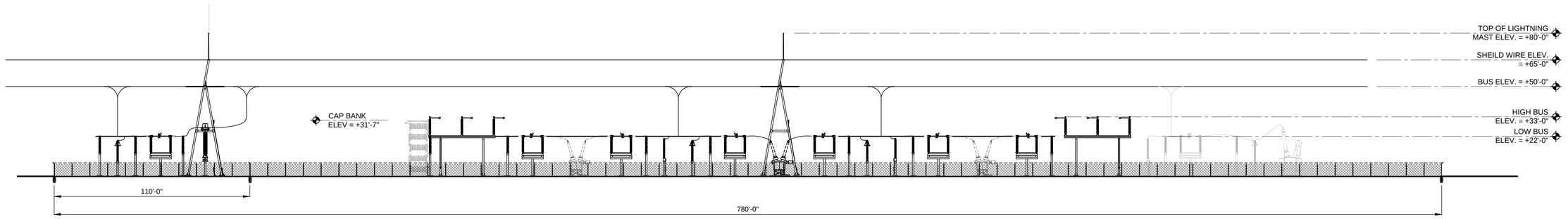
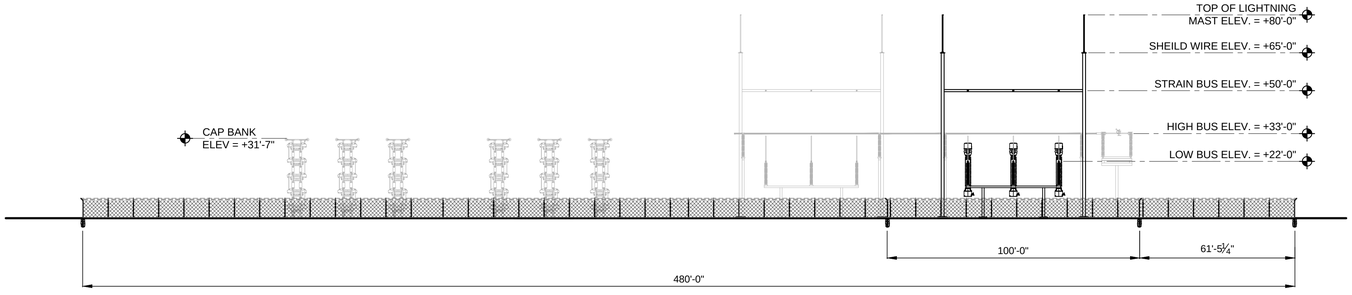


ELEVATION A-A



ELEVATION B-B

Figure 6a

Scale: 1" = 30'-0"

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NVEnergy

SHEET 1 OF 1 | SUBSTATION ENGINEERING

PRELIMINARY PLAN VIEW AND ELEVATIONS

SHAFFER SUBSTATION

E13-003 | A

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Preliminary
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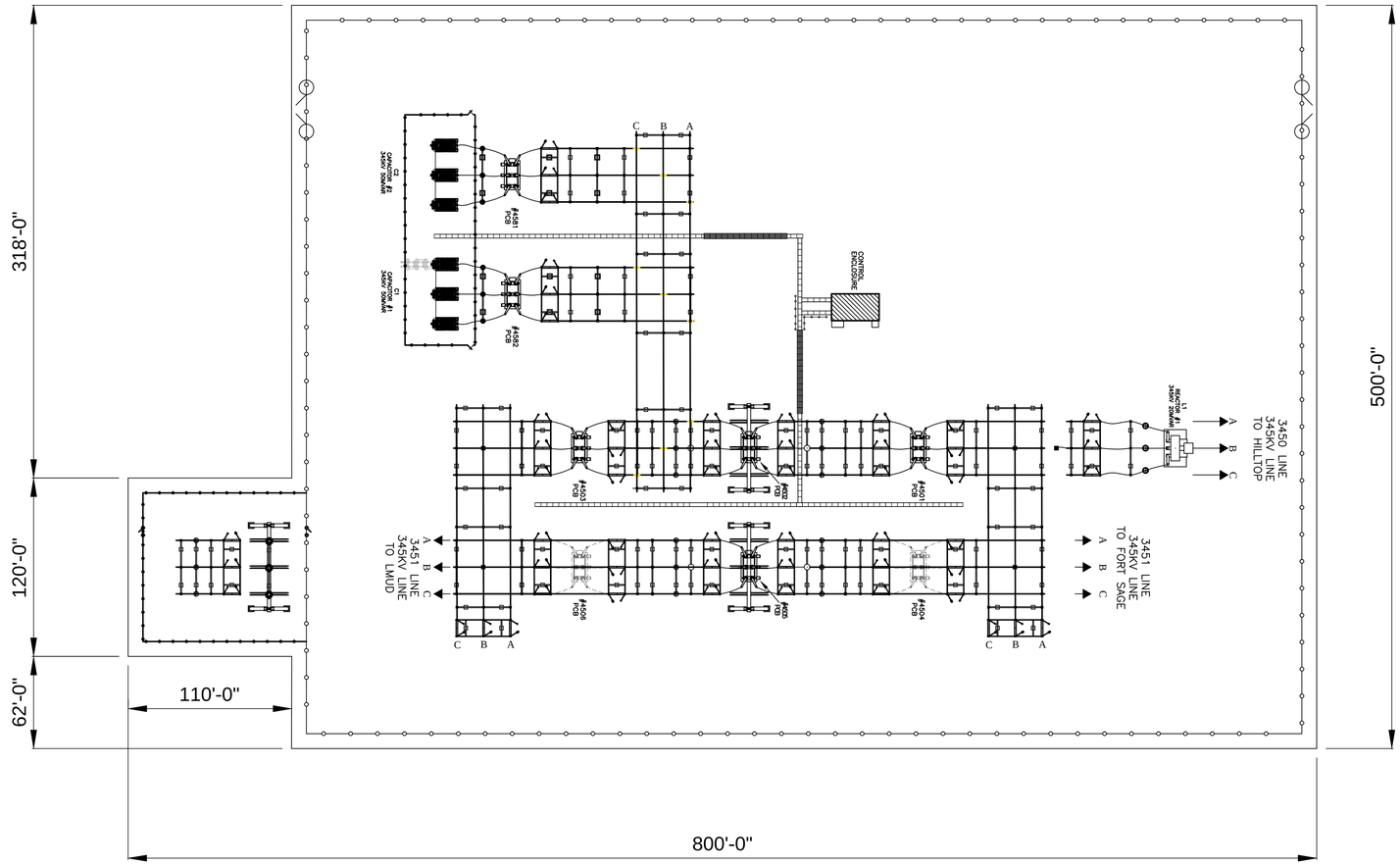

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Figure 6b

Scale: 1" = 50'-0"

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B	ADDED FLOOD LIGHT DETAIL	01/19	AG	AG	AG		000000201E

NVEnergy

SHEET 1 OF 2 | SUBSTATION ENGINEERING

PRELIMINARY PLAN VIEW

SHAFFER SUBSTATION

E13-003 | B

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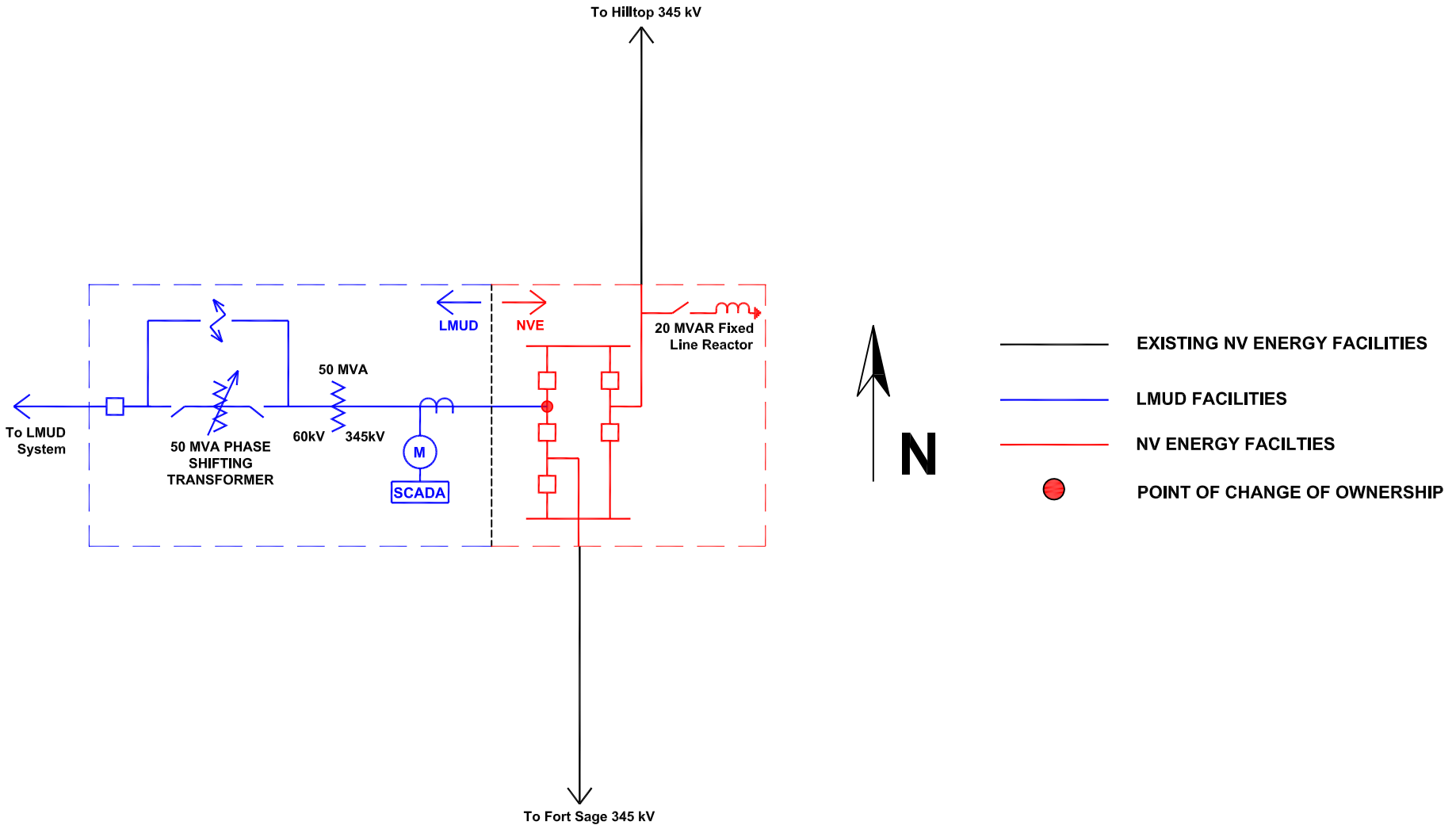

SHAFFER SUBSTATION

Figure 7

3. ENVIRONMENTAL CHECKLIST

This section identifies the environmental impacts of the Project by answering questions from Appendix G of the most current CEQA Guidelines, the Environmental Checklist Form. Impacts are categorized as follows:

- **Potentially Significant Impact** - there is substantial evidence that an effect is significant, or the established threshold has been exceeded. If there are one or more Potentially Significant Impact entries when the determination is made, an EIR may be required.
- **Less Than Significant with Mitigation** - the incorporation of mitigation measures would reduce an effect from a Potentially Significant Impact to a Less Than Significant Impact. Mitigation measures are prescribed to reduce the effect to a less than significant level.
- **Less Than Significant** - the project will affect or is affected by the environment, but based on sources cited in the report, the impact will not have an adverse effect.
- **No Impact** – the referenced information sources show that the impact does not apply to projects. A No Impact Answer is explained where it is based on Project-specific factors, relevant regulatory requirements, and general standards.

3.1 Aesthetics

This section discusses impacts associated with the potential for the Project to degrade the existing visual quality of the site and its surroundings through changes in the existing landscape. The purpose of this analysis is to determine if a change in the visual environment would occur, whether that change would be viewed as a positive or negative, and the degree of any change relative to the existing setting. If the Project has the potential to cause visual impacts, this section specifically defines those impacts.

This analysis focuses on the potential for the Project to result in impacts on visual resources as seen from public locations and roadways. The baseline visual condition is analyzed, visual resources identified, and a baseline scenic character established. The analysis methodology evaluates the aggregate affect that the Project may have on the overall visual character of the area and surrounding landscape. If a change in character is identified, it is compared to viewers' expected sensitivity, and is reviewed for consistency with applicable planning policies.

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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	☐	☒	☐	☐

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). 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?	☐	☒	☐	☐

3.1.1 Environmental Setting

The Project would be located in the unincorporated small community of Wendel, in the southeastern portion of Lassen County, approximately 20 miles east of the City of Susanville, in the Honey Lake Valley. The valley is considered part of the Great Basin, with the Sierra Nevada range rising up along its western border. The Skedaddle Mountains, reaching an elevation of over 7,000 feet, partially define the horizon northeast of the Project area.

Honey Lake, located approximately 1.5 miles south of the Project area, is a popular recreation area for the region. The Honey Lake State Wildlife Area is immediately south of the western end of the Project area. U.S. Highway 395 is the closest state highway, at approximately two miles to the northwest of the Project area. U.S. Highway 395 is a primary north/south transportation route in the northeastern part of California. Wendel Road is the main county road in the vicinity and is classified as a Major Collector Road. As shown on Figure 2, the proposed 60-kV transmission interconnection and Antola Switching Station are located on the western end of the Project area and approximately 0.5 mile south of Wendel Road and near Antola Road. Antola Road intersects with Wendel Road and is the closest local road to the western portion of the Project area. Near the middle portion of the Project area, the proposed 60-kV transmission lines would veer east and cross over to the north side of Wendel Road. The proposed Skedaddle and Shaffer substations would be located approximately 0.6 mile north of Wendel Road, at the base of the Skedaddle Mountain foothills. The Project would be anchored on the northeastern end by the proposed substations.

The surrounding area is distinctly rural with large areas of undeveloped lands and open space which predominately define the visual character of the region. Scattered residential-rural development is seen throughout the area. The Project passes near the community center of Wendel, which is at the crossroads of Wendel Road, Antola Road, Amadee Road, and the decommissioned Union Pacific Railroad ROW. Development in this area primarily includes a handful of residences and abandoned railroad buildings.

Energy generation facilities are also seen in the region. The Honey Lake Power Company, a biomass plant, and adjacent new Honey Lake Power solar generating facility are located off Wendel Road, approximately 2.5 miles from the substations. The existing NV Energy Reno-Alturas 345-kV line passes just northeast of

the proposed substations area. Utility poles and aerial lines are commonly seen throughout the region, with many of them paralleling public roadways.

The topography of the area is relatively flat, and slopes gradually down from the north toward Honey Lake. The landcover of the region is mainly a sagebrush and grazing environment, characterized by sparse low shrubs. Agricultural forage crops are also seen throughout the area. Trees are found mostly associated with ranches and other development. The existing visual quality of the region is moderately high, based primarily on its abundant natural areas and open space. Natural resources such as the Skedaddle Mountains, the Sierra Nevada Range, and Honey Lake provide a scenic backdrop for most of the area. Rural and agricultural land use patterns contribute to the visual character and quality of the area. Lassen County planning documents also support the intrinsic value of the area's visual qualities.

3.1.2 Regulatory Setting

Federal

No federal regulations related to aesthetics are applicable.

State

Other than the CEQA Guidelines, no other state regulations related to aesthetics are applicable.

Local

Lassen County General Plan 2000. The Project would be subject to applicable policies and measures of the Land Use Element (Lassen County 2000a) and Natural Resources Element (Lassen County 2000b) of the Lassen County General Plan, as well as the Wendel Area Plan and EIR (Lassen County 1987). The General Plan includes the following policies and implementation measures related to aesthetics and visual resources.

Land Use Element/Section Three: Land Use Designations - Natural Resources Land Uses

Scenic Corridors - Scenic corridors identify areas bordering major highways which have significant or sensitive scenic values due to the existence of significant scenic features and the level of public exposure to those areas. This designation always overlays a primary land use designation. Although special standards may apply to development within such corridors (e.g., design review criteria), uses allowed and corresponding zoning and development standards, including building intensity and population density, are factors of the primary land use designations.

Natural Resources Element: Section Two: Goals, Policies, and Implementation Measures 11. Scenic Resources

Goals, Policies and Implementation Measures:

Goal N-23: Scenic Resources of high quality which will continue to be enjoyed by residents and visitors and which will continue to be an asset to the reputation and economic resources of Lassen County.

NR78 Policy: The County has identified areas of scenic importance and sensitivity along state highways and major County Roads and has identified those areas as "Scenic Corridors". The County will develop and enforce policies and regulations to protect areas designated as scenic from unjustified levels of visual deterioration.

Implementation Measures:

NR-U: The County shall adopt policies to minimize adverse impacts which will significantly deteriorate the scenic qualities of visually sensitive areas.

NR-V: Areas designated and zoned for development in scenic corridors shall be zoned as "Design Review Combining Districts" or otherwise regulated to require review and management by the County of the visual impacts of proposed development.

NR79 Policy: The County shall continue to use "Design Review Overlaying Districts" to review the visual impacts of development in designated areas to minimize significant adverse impacts.

Implementation Measures:

NR-W: The County shall adopt design and development standards for use in "Design Review" areas and scenic areas to guide the consideration and management of potential significant impacts to scenic resources.

NR80 Policy: While adopting policies pertaining to scenic resources in other general plan elements and area plans, the county may consider additional and more particular policies and measures to protect scenic resources and prevent or reduce the adverse visual impacts of development in visually sensitive areas.

GOAL N-24: Protection of the scenic qualities of the county's night sky.

NR81 Policy: The County shall maintain and enforce policies, development standards and mitigation measures to control lighting generated by development and to minimize the unnecessary adverse impacts of such lighting in the vicinity of the development and on the general qualities of the night sky in the area.

NR82 Policy: The County will encourage projects within Lassen County but outside the County's jurisdictional authority to include provisions to minimize the adverse intrusion of lighting on the surrounding area and the night sky in general.

Wendel Area Plan and EIR - Land Use Element

Natural Resources/Section 2: Area Plan Elements

Scenic Resources - State planning law (Section 65302[a]) requires a scenic highways element as a means to protect and enhance official State scenic highways and official county and local scenic areas. Scenic highways enhance the tourist industry in Lassen County. By protecting scenic areas, tourists will have a positive feeling about the County which may bring them back to share their experiences with others. Scenic highways can instill community pride and protect the rural lifestyle which many people of the area enjoy. Scenic quality is also an important factor in promoting the area from an economic standpoint.

An area adjacent to U.S. Highway 395 is designated as a scenic highway corridor. In addition, the eastern shore of Honey Lake has been designated as a scenic resource area.

Policy:

8-A Lassen County should protect, maintain, and establish scenic corridors in order to preserve the beauty of its landscapes. These corridors shall protect the visual quality of the unique scenic resources.

Implementation:

8.1-A public hearing should be held to determine whether the County should request the State to include the scenic corridors described above into the state system of scenic highways.

8.2-New development in these corridors should be designed in harmony with the natural environment and should natural materials and earth tone colors that blend into the landscape.

8.3- Billboards should not be permitted within the corridor because they detract from the scenic quality of the area. Since on-site advertising is sometimes necessary to inform motorists of the location or nature of a commercial enterprise, on-site signs may be allowed if they are simple, easy to read, and do not conflict with the landscape.

8.4-Commercial and industrial uses within the planning area shall be subject to design review.

8.5-Utilities in the scenic corridors should be placed underground whenever possible.

Section 5. Environmental/ Natural Resources

H. Issue: Scenic Resources - Goal and Objective: Protect the character, scenic, and aesthetic values of the planning area by recognizing and protecting unique scenic features and by encouraging appropriate land uses.

3.1.3 Project Site Visibility

Visible Project elements would include the Skedaddle and Shaffer substations, the Antola Switching Station, transmission poles and overhead lines. Primary public viewpoints within sight of one or more of these project features would include portions of Wendel Road, Antola Road, Amadee Road, and the recreational Modoc Rail Trail. Other public lands are also found throughout the Wendel area which could provide visual access to the Project area.

Substations

The most visible Project components would be the substations which together occupy approximately 11 acres. The closest public roadway to the substations would be Wendel Road. At its closest point, Wendel Road passes south of the substations at a distance of approximately 0.6 mile. Wendel Road makes a ninety-degree turn and passes the substations again to the west. The viewing distance from this western section of Wendel Road to the substations would be approximately 1.2 miles. From these sections of Wendel Road the substations would be seen at an area where the landform begins to transition from the flatter agricultural lands to the base of the Skedaddle Mountain foothills. As a result, the substations would be seen with the hills rising behind them, and neither substation would visually extend above the horizon line. Noticeability of the substations would be greatest from the section of Wendel Road directly south. The substations would be clearly visible to the north, although their noticeability would be somewhat compromised by the viewing distance and the visual dominance of the background hillsides. Noticeability from the western section of Wendel Road would be substantially reduced due to the viewing distance. As seen from this section of roadway, the substations, although visible would occupy a small portion of the overall viewshed. Although the substations would be recognized as an industrial site, the physical nature of many of the substations' relatively narrow-profile components (i.e. poles, lattice towers, conductors, wires, etc.) would create a degree of transparency through the facilities, allowing them to somewhat blend in with their hillside backdrop.

The substations would also be partially visible from the southernmost section of the Modoc Rail Trail. Views from this section of the trail would be approximately 1.4 miles away toward the southeast. Noticeability from the trail would be low because of the viewing distance and the substations' visual subordinance to the larger landscape.

Transmission Lines

As shown on Figure 2, the Project would add a transmission line from the substations south to Wendel Road where the new poles and overhead wires would generally follow the roadway alignment until they cross over Wendel Road and angle southwest to Antola Road. Along the segment north of Wendel Road, the existing 12-kV line and poles would be removed and replaced with the new proposed 60-kV line and poles in the same ROW. At Antola Road, the transmission line would cross over and continue south for approximately 50 feet, where they would follow the decommissioned railroad, which is owned by LMUD, to the Antola Switching Station near the intersection of Antola Road and Fish and Game Road.

Because of the length of the alignment and proximity to public roadways, some extent of the proposed transmission lines would be clearly visible from one or more locations on Wendel, Antola, Fish and Game and Amadee Roads. The noticeability of the new poles would vary substantially relative to viewing distance, view angle and visual context. In general, the noticeability of the proposed poles north and east of Antola Road would be based on their increased height and number of wires relative to the existing poles being removed. This size difference would likely have low noticeability as seen by the casual observer. The new poles proposed south of Antola Road would be similar in size to the existing LMUD 34.5 kV distribution line which is located approximately 100 feet south. The additional wires would be seen from closer distances but would visually recede as the pole alignment diverged from the roadway. The new poles south of Antola Road would be seen in conjunction with the existing abandoned poles, essentially doubling the noticeability of overhead utilities in that area.

Antola Switching Station

The Antola Switching Station would be located immediately adjacent to the southern side of Antola Road (see Figure 2) and would be directly visible from the western section of that roadway, as well as from southbound Fish and Game Road. Because if its proximity to public roadways and its visual scale relative to the setting, the noticeability would be inherently high in the immediate area. As seen from Wendel Road, which passes approximately 0.5 mile to the north, the Antola Switching Station would be visible however its noticeability would be substantially reduced due to the viewing distance and the dominance of the larger landscape context.

3.1.4 Analysis Methodology

The findings of this analysis are based on field visits conducted in December 2018, including review of the entire site as well as the surrounding area. Resource inventories were conducted on foot and from a moving vehicle. Existing visual resources and site conditions were photographed and recorded. Assessment of Project components was based on conceptual plans and descriptions as defined further in Section 2-Project Description. Planning documents and approved studies relevant to the area were referenced for gaining an understanding of the Project, applicable regulatory requirements, and established aesthetic values.

The Project site was viewed from potential public viewer group locations throughout the surrounding area. Representative viewpoints were identified for further analysis, based on dominance of the site within the view, duration of views, and expected sensitivity of the viewer group. Of those potential viewpoints, four Key Viewing Areas (KVAs) for photo-simulations were identified which best illustrate the visual changes resulting from the Project are identified in Figures 3.1, which is included at the end of this section).

Photographs were taken with a 50-millimeter lens to replicate the un-aided view of the human eye. Accuracy of the visual simulations was ensured by analyzing the known dimensions and elevations of existing site features and landform, reference pole placement, three-dimensional topographic mapping analysis, and empirical field observation. Photo-simulations were prepared to quantify Project visibility and to assess related visual effects. Images of the existing views as well as photo-simulations of the Project from the KVAs are shown in Figures 3.2 to 3.9, which are included at the end of this section).

Viewer Sensitivity

Viewer sensitivity to visual changes in the area are expected to be moderately high. Viewer sensitivity is increased by the Project area's various contributions to the high-quality panoramic views of the surrounding mountains and Honey Lake as seen from public roadways. In addition, the existing primarily rural and open space character of the site and setting may increase sensitivity to visual alterations that contrast with the scenic context.

The Wendel Area Plan (Lassen County 1987) designates an area generally south of Antola Road as a "Scenic Area". Certain Project components are proposed for this area, including the Antola Switching Station and the majority 60-kV transmission interconnection south of Antola Road. This County designation is an indicator of increased value regarding scenic quality of that area, and a heightened local sensitivity to changes which may affect that visual quality.

Wendel Road, which passes by the proposed substations and a segment of the 60-kV transmission line, is an important regional transportation route and is identified by Lassen County as a Main Collector. Antola Road, which is the closest roadway to the County-designated Scenic Area and the western portion of the Project area, has fewer roadway users and potential viewers than Wendel Road.

3.1.5 Impacts and Mitigation Measures

Discussion of Aesthetic Checklist Questions

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

Less than Significant with Mitigation. Scenic vistas are often high-quality panoramic views displaying good aesthetic and compositional value which can be seen from a public viewpoint. A significant adverse impact to a scenic vista would occur if a project would substantially degrade the scenic landscape as viewed from public roads, in particular designated scenic routes, or from other public or recreation areas. The degree of potential impact on scenic vistas varies with factors such as viewing distance, duration, viewer sensitivity, and the visual context of the surrounding area.

Scenic vistas in the Project area include panoramic views of the Skedaddle Mountains to the north and east, the Sierra Nevada Range to the west and south, Shaffer Mountain to the northwest, and Honey Lake to the

south. The fore and mid-ground landscapes also contribute to the compositional value of the scenic vistas and the visual quality of the area. Both natural and cultural elements are seen in these fore and mid-ground areas, with the patterns of native vegetation and agricultural uses providing the greatest value to the scenic vistas.

The Project proposes components that would be seen in the fore and mid-ground visual setting of scenic features such as the surrounding mountains, Honey Lake and the designated Scenic Area south of Antola Road. Project features associated with the substations, Antola Switching Station and transmission lines would either add to or increase the extent of vertical elements extending into the scenic viewshed. The proposed substations, because of their viewing distance from the nearest public viewpoints and heights relative to the backdrop, would have minimal visual intrusion into views of the Skedaddle Mountain foothills to the north and east. The proposed 60-kV transmission lines north of Wendel Road and Antola Road would increase the heights of poles compared to the existing ones as well as add new ones from Wendel Road north to the substations. These new and increased-size poles and additional wires would cause a minor interference to existing views of the surrounding mountains.

The proposed 60-kV transmission line south of Antola Road would approximately double the number of power poles seen in the fore and mid-ground of the County designated Scenic Area and the scenic viewshed to the south as seen from an approximately 2.5-mile section of Antola Road. The Antola Switching Station would place several vertical elements into the southern scenic vista as viewed from an approximately 0.5-mile section of Antola Road. Although the extent of view blockage would be relatively minor compared to the overall availability of high-quality views in the area, the increased sensitivity associated with the County Scenic Designation would result in a greater level of potential visual impact to the scenic vista to the south as seen from Antola Road.

The Project would result interfere with the quality of the scenic vista due to the placement of the additional transmission line and the new switching station into the fore and mid-ground views of southern viewshed and the County-designated Scenic Area as seen from Antola Road and the southernmost section of Fish and Game Road. Because of the Project's close proximity to a public roadway, its location within a documented visually sensitive area combined with its contribution to the foreground context of the quality panorama, these changes would result in potentially significant visual impacts to the scenic vista as seen from Antola Road.

Mitigation Measures

AES-1: *The existing LMUD 34.5-kV transmission line which is located approximately 100 feet south of the decommissioned railroad (now owned by LMUD) shall be either removed or cut flush with the ground after Project construction is complete. In accordance with direction from the CDFW, five poles will remain in place), with all the hardware moved, to serve as potential nesting locations. The removal of the line (excepting five poles) will minimizes the net increase in the number of poles in the area.*

Level of Significance after Mitigation – Less than Significant: AES-1 would minimize the extent of view blockage and visual interference to the southern scenic vista and to the County Scenic Area. Following application of the above measures, the Project's impact on the scenic vista would be less than significant.

Implementation of AES-1 is the only mitigation measure proposed herein that has the potential to result in physical impacts to other resources. Evaluation of the potential for impact to Biological and Cultural Resources associated with the implementation of AES-1 are included in Sections 3.4 and 3.5, respectively.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

No Impact. The Project is not within the view corridor of any Officially Designated State Scenic Highway. Highway 395, which is the closest State Highway to the area (at approximately two miles to the northwest) is not identified as part of the State Scenic Highway program.

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 points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant with Mitigation. Project related actions would be considered to have a significant impact on the visual character of the site and surroundings if, as seen from public viewpoints they altered the area in a way that substantially changed, detracted from, or degraded the visual quality or was inconsistent with applicable policies regarding visual character. The degree to which that change reflects documented community values and meets viewers' aesthetic expectations is the basis for determining levels of significance. Visual contrast and compatibility may be used as a measure of the potential impact that the project may have on the visual quality of the site. If a strong contrast occurred where project features or activities attract attention and dominate the landscape setting, this would be considered a potentially significant impact on visual character or quality of the area. Project components that are not subordinate to the landscape setting could result in a significant change in the composition of the landscape. Consideration of potential significance includes analysis of visual character elements such as land use and intensity, visual integrity of the landscape type, and other factors.

The existing visual character of the Project area is a product of both built and natural elements. The overall visual context is rural which greatly defines the scenic character of the area. Although the visual quality is based largely on rural and agricultural land use patterns, views of utilities and utility-related facilities are not uncommon throughout the area and region. The Honey Lake Power Company, a biomass plant, and adjacent new Honey Lake Power solar generating facility are within a mile of the eastern end of the project and are directly visible from Wendel Road. The NV Energy 345-kV Reno-Alturas line crosses the landscape just northeast of the proposed substations. Overhead utility lines are commonly seen in the area, and in general are not uncharacteristic visual elements in a rural environment.

Although the Project would not introduce new or unexpected uses into the region, it would increase the extent of semi-industrial and utilitarian elements visible in the area. This visual change would be most noticeable around the substations, and along the western section of the Project area where the Antola Switching Station and 60-kV transmission interconnection are proposed. The degree to which the Project would increase the industrial character of the area would depend largely on the noticeability of its elements. Visual contrast and viewing proximity affect noticeability and the extent to which the project visually blends with the natural setting. The predominantly metal elements of the substations, switching station,

and transmission line poles would increase the industrial appearance of the area and would reduce the Project's visual compatibility with the surrounding natural setting.

In the area south of Antola Road, the new transmission line and switching station would add visual clutter into the view within a defined Scenic Area, further resulting in an adverse reduction of existing visual quality and character. The proximity of the Project to Antola Road and Wendel Road would increase its public noticeability, along with any associated changes to character.

The Project would affect the visual quality and rural character of the site and surroundings. Adverse changes to the visual quality and character of the area and its surroundings would occur due to the increased amount of utilities and semi-industrial elements visible in this predominantly rural environment and an identified County Scenic Area. These changes would be considered potentially significant as seen from Antola Road, Wendel Road and Fish and Game Road.

Mitigation Measures

AES-2: All metal structural components of the Skedaddle and Shaffer substations shall be painted or otherwise colored a medium tan to match the hillside backdrop.

AES-3: All new metal transmission poles shall be colored, darkened, or clad with wood to reduce noticeability and visually blend with the surrounding natural landscape. Weathering steel may be an option to accomplish this measure.

AES-4: Natural-colored wooden slats shall be placed in the chain-link perimeter fencing surrounding the Antola Switching Station to screen the lower portion of the station from view.

Level of Significance after Mitigation – Less than Significant: With implementation of AES-2 to AES-4 the Project would be more visually compatible with the existing setting, and the industrial appearance of substations, the transmission poles and the Antola Switching Station would be reduced, resulting in less than significant impacts to the visual quality of the site and surroundings.

d. Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

Less than Significant with Mitigation. The Project would result in a significant impact if it subjected public viewing locations to a substantial amount of point-source lighting visibility at night, or if the collective lumination resulted in a noticeable spill-over effect into the nighttime sky, increasing the ambient light over the region. The degree of impact caused by night lighting would consider the type of lighting proposed along with the lighting reasonably expected to be generated. The placement of lighting, source of illumination, and fixture types combined with viewer locations, adjacent reflective elements, atmospheric conditions can affect the degree of change to nighttime views. If a project results in direct visibility of a substantial number of lighting sources or allows a substantial amount of light to project toward the sky, significant impacts on nighttime views and aesthetic quality would result.

Night lighting would be required at the Skedaddle and Shaffer substations for security, safety, and operational and emergency purposes. The preliminary lighting concept for the Project includes a lighting system that would normally be off at night but could be turned on with either automatic controls or manually at times when personnel are on site to troubleshoot a problem or respond to an emergency event. Normal operations and maintenance would be performed during daylight hours. It is rare that operating personnel troubleshoot or perform operations at night except in emergencies, expected possibly twice a year. The control enclosure has an outdoor weather proof light at each of the four doors that are controlled by a switch and photocell. The lights would be left off or operate from dusk to dusk automatically as necessary for security. All lighting would be designed with shielding or covers that assist in directing the lighting at the substations and provide some protection to the south from the glare produced at the center of the light fixture.

At the Shaffer Substation, one flood light per A-frame leg would be installed at an approximately 35-foot elevation. There are three A-frames in the substation and each has four legs. There are two A-frames in the center of the substation and one on the western edge over the meter structure (box on left side). The yard lights would be controlled by a light switch in the control house and would typically only operate when crews are troubleshooting equipment in the dark. The control enclosure has an outdoor weather proof light at each of the four doors that are controlled by a switch and photocell. The lights would be left off or operate from dusk to dusk automatically as necessary for security.

Lighting, when required would be highly visible from Wendel Road and the surrounding rural area. Currently no lighting exists in the area where the substations would be built, and any new sources of light in that area would be noticeable. The Project proposes numerous flood lights placed at 35 feet above ground, which would be used during emergency repair operations. In addition, lights associated with the control house could be left on throughout the night for security and other operational needs.

The preliminary lighting concept includes shielded light fixtures to direct light toward the substation to reduce visibility of the point-source, which if installed correctly and included as part of a comprehensive International Dark Sky Association compliant plan, may help reduce noticeable light. Since a specific lighting plan is not yet complete, the potential exists for visible glare and light trespass into the surrounding area due to improper design, fixtures and operational practices. Lighting is only proposed for the substations, and no permanent lighting fixtures are proposed for the Antola Switching Station or other areas of the Project.

Because a specific lighting plan, including exact numbers, placements, types, configurations and intensities is not yet complete, Project lighting has the potential for glare caused by direct visibility of the light sources, light spill-over into areas other than the intended area, and for general atmospheric light pollution. As a result, the Project would create a new source of substantial light and glare which would adversely affect nighttime views in the area, resulting in a potentially significant visual impact.

Mitigation Measures

AES-5: A comprehensive lighting plan shall be prepared based on the results of a photo-metric study prepared by a qualified lighting engineer. The lighting plan shall be prepared using guidance and best practices endorsed by the International Dark Sky Association. The lighting plan shall address all aspects

of the lighting, including but not limited to all buildings, infrastructure, operational needs, safety, and signage. The lighting plan shall also consider effects on wildlife in the surrounding area. The lighting plan shall include the following at a minimum:

A. *The point source of all exterior lighting shall be shielded from off-site views, in particular, views from Wendel Road.*
B. *Light trespass from exterior lights shall be minimized by directing light downward and utilizing cut-off fixtures or shields.*
C. *Lumination from exterior lights shall be the lowest level allowed by public safety standards.*
D. *Exterior lighting shall be designed to not focus illumination onto exterior walls.*
E. *Security lighting proposed for buildings and other areas shall use motion detectors and not be left on continuously.*

Level of Significance after Mitigation – Less than Significant: With implementation of AES-5 light trespass and point-source visibility from off-site viewpoints would be reduced, resulting in less than significant impacts to nighttime views.

Figure 3-1
Key Viewing Area Map and Photo-Simulation Locations

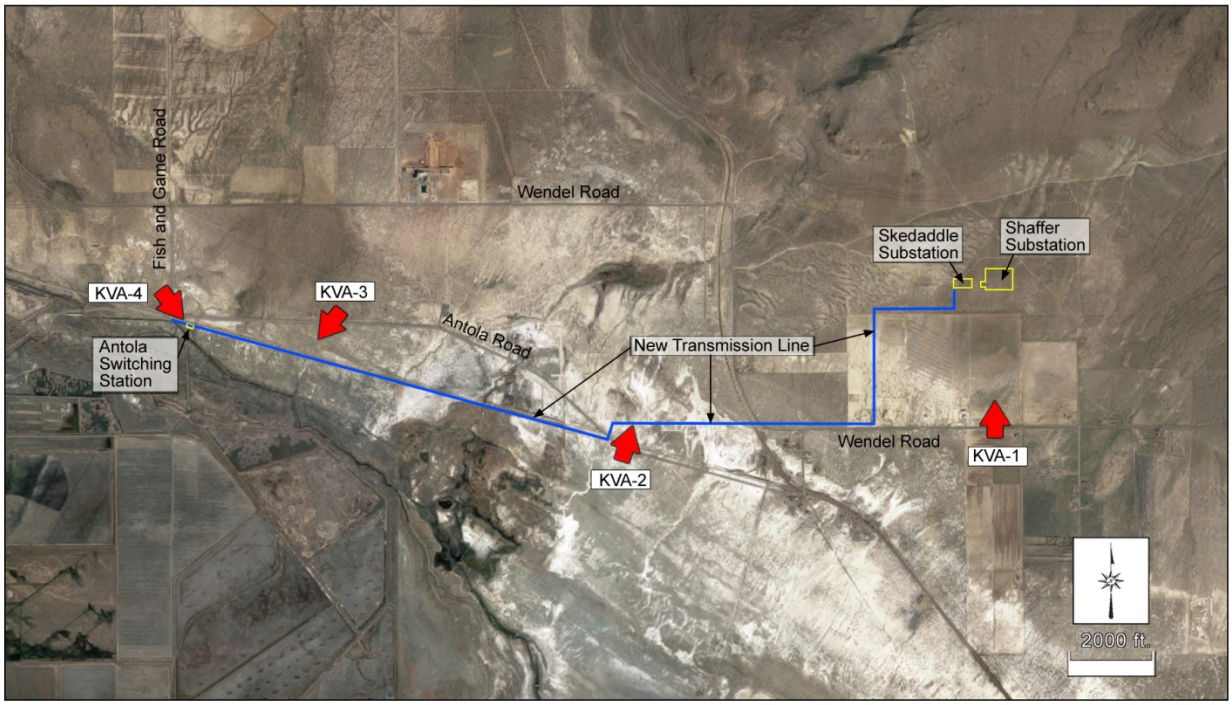

Figure 3-2
KVA-1: Existing conditions – Looking north from Wendel Road

Figure 3.3
KVA-1: View of Skedaddle and Shaffer substations looking north from Wendel Road

Figure 3.4
KVA-2: Existing Conditions – Looking north from Antola Road

Figure 3.5
KVA-2: View of proposed transmission lines looking north from Antola Road

Figure 3.6
KVA-3: Existing Conditions – Looking southwest from Antola Road

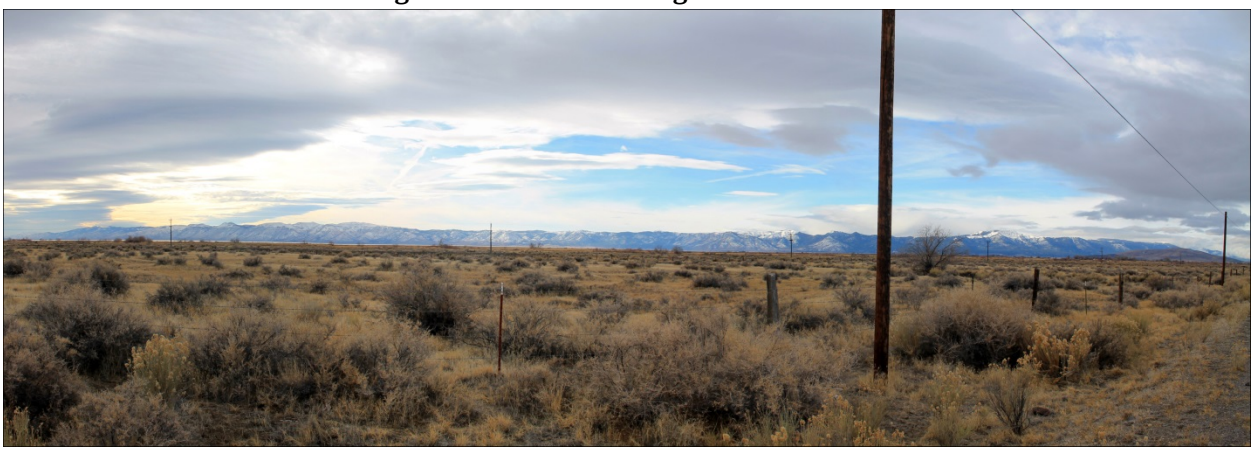

Figure 3.7
KVA-3: View of proposed transmission lines looking southwest from Antola Road

Figure 3.8
KVA-4: Existing Conditions – Looking southeast from the corner of Antola Road and Fish and Game Road

Figure 3.9
KVA-4: View of the Antola switching station looking southeast from the corner of Antola Road and Fish and Game Road

3.2 Agricultural and Forestry Resources

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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 PRC section 12220(g)), timberland (as defined by PRC 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?	☐	☐	☐	☒

3.2.1 Environmental Setting

The lands potentially affected by the Project are designated by the Wendel Area Plan as grazing and sagebrush (Lassen County 1987). These lands have a relatively low productivity of forage because of the lack of rainfall, the short growing season, and severe winters. Agricultural land is a resource of limited availability in Lassen County. It is economically important and provides other benefits such as wildlife habitat, groundwater recharge areas, and open space that contributes to the rural character of the area. Because of climatic and soil conditions of the area, farmers grow mainly forage crops such as hay or alfalfa. Only a small portion of the planning area for the Wendel Area Plan can be considered crop land or prime grazing land. These areas are identified as being located south and west of Wendel. The Project is located north and east of Wendel.

3.2.2 Regulatory Setting

Federal

No federal regulations related to agriculture and forest resources are applicable.

State

Other than the CEQA Guidelines, no other state regulations related to agriculture and forest resources are applicable.

Local

Wendel Area Plan and EIR Resolution 87-137: The Board of Supervisors' found that: "The Wendel Area Plan, as so modified, consisting of objectives, principles, standards, and maps illustrating in graphic form such objectives, principles, and standards, is hereby adopted and approved as the Area Plan for the Wendel Planning Area, in accordance with Article 6 of Chapter 3 of the Planning and Zoning Law (Government Code Sections 65300 and following). Be it further resolved that wherever the goals, objectives, and policies set forth in the Wendel Area Plan may be in conflict with any provision of the Lassen County General Plan, such provisions of the Wendel Area Plan shall be deemed amendatory to the General Plan as special provisions thereof pertaining to the Wendel Planning Area and shall not be construed as constituting any inconsistency in the General Plan, internal or otherwise." (Lassen County 1987).

3.2.3 Impacts and Mitigation Measures

Discussion of Agriculture and Forest Resources IS Checklist Questions

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

No Impact. The Project would have no impact on the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (California Important Farmland Maps). The California Important Farmland Maps indicate that the lands affected by the Project are not classified as farmland. Soils affected by Project have severe limitations for agricultural use and are not classified by the Natural Resources Conservation Service (NRCS) as federal Prime Farmland (California Department of Conservation (CDC) 2016a).

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The Project would not conflict with existing zoning for agricultural use. The Wendel Area Plan indicates that the grazing and sagebrush lands affected by the Project are zoned as "A-1-General Agriculture." Although this zone allows agricultural uses, it also allows non-agricultural land uses.

The Project would not conflict with a Williamson Act contract. According to online records maintained by the Lassen County Assessor's office, only one parcel under a Williamson Act contract would be affected by the Project. This parcel is crossed by approximately 3,000 feet of the proposed 60kV transmission line as it approaches the proposed Antola Switching Station from the east. The adjacent power line corridor for the out of service LMUD 34.5 kV line has crossed this parcel for decades consistent with its existing Williamson Act contract. Because these existing power line corridors have been managed concurrent with the parcel's agricultural operations on an ongoing basis, there would be no conflict with the existing Williamson Act contract.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?*

No Impact. The Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g) because the lands affected by the Project are sagebrush and grasslands. No forest land would be affected by the Project.

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. The Project would not result in the loss of forest land or conversion of forest land to non-forest use because no forest land would be affected by the Project.

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?*

No Impact. The 14 acres of permanent disturbance and 10 acres of temporary disturbance would affect sagebrush and grazing land that is not currently suitable for agriculture and does not support any forest land or forest uses. Because there would be no changes that could result in the conversion of farmland to non-agricultural uses, or the conversion of forest land to non-forest uses, there would be no impact.

3.3 Air Quality

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☒	☐

3.3.1 Environmental Setting

The Project area is located within the Northeast Plateau Air Basin, which is comprised of the following three air pollution control districts (APCDs): Siskiyou County, Modoc County and Lassen County. Each APCD regulates air quality within their respective counties. The Project is located within the jurisdiction of the Lassen County APCD. According to the Lassen County APCD, the air quality index in Lassen County is classified as "Good" most of the year; however, events such as wildfires and inversion layers in winter months can periodically degrade air quality. In general, primary emission sources in Lassen County include motor vehicles, lumber mills, wood burning stoves, wildfires, prescribed fires, and fugitive dust from unimproved roads and sparsely vegetated or unvegetated lands, including dry lakebeds. Periodic emissions also occur from agricultural activities such as disking and agricultural waste burning.

The federal Clean Air Act (CAA) requires that the United States Environmental Protection Agency (USEPA) establish national ambient air quality standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the USEPA publishes criteria to define the maximum amount of an air pollutant that can be present in ambient air without harm to the public's health. Under the CAA, the USEPA has established NAAQSs for six air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), suspended particulate matter (PM_{10} [10 micrometers or less in diameter] and $PM_{2.5}$ [2.5 micrometers or less in diameter]), sulfur dioxide (SO_2), and lead (Pb). Similarly, at the state level, the California Clean Air Act (CCAA) and California Air Resources Board (CARB) set California ambient air quality standards (CAAQS). CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

The Lassen County APCD's air pollution regulations comply with the standards established by USEPA and CARB. Areas in which the NAAQS and/or CAAQS for a particular criteria pollutant are being maintained are designated as in "attainment". An area is designated as "unclassified" for a criteria pollutant when the available data is insufficient to determine "attainment" status. "Unclassified" areas are treated as "attainment" areas until proven otherwise. An area designated as "non-attainment" is one that does not meet

NAAQS or CAAQS for specific criteria pollutants. The designation is made on a pollutant-specific basis; therefore, an area may be designated "non-attainment" for one pollutant but in "attainment" for others. Lassen County is currently classified as “attainment” or “unclassified” for all NAAQS and CAAQS, except for the CAAQS standards for PM_{10}. All of Lassen County is classified as “nonattainment” for PM_{10} (CARB 2017).

There are no ambient air quality monitoring stations or other facilities conducting ambient air quality monitoring of toxic contaminants in Lassen County; therefore, local ambient concentrations of toxic contaminants are not available. The only ambient air quality monitoring station located in the Northeast Plateau Air Basin is the Yreka-Foothill Drive Monitoring Station, located approximately 157 miles northwest in Yreka, Siskiyou County, California. Consideration of data from "regional sites" impacted by similar natural and man-made sources is an accepted practice by the USEPA; therefore, a summary of ambient air quality monitoring data collected by the Yreka-Foothill Drive Monitoring Station for O_3, $PM_{2.5}$, and PM_{10} is provided in Table 3.3-1 below.

Table 3.3-1
Summary of Ambient Air Quality Monitoring Data

Pollutant	**Monitoring Year[1]**		
Ozone (O_3)[1]	**2016**	**2017**	**2018**
Maximum concentration (1-hour/8-hour average ppm)	0.092/0.068	0.053/0.049	0.053/0.047
Number of days state/national 1-hour standard exceeded	1 (state)	0	0
Number of days state/national 8-hour standard exceeded	0	0	0
Suspended Particulate Matter ($PM_{2.5}$)[2]	**2015**	**2016**	**2017**
Maximum concentration (24-hour Average ug/m^3)	51.0	25.1	78.8
Number of days state standard exceeded (measured/calculated)[3]	N/A	N/A	N/A
Number of days national standard exceeded (measured/calculated)[3]	2/60	0/60	4/60
Suspended Particulate Matter (PM_{10})[2]	**2015**	**2016**	**2017**
Maximum concentration (24-hour Average ug/m^3)	59.6	83.4	4.8
Number of days state standard exceeded (measured/calculated)[3]	1/60	2/60	0/60
Number of days national standard exceeded (measured/calculated)	0/60	0/60	0/60

ppm = parts per million by volume, µg/m3 = micrograms per cubic meter, NA=Not Available
1. Based on ambient concentrations obtained from the Yreka Monitoring Station. Data available from most recent three years for each criteria pollutant was used.
2. Based on ambient concentrations obtained from the Bakersfield-5558 California Avenue Monitoring Station
3. Measured days are those days that an actual measurement was greater than the standard. Calculated days are estimated days that a measurement would have exceeded the standard had measurements been collected every day.
Source: CARB 2018

3.3.2 Regulatory Setting

Federal and State

Both the NAAQS and CAAQS are provided in Table 3.3-2 below.

Table 3.3-2
Summary of Ambient Air Quality Standards and Attainment Designations

Pollutant	Averaging Time	California Standards[1]		National Standards[1]	
		Concentration	Lassen County Attainment Status	Primary	Lassen County Attainment Status
O_3	1-hour	0.09 ppm (180 µg/m^3)	Attainment	--	Unclassified
	8-hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)	
PM_{10}	24-hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
	AAM	20 µg/m^3		–	
$PM_{2.5}$	24-hour	No State Standard	Attainment	35 µg/m^3	Unclassified
	AAM	12 µg/m^3		12 µg/m^3	
CO			Unclassified		Unclassified
	8-hour	9 ppm (10 mg/m^3)		9 ppm	
	1-hour	20 ppm (10 mg/m^3)		35 ppm (40 mg/m^3)	
NO_2	AAM	0.030 ppm (57 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Unclassified
	1-hour	0.18 ppm (330 µg/m^3)		100 ppm (196 µg/m^3)	
SO_2	AAM	–	Attainment	0.030 ppm (80 µg/m^3)	Unclassified
	24-hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	
	3-hour	–		0.5 ppm (1300 µg/m^3)	
	1-hour	0.25 ppm (655 µg/m^3)		75 ppb (196 mg/m^3)	
Pb	30-day Average	1.5 µg/m^3	Attainment	–	Unclassified
	Calendar Quarter	–		1.5 µg/m^3	
	Rolling 3-Month Average	–		0.15 µg/m^3	

Table 3.3-2 Summary of Ambient Air Quality Standards and Attainment Designations					
Pollutant	**Averaging Time**	**California Standards[1]**		**National Standards[1]**	
		Concentration	**Lassen County Attainment Status**	**Primary**	**Lassen County Attainment Status**
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%. Method: Beta attenuation and Transmittance through Filter Tape.	Unclassified	No Federal Standards	
Sulfates	24-hour	25 µg/m^3	Attainment		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	No Attainment Information		
Notes: µg/m^3 = micrograms per cubic meter, pp, = parts per million, AAM = Annual Arithmetic Mean 1. Daily and quarterly emission thresholds are based on the California Health and Safety Code and the CARB Carl Moyer Guidelines. 2. Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5-ton PM_{10} quarterly threshold. Source: CARB 2017					

California State Implementation Plan (SIP): The SIP is comprised of the state's overall air quality attainment plans to meet the NAAQS, and individual air quality attainment plans of each Air Quality Management District (AQMD) and APCD. The California SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), AQMD and APCD rules, state regulations, and federal controls for each air basin and California's overall air quality. Many of the items within the California SIP rely on the same control strategies, such as emissions standards for cars and heavy trucks, fuel regulations, and limitations on emissions from consumer products. AQMDs and APCDs, as well other agencies, prepare draft California SIP elements and submit them to the CARB for review and approval. The CCAA identifies CARB as the lead agency for compiling items for incorporation into the California SIP and for submitting the items to the USEPA for approval.

Local

Lassen County APCD: The Lassen County APCD has regulatory jurisdiction over the county's air quality permitting process. The USEPA approved the Lassen County APCD's Air Pollution Rules and Regulations

compiled for portion of the California SIP as of December 29, 2017 (Lassen County APCD 2017). The Lassen County APCD has a nuisance rule which implicitly regulates pollutants other than those for which criteria standards have been adopted. Air Pollution Regulations Rule 4:2 states:

- A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business and property.

This rule may be interpreted to restrict ambient concentrations of pollutants, such as toxic and hazardous pollutants, until other standards are in place. Additionally, the APCD Air Pollution Rules and Regulations Rule 6:4 includes the following Best Available Control Technology (BACT) Emission thresholds:

- BACT Requirements - An applicant shall apply BACT to a new source or modification of an existing source, except cargo carriers, for each affected pollutant emitted, including halogenated hydrocarbons (as defined in Section 6:3(m) of this rule), under the following conditions:
    1. A new stationary source emits more than 68 kilograms (kg) (150 pounds (lbs.)) per day of reactive organic compounds (ROGs) or nitrogen oxides or sulfur oxides or PM; or 249 kg (550 lbs.) per day of CO; or 1,450 grams (3.2 lbs.) per day of lead, or .04 lbs./day of asbestos; or .0022 lbs./day of beryllium; or .55 lbs./day of mercury; or 5.48 lbs./day of vinyl chloride; or 16.44 lbs./day of fluorides; or 38.35 lbs./day of sulfuric acid mist; or 54.79 lbs./day of hydrogen sulfide or total reduced sulfur or sulfur compounds.
    2. A modification of an existing stationary source will result in a net emission increase of an affected pollutant by an amount more than any of the limits stated in Section 6.4(a)(1).
    3. A new source or modification subject to BACT for any pollutant subject to this section shall apply BACT for any other affected pollutant emitted from the new source or modification, if the Air Pollution Control Officer should so require.

Lassen County General Plan (Lassen County 2000). The Natural Resources Element of the Lassen County General Plan includes the following applicable goal, policies and implementation measures related to air quality.

Goals

N-22: Air quality of high standards to safeguard public health, visual quality, and the reputation of Lassen County as an area of exceptional air quality.

Policies

NR74: The Board of Supervisors will continue to consider, adopt and enforce feasible air quality standards which protect the quality of the County's air resources.

NR-Q: The County will continue to regulate the emission of pollutants within its jurisdiction through the regulations and procedures adopted for the Lassen County APCD.

NR-R: In review of proposed projects pursuant to the CEQA, the County shall consider potential air quality impacts and shall, through the APCD, support appropriate measures for mitigation of significant environmental impacts upon air quality.

NR75: The County shall consider the appropriateness and feasibility of air pollution control requirements for individual projects and may grant variances to specific requirements pursuant to established procedural guidelines.

3.3.3 Impacts and Mitigation Measures

Discussion of Air Quality IS Checklist Questions

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. Lassen County Rules and Regulations include general provisions and rules for APCD-issued permits, fees, prohibitions (including but not limited to nuisance, particulate matter, specific air contaminants, open burning, gasoline storage, reduction of odorous matter, fugitive dust emissions, and equipment breakdown), procedures, new source siting, and Title V permits. Implementation of the Project would be limited to construction and operation of unmanned substations, Antola Switching Station, overhead transmission lines and associated access roads. No substantial increase in operational traffic trips or source emissions would occur and the Project would not affect vehicle congestion and delay, vehicle miles traveled, or other system-wide circulation patterns that could substantially increase air emissions. Construction and operation of the Project would be implemented in compliance with the Lassen County APCD Air Quality Rules and Regulations.

a) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. As discussed previously, Lassen County is currently classified as attainment or unclassified for all NAAQS and CAAQS, except the CAAQS for PM10. The Lassen County APCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs to achieve and maintain ambient air quality standards. Implementation of the Project has the potential to generate emissions during construction (short-term emissions and dust) and operational emissions during operation and maintenance, as discussed below.

Short-Term Construction Emissions

The Project would result in the temporary generation of emissions during construction activities. Estimated construction emissions were calculated using the California Emissions Estimator Model (CalEEMod) software. The CalEEMod is a statewide model designed to quantify greenhouse gas (GHG) emissions from land use projects. The results of the CalEEMod are included in Appendix 3.3-1. The results of the estimated construction emission calculations (unmitigated) for the Project are shown in Table 3.3-3 and are compared to the Lassen County APCD's thresholds for BACT Requirements. It should be noted that the results are based on conservative estimations and by the CalEEMod defaults; therefore, it is possible that actual Project construction emissions may vary based on the finalized design and construction plans. As shown in Table 3.3-3 below, construction would not exceed the Lassen County APCD's thresholds for BACT Requirements; therefore, potential construction-related impacts would be less than significant.

Table 3.3-3 Estimated Construction Emissions (Unmitigated)

	Pollutants of Concern											
	Reactive Gases	**Organic**	**NOx**		**PM_{10}**		**$PM_{2.5}$**		**CO**		**SO_2**	
	Maximum lbs./day	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**
Estimated Project Emissions (2019)	5.46	0.60	56.63	5.20	21.05	0.45	12.61	0.27	33.00	4.19	0.07	.009
Lassen APCD BACT Threshold	150	--	150	--	150	--	150	-	550	-	150	-
Exceeds Lassen APCD BACT Threshold?	No	N/A	No	N/A	No	N/A	No	N/A	No	N/A	No	N/A

Source: CalEEMod 2018; Lassen County APCD 2014

Long-Term Operational Emissions

Implementation of the Project would not directly or indirectly increase the population or vehicle miles traveled that could result in a permanent increase in operational emissions. Once developed, the Project would be unmanned and would not generate substantial new trips or other sources of long-term operational emissions. Compliance with CARB and Lassen County APCD Air Quality Rules and Regulations would ensure emissions resulting from Project construction and operation are less than significant and would not result in a cumulatively considerable net increase in $PM_{10;}$ therefore, potential impacts would be less than significant.

b) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Land uses that are commonly considered sensitive receptors typically include residences, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes. The nearest sensitive receptor, a private residence, is located approximately 300 feet south of the proposed 60-kV transmission line, located north of the intersection of Wendel Road and Amadee Road. The only construction activities that would occur near the private residence would be the temporary construction activities related to the installation of the 60-kV transmission lines at that location. Additionally, as shown in Table 3.3-4 Project related construction activities would not generate pollutant concentrations that exceed Lassen County APCD thresholds. The Project would not include substantial construction activities in proximity to sensitive receptors, nor would it expose sensitive receptors to substantial pollutant concentrations.

Table 3.3-4
Estimated Construction Emissions (Unmitigated)

	Pollutants of Concern											
	ROGs		**NOx**		**PM_{10}**		**$PM_{2.5}$**		**CO**		**SO_2**	
	Maximum lbs./day	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**	**Maximum lbs./day**	**Tons/ year**
Estimated Project Emissions (2019)	5.46	0.60	56.63	5.20	21.05	0.45	12.61	0.27	33.00	4.19	0.07	.009
Lassen APCD BACT Threshold	150	--	150	--	150	--	150	-	550	-	150	-
Exceeds Lassen APCD BACT Threshold?	No	N/A	No	N/A	No	N/A	No	N/A	No	N/A	No	N/A

Source: CalEEMod.2016.3.1; Lassen County APCD 2014

Long-Term Operational Emissions

Less than Significant Impacts. Implementation of the Project would not directly or indirectly increase the population or vehicle miles traveled that could result in a permanent increase in operational emissions. Once developed, the Project would be unmanned and is not anticipated to generate substantial new trips or other sources of long-term emissions operational emissions. Compliance with CARB and Lassen County APCD Air Quality Rules and Regulations would ensure emissions resulting from Project construction and operation are less than significant and that the Project would be in conformance with the SIP.

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

Less than Significant Impact. Construction activities have the potential to emit odors from diesel equipment, paints, solvents, fugitive dust, and adhesives. Odors from construction activities would be intermittent and temporary, and generally would not extend beyond the construction area. The Project does not include any developed components or operational activities expected to generate odor and construction odors would be temporary and intermittent nature. As discussed above, the Project would not result in other emissions that would adversely affect a substantial number of people.

3.4 Biological Resources

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or U.S. Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW and USFWS?	☐	☒	☐	☐
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 wildlife 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?	☐	☐	☐	☒

3.4.1 Environmental Setting

SWCA Environmental Consultants (SWCA) prepared a Biological Resources Assessment (BRA) for the Project to evaluate the potential impacts to biological resources. Information in this section is excerpted from the BRA, which is included as Appendix 3.4-1. For the purposes of this section, the Biological Study Area (BSA) encompasses the entire 147-acre Project area. The Project Impact Area (PIA) is defined as the areas within the BSA with the potential for impacts due to Project activities. The PIA includes 14 acres of permanent disturbance and 10 acres of temporary disturbance for construction and staging.

Field Surveys

As further outlined in Appendix 3.4-1, SWCA conducted field studies for entire BSA with the purpose of characterizing the existing conditions on and adjacent to the project site and to identify those biological resources that could be impacted by the Project. Field studies included floristic botanical surveys in June 2017, August 2017, and May 2018; a general reconnaissance-level wildlife survey in August 2017; mapping of potentially jurisdictional waters in May 2018; and an Aquatic Resources Delineation in July 2018.

Topography, and Elevation

The entire BSA area is generally flat with slight topographical variation throughout due to small vegetation hummocks, the raised decommissioned railroad ROW bed (west of Antola Road), and the Antola and Wendel road embankments. The elevation of the BSA ranges from 4,135 feet above mean sea level (AMSL) on the far northeast corner to approximately 4,000 feet AMSL along the railroad ROW in its southern section.

Habitat Types

Habitat in the BSA is composed of big sagebrush, greasewood scrub, saltgrass flats, agricultural, open water, and developed areas (Sawyer et al. 2009). Big sagebrush (Sawyer et al. 2009) is a scrub habitat dominated by Great Basin sagebrush (Artemisia tridentata) and is widely distributed throughout the Great Basin, including much of California east of the Cascade-Sierra crest. Big sagebrush habitat is found in Modoc, Lassen, Mono, and Inyo counties with scattered localities along the margins of the Mojave and Sonoran Deserts at elevations of 300 to 3,000 meters. Big sagebrush habitat is found in plains, alluvial fans, bajadas, pediments, lower slopes, and valley bottoms, and along seasonal and perennial stream channels and dry washes in sandy to loamy well-drained soils. Species commonly associated with big sagebrush habitat includes hoary saltbush (Atriplex canescens), black brush (Coleogyne ramosissima), Acton encelia (Encelia actonii), Nevada ephedra (Ephedra nevadensis), green ephedra (Ephedra viridis), and rubber rabbitbrush (Ericameria nauseosa) (Holland 1986; Sawyer et al. 2009).

Other species found in the Great Basin sagebrush that dominates the proposed substation areas include horsebrush (Tetradymia spinose and T. tetrameres) and yellow rabbitbrush (Chrysothamnus viscidiflorus). Geyer's milkvetch (Astragalus geyeri var. geyeri) was present in this vegetation community, predominately along the northern and eastern edges of the substation area. Wildlife species observed within the big sagebrush area of the BSA include sagebrush sparrow (Artemisiospiza nevadensis), loggerhead shrike (Lanius ludovicianus), and sage thrasher (Oreoscoptes montanus). There were also observations of long-nosed leopard lizard (Gambelia wislizenii) and kangaroo rat (Dipodomys sp.), which were restricted to the stabilized sand dune area of the big sagebrush habitat.

Greasewood scrub (Sawyer et al. 2009) is a habitat dominated by greasewood (Sarcobatus vermiculatus) and is widely scattered throughout the Great Basin, Mojave, and Colorado Deserts and is found in valley bottoms, dry lake beds, old lake beds perched above current drainages, stable sand dunes, and barrier beaches from 100 to 2,000 meters. Soils are usually heavy, fine textured, and poorly drained, and often alkaline and saline. Other species commonly found in greasewood scrub include iodine bush (Allenrolfea occidentalis), Great Basin sagebrush, hoary saltbush, spiny saltbush (Atriplex confertifolia), rubber rabbitbrush, alkali heath (Frankenia salina) and Mohave seablite (Suaeda nigra). Grass species are often found in the understory (Holland 1986; Sawyer et al. 2009).

Within the BSA, greasewood scrub is found along the proposed 60-kV transmission line area adjacent to the decommissioned railroad ROW and Wendel Road. The herb layer within the greasewood scrub habitat includes saltgrass and tall whitetop (Lepidium latifolium), a noxious weed species, especially in low-lying areas along the railroad embankment.

Saltgrass flats (Sawyer et al. 2009) or alkali meadow (Holland 1986) are dominated by saltgrass and consist of dense to open growth of usually low-growing perennial grasses and sedges. This community is found in inland habitats including playas, swales, and terraces along washes that are typically intermittently flooded. Soils are often fine textured, deep, and alkaline or saline. Saltgrass flats are commonly found in valley bottoms and lower portions of alluvial slopes. The soil surface often has visible salt accumulation when dry (Holland 1986; Sawyer et al. 2009). Saltgrass flats are designated as a California Sensitive Natural Community (California Natural Diversity Database (CNDDB) 2018).

Saltgrass flats are found in the area of the proposed transmission line just west of Wendel Road. These areas have varying densities of saltgrass cover from open to forming dense mats. The open density areas have very evident salt crust over the ground and vegetation surfaces. The mat-forming areas within the BSA are isolated to the areas adjacent to open water. Wildlife species known to occur within these mats forming saltgrass flats, adjacent to open water, include the Federally Endangered Carson wandering skipper (CWS) butterfly.

The agricultural area, primarily fallow and grazed grain fields, is in the eastern section of the proposed 60-kV transmission line route where it runs in a north/south direction north of Wendel Road. This area was observed to have been tilled recently, as evident in publicly available aerial photographs of the area taken in June 2012. Vegetation within this area is ruderal and dominated by weedy species, including cheatgrass (Bromus tectorum) and clasping pepperweed (Lepidium perfoliatum). There were some native shrub species that have begun to establish in the area since it was last tilled, including greasewood, silver sage (Artemisia cana), and yellow rabbitbrush. Soils in this area of the BSA are fine, appearing to consist of clay materials, along with salt crusts on the surface.

Open water was encountered during both spring and summer field surveys. Open water within the BSA is isolated to the area downstream of the Wendel Hot Spring. Channels associated with the spring have been modified and redirected along and under the raised railroad embankment with trenching, culverts, valves, and plastic lining. These channels eventually flow out of the BSA, running south toward Honey Lake. These open waters support a private recreational waterfowl club located on an adjacent property.

These areas are highly disturbed and consist of roadways, road shoulders, and raised railroad beds and embankments. Within the BSA, developed areas include sections along Antola Road, Wendel Road, and the decommissioned railroad ROW. These areas are almost entirely void of vegetation but occasionally support weedy plant species and small shrubs. Wildlife species typically found in ruderal and scrub habitats may frequent these areas for forage or migration but are not likely to inhabit them.

Regional Habitats and Natural Communities of Concern

The CNDDB documents regional habitats and natural communities of concern that are considered sensitive within the search area. Based on the query of CNDDB (2018) and USFWS Information for Planning and Consultation (IPaC) website (USFWS 2019) no federally designated critical habitat was reported within the BSA. During field surveys, it was discovered that one designated natural community of concern, saltgrass flats (Sawyer et al. 2009), was present within the BSA.

Saltgrass flats are typically found within areas of coastal salt marshes and inland habitats, including playas, swales, and terraces along washes that are typically intermittently flooded. Soils are often deep, alkaline, or saline, and often have an impermeable layer making them poorly drained. When the soil is dry, the surface usually has salt accumulations (Sawyer et al. 2009). Within the BSA, approximately 1.9 acres of saltgrass flats are present along the proposed 60-kV transmission line route west of Wendel Road.

Special-Status Plant Species

Based on a five-mile radius query of the CNDDB, a query of the USFWS IPaC website, and surveys conducted within the BSA, 19 special-status plant species have been documented in the Project area. Because the list of special-status plant species is considered regional, an analysis of the range and habitat preferences of the listed species was conducted to identify which species have the potential to occur in or near the BSA (see Appendix 3.4-1). The evaluation considered the existing conditions, elevation, and soils within the BSA. Species outside of the five-mile radius were not evaluated further because the BSA is located outside of their known geographic ranges and they are therefore considered unlikely to occur.

SWCA conducted 100% visual coverage botanical surveys within the BSA with the purpose of mapping the sensitive plant species with potential to occur. Surveys were conducted within the appropriate blooming period for these species. Several of these species were identified in the Project area, including Geyer's milkvetch, snake milkvetch (Astragalus iodanthus var. diaphanoides), winged dock (Rumex venosus), and western seablite (Suaeda occidentalis). Additional, sensitive species that had not been previously recorded within a five-mile radius of the BSA were discovered during these surveys and mapped, including snake mild vetch (Astragalus iodanthus var. diaphanoides) and spiked larkspur (Delphinium stachydeum).

Special-Status Animal Species

Based on the CNDDB and USFWS IPaC database searches and our surveys, 13 special-status animal species have been documented within the Project area (CNDDB 2018). Because the list of special-status animal species is considered regional, an analysis of the range and habitat preferences of those species was conducted to identify which sensitive animal species have the potential to occur in or near the BSA (see Appendix 3.4-1). Based on best available information and analysis conducted by SWCA, it was determined that the following special-status animal taxa have the potential to occur within the BSA: nesting migratory birds, CWS, tricolored blackbird (Agelaius tricolor), burrowing owl (Athene cunicularia), prairie falcon (Falco mexicanus), greater sandhill crane (Grus canadensis tabida), and American badger (Taxidea taxus). During the field surveys, one special-status species—the loggerheaded shrike—was observed within the BSA, and one active red-tailed hawk (Buteo Jamaicensis) nest was discovered within the proposed 60-kv transmission line area.

3.4.2 Regulatory Setting

Federal

Federal Endangered Species Act of 1973 (FESA). The FESA provides legislation to protect federally listed plant and animal species. Impacts to listed species resulting from the implementation of a project would require the responsible agency or the applicant to formally consult with the USFWS or National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) to determine the extent of impact to a particular species. If the USFWS or NOAA Fisheries determines that impacts to a federally listed species would likely occur, alternatives and measures to avoid or reduce impacts must be

identified. The USFWS and NOAA Fisheries also regulate activities conducted in federal critical habitat, which are geographic units designated as areas that support primary habitat constituent elements for listed species.

Migratory Bird Treaty Act of 1918 (MBTA). The MBTA protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies. On April 11, 2018, the USFWS issued guidance on the recent M-Opinion affecting MBTA implementation. The M-Opinion concludes that the take of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds. The USFWS interprets the M-Opinion to mean the MBTA prohibitions on take apply when the purpose of the action is to take migratory birds, their eggs, or their nests. Working with other federal agencies on migratory bird conservation is an integral mission of the USFWS; therefore, the USFWS maintains that potential impacts to migratory birds resulting from federal actions should be addressed under the National Environmental Policy Act (NEPA). Portions of the BSA supports habitat for nesting birds. If proposed ground-disturbing activities were implemented during the nesting bird season, pre-disturbance nesting bird surveys should be conducted to avoid impacts to nesting migratory birds.

Clean Water Act (CWA) Section 404. The USACE regulatory jurisdiction under CWA Section 404 which extends to all work in, over, and under waters of the United States that results in a discharge of dredged or fill material within USACE regulatory jurisdiction. Under Section 404, the USACE regulates traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that typically flow year-round or have a continuous flow at least seasonally (typically three months), and wetlands that directly abut relatively permanent tributaries. The USACE will determine jurisdiction over waters that are non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary, only after making a significant nexus finding.

USACE jurisdiction over non-tidal waters of the United States extends laterally to the ordinary high-water mark (OHWM) or beyond the OHWM to the limit of any adjacent wetlands, if present (33 Code of Federal Regulations (CFR) 328.4). USACE jurisdiction over non-tidal waters typically extends upstream to the point where the OHWM is no longer perceptible. The OHWM is defined in 33 CFR 328.3 as:

> *that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.*

CWA Section 401. Section 401 of the CWA functions to ensure that federally permitted activities comply with the federal CWA and other state-mandated water quality laws. Section 401 is implemented through a review process that is conducted by the local RWQCB and is typically triggered by the Section 404 permitting process. RWQCB issues a Water Quality Certification via the Section 401 process where a project would comply with applicable effluent limitations, water quality standards, and other conditions of

state law. Evaluating the effects of the Project on both water quality and quantity (runoff) falls under the jurisdiction of the Lahontan RWQCB. Any activities within the area that have the potential to result in a need for a CWA Section 404 permit from USACE would also require a RWQCB Section 401 Water Quality Certification. The Project has been designed to avoid federal jurisdictional areas and would not require a CWA Section 404 permit.

State

Porter-Cologne Water Quality Control Act. Under the Porter-Cologne Water Quality Control Act, "waters of the State" fall under the jurisdiction of the State Water Resource Control Board (SWRCB) and the nine RWQCBs. RWQCBs must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. In most cases, RWQCBs seek to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. Projects that affect wetlands or waters of the State must meet the RWQCB WDRs, which may be issued in addition to, or in lieu of, a water quality certification under Section 401 of the CWA. This jurisdiction includes waters (including wetlands and isolated wetlands) USACE deems to be isolated or non-jurisdictional (see discussion above under Sections 404 and 401 of the CWA). For waters of the State not subject to federal jurisdiction, SWRCB and RWQCB may authorize impacts by issuing a WDR or in some cases, a waiver of WDR. The Project will need to obtain a WDR for Dredged or Fill Discharges to Waters Deemed by the USACE to Be Outside of Federal Jurisdiction (General WDR Order No. 2004-0004-Department of Water Quality), since it was designed to avoid federal jurisdictional areas but all state jurisdictional areas.

California Endangered Species Act of 1984 (CESA). California has a parallel mandate to the FESA, which is embodied in the CESA. CESA ensures legal protection for plants, listed as rare or endangered, and wildlife, listed as threatened or endangered. CDFW regulates activities that may result in the "take" of such species. CESA has a much less inclusive definition of "take" (limited to direct takes such as hunting, shooting, capturing, etc.) that does not include the broad "harm" and "harassment" definitions in federal law.

Any activities that could result in take of state-listed plant or animal species would require a Section 2081(b) Incidental Take Permit (ITP) from CDFW. This process requires submittal of a sensitive species study and permit application package, and is similar to the FESA Section 10 process, except that CDFW is the regulatory and decision-making agency. Alternatively, the Section 2080.1 Consistency Determination process allows an applicant who has obtained a federal incidental take statement pursuant to a federal Section 7 consultation or a federal Section 10(a) ITP to notify CDFW in writing that the applicant has been issued an incidental take statement or an ITP pursuant to the FESA. The applicant must submit the federal incidental take statement or ITP to CDFW for a determination as to whether the federal document is "consistent" with CESA. In most situations, CDFW cannot issue a 2081 ITP for Fully Protected species; therefore, impacts to Fully Protected species must be completely avoided. However, recent legislation (Senate Bill 618, Amended September 8, 2011) may empower CDFW to authorize incidental take for particular species, covered under a state-approved conservation plan. Issuance of ITPs under SB 618 would be evaluated by CDFW on a project by project basis.

CDFW also maintains a list of California Species of Special Concern (SSC) based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, CDFW is empowered to review projects for their potential to affect CESA-listed species and SSC species, and their habitats. In addition, certain plants are listed as rare or endangered by the California Native Plant Protection Act (CNPPA) but have no designated status. CDFW has authority during the CEQA process to review potential constraints on rare plant species and require mitigation to reduce the impact level of significance. Unlisted plant species on the CNPS Rank 1A, 1B, and 2 are typically considered under CEQA.

California Native Plant Protection Act of 1977 (CNPPA). The CNPPA was enacted to preserve, protect, and enhance endangered and rare plants in California. It specifically prohibits the importation, take, possession, or sale of any native plant designated by CDFW as rare or endangered, except under specific circumstances. Various activities are exempt from CNPPA, although take as a result of these activities, may require other authorization from CDFW.

California Fish and Game Code (CFGC). Pursuant to CFGC Sections 1600 to 1616, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake. This jurisdiction includes dry washes that carry water ephemerally during storm events. The CCR (14 CCR 1.72) defines a stream as:

> *a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.*

The limits of CDFW jurisdiction are defined in the CFGC as:

> *the bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.*

In practice, CDFW usually extends its jurisdictional limit to the top of a stream or lake bank, or outer edge of the riparian vegetation, whichever is wider. CDFW can be expected to take jurisdiction over all areas that have evidence of a cut bank and channel, or evidence of historical flows, to the point where no confining feature is present.

CFGC Section 3503 include provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species, such as: (1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to 'take' the species;" and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. CDFW is unable to authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species.

Local

Lassen County General Plan. The Lassen County General Plan includes the federal, state, and local statutes, ordinances, and policies that govern the conservation of biological resources that must be considered by the County of Lassen during the environmental review process (Lassen County 2000).

3.4.3 Impacts and Mitigation Measures

The emphasis of this analysis is to identify sensitive biological resources that could be impacted by the Project, assuming such impacts would be limited to the 24-acre PIA.

Discussion of Biological Resources Initial Study Checklist Questions

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 CDFW or USFWS?

Less than Significant Impact with Mitigation.

Special-Status Plant Species - Botanical surveys were conducted throughout the BSA using 10-meter parallel transects to ensure even coverage and 100 percent visibility during the appropriate blooming period and all special-status plants observed were mapped using a Global Positioning System capable of submeter accuracy. Special-status plants observed and mapped included Geyer's milkvetch, snake milkvetch, spiked larkspur, winged dock, and western seablite. Geyer's milkvetch was mapped within the PIA within the substation area, snake milkvetch and spiked larkspur were mapped adjacent to the PIA of the proposed paved road, and western seablite was mapped adjacent to the PIA adjacent to the proposed 60-kV transmission line along Wendel Road. If the occurrences were not properly mapped and identified for avoidance prior to grading activities, the grading could inadvertently extend into the occurrence locations and remove the special-status plant species individuals. In some instances, avoidance of the occurrences may not be feasible, and the development activities will remove the occurrences and the habitat that supports the occurrences. Mitigation Measures BIO-1, BIO-2, and BIO-5 will ensure that impacts to special-status plant species are less than significant.

Special-Status Wildlife Species

Carson Wandering Skipper - The CWS is a small butterfly in the subfamily Hesperiinae (grass skippers) and is federally listed as endangered by the USFWS. During June and July, females lay their eggs on saltgrass, its larval host plant within CWS habitat. As described by USFWS and CWS Biologist Dr. Dennis Murphy, CWS habitat are areas within 30 meters of open water, standing water in the spring, or saturated soils during the skipper flight period, with both saltgrass, the larval host plant, and nectar resources, including but not limited to *Cressa spp., Astragalus spp.*, and any species of Asteraceae that may be in flower during the CWS flight period (USFWS 2007; Murphy 2019).The larvae feed on and pupae are located within or directly adjacent to saltgrass until metamorphosizing into adult butterflies. The adult flight season occurs from June through mid-July; during that period CWS feeds on the nectar of a variety of flowering plants at nectar sites (USFWS 2007). Critical habitat has not been designated for this listed subspecies (USFWS 2007). There are four known extant populations, one of which is located near Honey Lake, specifically in the area near Wendel Hot Springs, which is in the vicinity of the PIA, specifically the area of the transmission line just west of Antola Road (USFWS 2007; CNDDB 2018).

Due to the presence of CWS habitat and the documented occurrences of this species in the area, CWS has the potential to occur within the PIA. CWS habitat areas within the PIA are limited to the area west of the intersection of Antola Road and the decommissioned railroad ROW. This area is within the vicinity of Wendel Hot Springs (see Appendix 3.4-1 for a map of the extent of CWS habitat within the BSA). If CWS

larvae, pupae, or adults are present within CWS habitat during the transmission line pole installation and/or removal and CWS habitat is not avoided during ground-disturbing activities, there is potential for CWS individuals to be injured or killed. Impacts to this species would be avoided and minimized through the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-7.

American Badger. Although evidence of American badger was not identified within the BSA, the presence of this species cannot be ruled out as the species has been documented within five miles of the BSA (CNDDB 2018), is the species is highly mobile, and suitable habitat is present within the BSA. If American badger individuals are present during ground-disturbing activities, there is potential for an unknown number of American badger individuals to be injured or killed. Impacts to this species would be avoided and minimized through the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-4.

Burrowing Owl. Protocol surveys for burrowing owl were not conducted for the Project; however, there are records of this species within five miles of the BSA (CNDDB 2018), and suitable habitat is present within the BSA. Burrowing owl could potentially utilize habitat within the PIA or the surrounding area for burrow nesting and foraging. No sign of this species was observed during field surveys. Due to the migratory nature of this species, there is potential for this species to occur within the PIA, or surrounding habitat, prior to construction. The Project may result in impacts to this species, depending upon the proximity of the species to the Project activities. If burrowing owl individuals are present during ground-disturbing activities, there is potential for an unknown number of burrowing owl individuals to be injured or killed or nests to be destroyed. Impacts to this species would be avoided and minimized through the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3.

Tricolored Blackbird, Loggerhead Shrike, Greater Sandhill Crane, and Prairie Falcon. Protocol surveys for tricolored blackbird, loggerhead shrike, greater sandhill crane, and prairie falcon were not conducted for the Project. Suitable habitat occurs within the BSA for these species and loggerhead shrike was observed during field surveys. Furthermore, tricolored blackbird, greater sandhill crane, and prairie flacon have been recorded within five miles of the BSA. However, no evidence of these species, except for loggerhead shrike, was observed during the various field surveys conducted in support of this study. These species are migratory and may occur in subsequent years prior to construction. If these species are present during Project activities, there is potential for an unknown number of individuals to be injured or killed or nests to be destroyed. Impacts to these species would be avoided and minimized through the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3.

Lines Proposed for Removal

As discussed in Chapter 2, Project Description, there are two existing lines that would be removed including an 12kV distribution line along north side of Wendel Road. As mitigation for a potentially significant impact to Aesthetics, the 34.5-kV transmission line 100 feet south of the decommissioned railroad would also be removed after the relocation of the 12.5-kV line to the proposed 60-kV transmission line and completion of Project construction (see Section 3.1 and mitigation measure AES-1).

Approximately 2,310 feet of the LMUD 34.5-kV transmission line extends through a CDFW wildlife refuge. In accordance with direction from the CDFW, five of the existing poles will remain in place, with all the hardware moved, to serve as potential nesting locations. LMUD continues to coordinate with

CDFW on removal of existing line and poles on CDFW land. Preliminary conversations with CDFW indicate that no permit would be required to remove the poles (Cherny 2019). Poles would be removed either by being cut at ground level or would be pulled out and backfilled with engineering fill as described further in Chapter 2. There are no new or different species or habitats in this area that are different from the rest of the BSA. One raptor nest was identified in this area during surveys of the 34.5-kV transmission line. Impacts to raptors would be avoided and minimized through the implementation of Mitigation Measure BIO-3.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

Less than Significant Impact with Mitigation. Based on a query of the CNDDB, no sensitive vegetative communities had been recorded within five miles of the BSA prior to field surveys. However, during surveys it was discovered that one sensitive vegetative community, saltgrass flats, is present within the PIA. As currently proposed, the Project would have permanent impacts on 13.9 square feet (0.0003 acres) of saltgrass flats and 51.1 square feet (0.0012 acres) of temporary impact of saltgrass flats. Permanent impacts would result from the removal of the habitat for the installation of new power poles. The small amount of habitat to be permanently removed is considered less than significant because the removal will not jeopardize the habitat's existence in the Project area. Impacts to saltgrass flats would be avoided and minimized through the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-5.

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?

Less than Significant Impact. An Aquatic Resources Delineation (ARD) was conducted on July 15, 2018, for the Project, and potential federal and state jurisdictional areas were identified and mapped within the BSA (see Appendix 3.4-1). The ARD determined the following waters of the United States are present within the BSA and are confined to the area of the decommissioned railroad ROW: three drainage features, totaling 0.15 acre; five wetland features, totaling 0.57 acre; and two non-wetland features, totaling 0.82 acre. Each of the drainage features are considered potentially jurisdictional due to a significant nexus with Honey Lake. Four of the five wetland features also maintain a significant nexus, while one appears to be an isolated intrastate water. The Project has been designed to avoid all waters of the United States; therefore, no waters of the United States will be impacted. A No Permit Required Letter from the USACE is anticipated for the Project (Roberts 2019).

The majority of the survey area between Wendel and Fish and Game road consists of state jurisdictional areas, with the exception of roadways and the decommissioned railroad ROW embankment. Impacts to waters of the state would be limited to (1) the areas of new pole placement and (2) areas where poles will be removed, either by being cut at ground level and/or being pulled out and backfilled with engineering fill. These impacts to waters of the State would consist of approximately 248.1 square feet (0.0057 acres) of permanent impacts and approximately 145 square feet (0.0033 acres) of temporary impacts. Pre-existing access roads will be used to access disturbance areas that are in potentially jurisdictional areas. Staging

areas have been sited to avoid jurisdictional features. Vegetation that is removed as a result of impacts is expected to be re-established naturally.

All work located within the state jurisdictional areas will require permits from RWQCB, including a General Waste Discharge Requirements for Dredged or Fill Discharges to Waters deemed by the USACE to be outside of Federal Jurisdiction permit. For general construction activities, the Project would be required to comply with a National Pollutant Discharge Elimination System General Construction Permit to discharge stormwater associated with construction activities. Additionally, the Project would be required to prepare a SWPPP that addresses the quality and quantity of stormwater runoff generated on-site during construction and operation of the Project and incorporates temporary Best Management Practices. Through compliance with existing regulations, the Project would result in a less-than-significant impact.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact. The California Essential Habitat Connectivity Project was queried for Essential Habitat Connectivity, which are the best available data describing important areas for maintaining connectivity between large blocks of land for wildlife corridor purposes (CDFW 2018a). These important areas are referred to as Essential Connectivity Areas (ECAs). ECAs are only intended to be a broad-scale representation of areas that provide essential connectivity. The BSA does not fall within an ECA.

The BSA is bordered by undeveloped lands and it is assumed that common wildlife species, such as mule deer (Odocoileus hemionus) and coyote (Canis latrans), could potentially bed down in the big sagebrush scrub habitat near the substation area and traverse through it to access the wetlands within the 60-kV transmission line area and the Honey Lake Wildlife Area to the south. The Project would construct an eight-foot chain link fence around both the Skedaddle Substation (approximately two acres) and the Shaffer Substation (approximately nine acres), which would preclude the movement of these common wildlife species into the Project area. However, the fence would enclose the substations and would not prohibit wildlife species from traveling through the remainder of the BSA or from accessing the areas surrounding it. In addition, there are no known migratory fish species in the open water channels of the BSA corridors and the Project would not have any impact on the movement of resident fish species. Since the Project would preclude wildlife access to the substations but would not prohibit wildlife from traversing through the remainder of the BSA, the Project would result in a less-than-significant impact to wildlife.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Lassen County General Plan includes the federal, state, and local statutes, ordinances, and policies that govern the conservation of biological resources that must be considered by the County of Lassen during the environmental review process. As currently proposed, the Project would not conflict with any of these General Provisions.

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?

No Impact. There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approval local, regional, or state habitat conservation plans that would apply to the Project.

Mitigation Measures

BIO-1*: Prior to ground-disturbing activities, a qualified biologist, approved by LMUD, shall be retained to act as an environmental monitor for all measures requiring environmental mitigation to ensure compliance with the Project's required mitigation measures. The qualified biologist shall be responsible for: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) establishing lines of communication with LMUD and their contractors; (3) conducting biological surveys prior to disturbance of vegetation; (4) coordinating with LMUD and their contractors to avoid potential CWS habitat areas, as determined by the qualified biologist; (5) conducting weekly compliance monitoring; (6) conducting construction crew training regarding environmentally sensitive areas; (7) maintaining authority to stop work if a sensitive resource could be impacted by the work; and (8) outlining actions to be taken in the event of non-compliance.*

BIO-2*: Prior to ground-disturbing activities, the qualified biologist shall conduct an environmental awareness training for all construction personnel. The environmental awareness training shall include discussions of special-status plant species, CWS, American badger, and nesting birds. Topics of discussion shall include: description of the species' habitats; general provisions and protections afforded by FESA, CESA and CEQA; measures implemented to protect special-status species; review of the project boundaries and conditions; the qualified biologist's role in Project activities; lines of communication; and procedures to be implemented in the event a special-status species is observed in the work area.*

BIO-3: *Prior to any vegetation removal for the Project that occurs during the nesting season (February 15 to September 15), the qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction to determine presence/absence of nesting birds within the disturbance area. If active nests are observed, work activities will be avoided within 100 feet of active passerine nests and 300 feet of active raptor nests until young birds have fledged and left the nest. The nests shall be monitored weekly by a qualified biologist with expertise on nesting birds. The buffer may be reduced if deemed appropriate by the qualified biologist. If any federally or state-listed bird species or California fully protected bird species are observed nesting in or near the BSA, the qualified biologist shall coordinate with LMUD, the USFWS and/or CDFW before any disturbances occur within 500 feet of the nest. Readily visible exclusion zones will be established in areas where nests must be avoided. The LMUD will be contacted if any federally or state-listed bird species are observed during surveys. Bird nests, eggs, or young covered by the MBTA and CFGC will not be moved or disturbed until the end of the nesting season or until young fledge, nor will adult birds be killed, injured, or harassed at any time. Pursuant to CFGC Section 3503.5, nests of raptors (e.g., owls, hawks, falcons, eagles) shall not be removed prior to coordination with and approval from the CDFW.*

If a nest of any special-status avian species, such as loggerhead shrike, greater sandhill crane, tricolored blackbird, or burrowing owl (wintering or nesting burrow), is identified, all Project-related activities will

cease within 500 feet of the active nest/burrow until LMUD and the qualified biologist have coordinated with the USFWS and CDFW to determine an appropriate monitoring plan for working in the vicinity of the nest/burrow.

BIO-4: *Prior to ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for American badger dens. The badger survey should be conducted no more than 2 weeks prior to construction. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three days and three nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.*

BIO-5: *All grading plans shall clearly show the location of sensitive vegetative communities (saltgrass flats). To the extent possible, project activities shall avoid impacts to saltgrass flats. Project site access and vehicle staging shall be limited to the existing roads, to the greatest extent possible.*

BIO-6*: All grading plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are removed and establish the final impact quantities.*

If the special-status plant species cannot be avoided, the following measures shall be implemented:

- *a. If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program.*
- *b. If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion.*
- *c. If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. LMUD shall ensure that supplemental irrigation is applied to the salvaged plantings as needed for two years following installation of the plantings.*

d. All special-status plant species seed collection, salvage, planting, and maintenance shall be conducted by a qualified biologist with documented experience conducting special-status plant species mitigation activities. The qualified biologist shall monitor the success of the salvaged plantings and/or seeded areas for two years following distribution of the seed and/or planting of the salvaged plants. To be determined successful, germination, flowering, and seeding of the applied seed shall be observed in at least one of the two monitoring years. For the perennial plant salvage efforts to be considered successful, at least 75 percent of the salvaged plantings must be surviving at the end of the two-year monitoring program. If the seeding and/or salvage efforts are determined to be unsuccessful, LMUD shall coordinate with the qualified biologist to plan and implement supplemental mitigation activities, which may include, but not be limited to, propagating and out-planting one-gallon container plants of the effected species and maintaining and monitoring the plantings for an additional two years, as described above.

***BIO-7**: The project shall be implemented while avoiding impacts to the CWS. The following measures shall be implemented to avoid any impacts to the CWS:*

a. The LMUD shall retain a qualified CWS biologist with documented experience surveying for and identifying CWS in all life stages. Preferably, the qualified CWS biologist will be in possession of a valid FESA 10(a)(1)(A) permit for CWS. The qualified CWS biologist shall conduct full-time survey and monitoring efforts during all Project activities that will occur in areas that support CWS habitat. Appendix 3.4-1 – the BRA – includes a map of the extent of CWS habitat within the BSA. The goal of the qualified CWS biologist is to facilitate the avoidance and minimization of impacts to potential CWS habitat.

b. Project plans shall clearly identify all areas that support potential CWS habitat and shall include notes alerting the contractors that biological monitoring is required in these areas (see Appendix 3.4-1). Work in these areas may not proceed until the qualified CWS biologist has surveyed the area and verified the absence of CWS in the disturbance area.

c. From June 1 through July 15, during the CWS adult flight season and nectaring period, no ground disturbing activities shall occur within potential CWS habitat areas to avoid impacts to CWS individuals.

d. To the extent possible, Project activities shall avoid impacts to CWS habitat, as directed by the qualified CWS biologist. Project site access and vehicle staging shall be limited to the existing roads within CWS habitat areas, unless the qualified CWS biologist determines that the Project activities would not impact CWS.

e. If disturbances to areas with CWS habitat cannot be avoided, the qualified CWS biologist shall survey those CWS habitat areas prior to any physical disturbances. The intent of the survey effort is to determine if CWS are present in the disturbance area(s). If adult CWS are observed in the work areas, the occurrence(s) shall be marked with pin flags and a minimum 30-meter no-disturbance buffer around occurrences shall be implemented. The buffer area shall be clearly flagged in the field. If the qualified CWS biologist determines it necessary, the buffer area may be delineated in the field with temporary fencing. In coordination with LMUD and their contractors, the qualified CWS biologist may survey alternate access routes and staging areas to identify work areas that do not support CWS or CWS habitat. Disturbances to the ground surface within established CWS buffer areas shall be prohibited.

f. If the qualified CWS biologist determines that take of CWS has occurred or that Project goals cannot be achieved without take of CWS, all activities in CWS habitat shall be delayed until coordination with the USFWS can be completed and additional measures to avoid CWS are identified or an ITP for the CWS is obtained.

g. Within 30 days of Project completion, the qualified CWS biologist shall submit a report that documents how each of these measures was implemented and if take of CWS occurred.

Level of Significance after Mitigation – Less than Significant: With implementation of BIO-1 to BIO - 7, the Project would not have a substantial adverse effect, either directly or through habitat modifications, on any candidate, sensitive, or special status species, have a substantial adverse effect on any riparian habitat or other sensitive natural communities; or interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.

3.5 Cultural Resources

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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?	☐	☒	☐	☐

3.5.1 Environmental Setting

The Project area is located at the west edge of the Great Basin, within Honey Lake Basin. This valley is surrounded by two mountain ranges; the Sierra Nevada to the west, and the Skedaddle Mountains to the east. The Susan River Delta wetland system is slightly southeast of the area and drains into the northern periphery of Honey Lake to the south. From the south edge of Honey Lake, Long Valley Creek flows into Long Valley. The vegetation, wildlife and geology are more indicative of Great Basin environments than those in the Sierra Nevada or Modoc Plateau; however, a great degree of wetland resources appear in both paleoclimate and the modern era. In both prehistoric and modern times, the Susan River Delta has flowed into Honey Lake.

Records Search

A record search of the Project area, including a one-quarter-mile buffer, was conducted by the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS) in September of 2017. The records search included a review of previous cultural resources studies, recorded resources, and California Office of Historic Preservation historic properties data files. Cultural resource reports and records on file were also reviewed. The record search included the following sources:

- NEIC resource records on file as of September 2017;
- NEIC reports on file as of September 2017;
- Office of Historic Property Data File as of September 2017;
- California Inventory of Historic Resources (1976 – obsolete);
- *California State Historical Landmarks* (1996a and updates as of September 2017);
- *California Points of Historical Interest* (1992 and updates as of September 2017);
- Historical Maps including United States Geological Survey (USGS) 1988 7.5' *Wendel Hot Springs* quad, 1889 and 1893 *Honey Lake* USGS map 1:250,000 scale, and Township 29 North, Range 15 East plat maps (USDI GLO 1865; 1879);
- *California Register of Historical Resources* (CRHR) (1996b and Updates as of September 2017); and
- *National Register of Historic Places* (NRHP) (1966 and Updates as of September 2017).

Field Review

PAR Environmental Services, Inc. (PAR) conducted an archaeological survey and inventory of portions of the Project area on September 25 to September 29, 2017, April 4 to April 5, 2018 and on July 5, 2018. Intensive surveys utilizing 15-meter-wide transects were employed for the entirety of the survey area. The Project area crosses numerous seasonal drainages. Ground visibility varied depending on the landform environment or modern disturbance. Overall, ground visibility was between 80 and 90 percent. The entire Project area was accessible and subjected to 100 percent survey.

Any previously or newly recorded resources were updated or recorded using California Department of Parks and Recreation 523 primary record forms and appropriate attachments. Sites more than one-eighth-mile from the corridor were not relocated or updated. Sites were documented with a digital Panasonic 15-megapixel camera and Trimble submeter Global Positioning System. A confidential Cultural Inventory Report has also been prepared and is being used for ongoing tribal consultation and coordination.

3.5.2 Regulatory Setting

Federal

National Historic Preservation Act (NHPA) of 1966 (Section 106): Section 106 of the NHPA and its implementing regulations require federal agencies to consider the effects of undertakings on historic properties. An historic property is defined as a district, building, structure, site or object that is included in, or eligible for inclusion in, the NRHP. An effect is defined as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP (36 CFR 800.16[i])." In the event that an undertaking has an effect on a historic property, the nature of the effect must be assessed.

Significance is evaluated in terms of a cultural resource's eligibility for listing in the NRHP (36 CFR 60.4 [48 R 46306]). The quality of significance in American history, architecture, archaeology and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and;

a) That are associated with events that have made a significant contribution to the broad pattern of our history; or
b) That are associated with the lives of persons significant in our past; or
c) That embody the distinct characteristics of a type, period, method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d) That have yielded, or may be likely to yield, information important in prehistory or history.

Sites younger than 50 years, unless of exceptional importance, are not eligible for the NRHP.

An integral part of assessing cultural resource significance, aside from applying the above criteria, is the physical integrity of the resource. Prior to assessing a resource's potential for listing on the NRHP, it is important to understand the subtleties of the seven kinds of integrity. To summarize a National Park Service (NPS) bulletin entitled *How to Apply the National Register Criteria for Evaluation* (United States Department of the Interior 2002:44-48), the types of integrity are defined as:

- **Location** is the place where the historic property was constructed or the place where the

historic event occurred;

- **Design** is the combination of elements that create the form, plan, space, structure, and style of a property;
- **Setting** is the physical environment of historic property;
- **Materials** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
- **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- **Feeling** is a property's expression of the aesthetic or historic sense of a particular period of time; and
- **Association** is the direct link between an important historic event or person and a historic property.

State

California State PRC Section 5024.1: The California PRC establishes a CRHR to maintain a list of historic resources identified within the state. The section further sets out criteria to determine the significance of properties and defines how to determine if a property is eligible. PRC Section 5024.1, paragraphs (b) and (c) explicitly identify the NRHP criteria as the means for determining eligibility of historical resources for listing on the CRHR. These criteria are enumerated in PRC 5024.1 Section (c) as follows:

a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
b) Is associated with lives of persons important in our past;
c) 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; and
d) Has yielded, or may be likely to yield, information important in prehistory or history.

CEQA, PRC Division 13 Sections 21083.2 and 21084.1, and the CEQA Guidelines, California Code of Regulations (CCR), Title 14, Chapter 3, Section 15064.5 further regulate and clarify California law respecting historical and archaeological cultural resources.

In addition, historical resources must retain integrity. This property is discussed in CCR Title 14, Division 3, Chapter 11.5, Section 4852 (c) as follows:

> (c) Integrity. Integrity is the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources eligible for listing in the CRHR must meet one of the criteria of significance described in section 4852 (b) of this chapter and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.
>
> Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the

particular criteria under which a resource is proposed for eligibility. Alterations over time to a resource or historic changes in its use may themselves have historical, cultural, or architectural significance.

It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

Local

Lassen County General Plan and Wendel Area Plan and EIR. The Lassen County Building and Planning Services maintains a record of General Plans for areas around the county, including Wendel and vicinity (Lassen County 2000). In the Wendel Area Plan and EIR, it states that cultural resources shall be preserved, protected, or mitigated and that any discovery of cultural resources be reported (Lassen County 1987).

3.5.3 Impacts and Mitigation Measures

Discussion of Cultural Resources Initial Study Checklist Questions

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5

Less than Significant. One historic property, CA-LAS-001679, a railroad grade, is considered an historical resource under CEQA. The grade is decommissioned and currently has a road on top of it. The proposed 60-kV transmission line poles would be placed in the toe of the railroad grade slope on the south side of the grade. The Project would use the road on the top of the railroad grade levee as an access road but would not result in a significant impact to the existing historic resource.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant with Mitigation. As shown in Table 3.5-1, there were 21 archaeological resources and 34 isolated features or artifacts identified in the Project area. CA-LAS-5659H, CA-LAS-5660H, CA-LAS-5665H, CA-LAS-5666H, CA-LAS-5668H, CA-LAS-5669, CA-LAS-5670, CA-LAS-5672, CA-LAS-5673H, CA-LAS-5674H, two California-Pacific Utilities Company Distribution Lines, and the 34 isolates do not meet criteria 1, 2, 3, or 4, of the CRHR or NRHP and are not considered historical resources for the purposes of CEQA. No protective measures are recommended for these sites.

Table 3.5-1: Identified Cultural Resources in the Project Area

Trinomial	Primary	Description	Comments	Eligibility Recommendation
CA-LAS-536	P-18-536	Sparse lithics	Only two-three flakes identified	Unevaluated
CA-LAS-1732H	P-18-1732	Ditch	Eagle Lakes	Potentially Eligible

Table 3.5-1: Identified Cultural Resources in the Project Area				
Trinomial	**Primary**	**Description**	**Comments**	**Eligibility Recommendation**
CA-LAS-1759/H	P-18-1759	Lithic scatter	Sparse	Unevaluated
CA-LAS-5659H	P-18-5659	Large historic artifact scatter	Five concentrations of cans	Not Eligible
CA-LAS-5660H	P-18-5660	Historic artifact scatter	East of Wendel Road	Not Eligible
CA-LAS-5661	P-18-5661	Diffuse flake scatter	South of RR grade	Potentially Eligible
CA-LAS-5662	P-18-5662	Diffuse flake scatter	A few concentrations	Potentially Eligible
CA-LAS-5663H	P-18-5663	Diffuse historic scatter	Glass and metal, one concentration	Potentially Eligible
CA-LAS-5664H	P-18-5664	Small historic scatter	Food cans, glass, sparse ceramic	Potentially Eligible
CA-LAS-5665H	P-18-5665	Sparse can scatter	Approximately a dozen cans	Not Eligible
CA-LAS-5666H	P-18-5666	Historic can scatter	About 30 church-key opened beer cans	Not Eligible
CA-LAS-5667	P-18-5667	Lithics, groundstone, beads	Both artifacts and burned animal bone	Potentially Eligible
CA-LAS-5668H	P-18-5668	Historic can scatter	Two concentrations, about 250 cans	Not Eligible
CA-LAS-5669	P-18-5669	Diffuse flake scatter	One groundstone feature	Not Eligible
CA-LAS-5670	P-18-5670	Diffuse flake scatter	One tool	Not Eligible
CA-LAS-5671	P-18-5671	Diffuse lithic scatter	Six tools	Potentially Eligible
CA-LAS-5672	P-18-5672	Diffuse flake scatter	N/A	Not Eligible
CA-LAS-5673H	P-18-5673	Stock Pond	Single pit and backfill piles	Not Eligible
CA-LAS-5674H	P-18-5674	Stock Pond	Associated twisted wire	Not Eligible
California-Pacific Utilities Company	Not Applicable	Distribution Line	Poles and wiring 1959 distribution line	Not Eligible
California-Pacific Utilities Company	Not Applicable	Distribution Line	Poles and wiring 1959 distribution line	Not Eligible

Lines Proposed for Removal

As discussed in Chapter 2, Project Description, there are two existing lines that would be removed including a 12-kV distribution line along north side of Wendel Road. As mitigation for a potentially significant impact to Aesthetics, the 34.5-kV transmission line 100 feet south of the decommissioned railroad would also be removed after the relocation of the 12.5-kV line to the proposed 60-kV transmission line and after completion of Project construction (see Section 3.1 and mitigation measure AES-1). In accordance with direction from the CDFW, five of the existing poles will remain in place, with all the hardware moved, to serve as potential nesting locations.

Both line segments proposed for removal appear on a 1959 map showing plans for expansion of these lines beyond the unincorporated community of Wendel. The lines were constructed around 1959-1960 by the California-Pacific Utilities Company as distribution lines serving the rural Susanville area (California-Pacific Utilities Company 1959). These lines were two of many constructed by the company to meet the demands of the economic boom and increased development in Lassen County. Several other companies were operating in the region in the 1950s and 1960s including Pacific Gas and Electric Company and Rural Sierra Cooperative. These lines are two of many minor distribution lines constructed during this time and do not meet CRHR criteria for their role in local history or association with an important company. These lines consist of cross-arm wood poles with ceramic insulators and are not of unusual design or construction. The scientific value of the lines is limited given their common construction, lack of associated work camps, or archaeological features or deposits. Therefore, these lines are recommended as ineligible for inclusion in the CRHR and are not considered historical resources for the purposes of CEQA.

Nine resources (CA-LAS-536, CA-LAS-1732H, CA-LAS-1759/H, CA-LAS-5661, CA-LAS-5662, CA-LAS-5663H, CA-LAS-5664H, CA-LAS-5671, and CA-LAS-5667) are considered eligible historic properties under Section 106 and historical resources under CEQA. The poles associated with the proposed 60-kV transmission interconnection have been plotted to avoid effects on four archaeological resources that considered historic properties under NRHP and historical resources under CEQA. Mitigation Measures CUL-1 would be implemented at these sites.

Five poles are proposed for placement within the boundaries of four prehistoric sites (CA-LAS-5661, CA-LAS-5662, CA-LAS-536, and CA-LAS-1759). An additional pole would be placed in a historic-era refuse deposit (CA-LAS-5659H). Five of these poles in three sites are planned for installation in the toe of the railroad levee, where the ground is substantially disturbed (CA-LAS-5661, CA-LAS-5662, and CA-LAS-536). CA-LAS-1759 and CA-LAS-5659H are adjacent to Wendel Road or has a dirt two-track route crossing through it. A truck-mounted auger would be used to excavate for each pole. The project footprint is generally limited to approximately three feet in diameter and buried depth of eight to 12 feet. Structures with large angles would have concrete foundations approximately six feet in diameter and 25 feet deep two poles CA-LAS-5662, two poles in CA-LAS-536, and one each in CA-LAS-1759 and CA-LAS-5661). Impacts to the sites from the pole installation are limited to a single hole and a new pole.

CEQA Guidelines, Section 15064.6 (f) requires the lead agency for a project to ensure that provisions are made for accidentally discovered resources. These requirements include preserving the find until an archaeologist can evaluate the discovery, providing for the immediate evaluation of the find by an archaeologist, and contingency planning for the time and funding to mitigate project effects upon such accidental discoveries. CUL-6 would be implemented if unanticipated discoveries are found during construction.

Mitigation Measures

CUL-1: *Sites within 100 feet of the proposed construction zone for the substation shall be flagged, identified as an environmentally sensitive area, and avoided. A pre-construction tailboard meeting designed to inform construction crews of the sensitivity of the area, inadvertent discovery protocols, and avoidance measures shall be conducted by a qualified archaeologist and Native American representative at the beginning of*

Project construction. The construction foreman shall be responsible for implementing this measure.

CUL-2: *Prior to construction LMUD consulted with appropriate tribes or individuals to establish the need for further evaluation of the four prehistoric sites prior to construction. A work plan guiding test excavation shall be prepared by a qualified archaeologist (meets Secretary of Interior Standards as a Professional Archaeologist) and approved by tribes prior to implementation of a test excavation and evaluation program. Results of the evaluation shall be reviewed and accepted by the Native American monitor prior to construction.*

CUL-3: *A pre-construction tailboard meeting designed to inform construction crews of the sensitivity of the resources, and role of monitors during pole installation shall be conducted by a qualified archaeologist and Native American monitor at the beginning of beginning of Project construction. The construction foreman shall be responsible for implementing this measure.*

CUL-4: *Excavation of each pole location at eligible prehistoric sites located along the railroad grade shall be completed by a truck-mounted auger. The pole location shall be accessed from the top of the railroad levee to avoid vehicles driving on the site. A qualified archaeologist and Native American monitor shall monitor installation of the poles within the boundaries of eligible sites. Upon completion of construction at each site the qualified archaeologist shall prepare a one-page monitoring report documenting the work for inclusion in the project file and provide this report to Native American parties identified during consultation.*

CUL-5: *Excavation of the pole location at the unevaluated prehistoric site located along the two-track dirt access road shall be completed by a truck-mounted auger. The pole locations shall be accessed from Wendel Road or from the existing dirt two-track road that crosses through the site to avoid vehicles driving across non-disturbed areas within the site. A qualified archaeologist and Native American monitor shall monitor installation of the pole within the boundaries of eligible sites. Upon completion of Project construction, the qualified archaeologist shall prepare a one-page monitoring report documenting the work for inclusion in the project file.*

CUL-6: *If previously unidentified cultural materials are unearthed during Project construction, work be halted within 50 feet of that area until a qualified archaeologist can assess the significance of the find. Such materials may include historical glass, metal, ceramics and other items. Prehistoric materials may include chipped, ground or pecked stone, bone, shell, ash and charcoal, or similar evidence of human occupation.*

Level of Significance after Mitigation – Less than Significant: With implementation of CUL-1 through CUL-6 the potential for a substantial adverse change in the significance of a known archaeological resource or a resource that is identified during construction would be reduced, to a less that than significant impacts.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant with Mitigation. Currently there are no known human remains within the Project area. Mitigation Measure CUL-7 provides protocols to follow should human remains inadvertently exposed during construction.

CUL-7: *Section 5097.94 of the PRC and Section 7050 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If human remains are encountered, work should halt within 50 feet of the find in that vicinity and the County coroner should be notified immediately. At the same time, an archaeologist shall be contacted to evaluate the situation. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of such identification and protocols set by the NAHC shall be followed.*

Level of Significance after Mitigation – Less than Significant: With implementation of CUL-7 the potential for a significant impact associated with the uncovering of human remain during Project activities would be reduced to a less than significant level.

3.6 Energy Resources

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

3.6.1 Environmental Setting

The environmental setting for analyzing the environmental impacts that could result from Project energy demand and use include the lands and roads to be used during construction, and those to be used during operations. These include substations, transmission interconnections and lines, and access roads.

The Project is proposed to be constructed in the unincorporated area of Wendel, Lassen County, California. LMUD currently owns APN 1-050-10-11 (approximately 162 acres) and 121-050-24-11 (approximately 84 acres) (see Figure 1). The Skedaddle and Shaffer substations would be located near the middle of APN 121-050-10-11. The LMUD parcels are located north of Wendel Road and west of Helman Road and are addressed as 736415 Wendel Road, with the land use type of APN 121-050-24-11 listed as Residential and APN 121-050-10-11 listed as Vacant. The parcels are surrounded by undeveloped land to the north and west, with residential agricultural land to the east and south. The NV Energy 345-kV Reno to Alturas Transmission Line is located in an easement that crosses APN 121-050-10-11 in a northwesterly direction on the eastern end of the parcel. There would be no federal lands crossed by the Project.

Access to the substation sites would be from a permanent road constructed from Wendel Road (See Figures 1 and 2). There is an existing 12-foot wide maintenance access road running along the top of the decommissioned railroad ROW (owned by LMUD) which would be used to provide continual access to that segment of the proposed 60-kV electrical transmission line. Other portions of the proposed 60-kV transmission line route would be readily accessible from public roads and would not require new access roads.

3.6.2 Regulatory Setting

Federal

No federal regulations related to energy resources are applicable.

State

Warren-Alquist State Energy Resources Conservation and Development Act. (California PRC, § 25000 et seq.). In 1974, the Legislature adopted the Warren-Alquist Act that created what is now known as the California Energy Commission and enabled it to adopt building energy standards. (See, e.g., *id.* at § 25402.) At that time, the Legislature found the "rapid rate of growth in demand for electric energy is in part due to wasteful, uneconomic, inefficient, and unnecessary uses of power and a continuation of this trend would result in serious depletion or irreversible commitment of energy, land and water resources, and potential threats to the state's environmental quality." (*Id*. at § 25002; see also § 25007 ("It is further the policy of the state and the intent of the Legislature to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, prudently conserve energy resources, and assure statewide environmental, public safety, and land use goals").)

Title 24 of the California Administrative Code. Title 24 establishes energy conservation standards for new residential and nonresidential buildings is set forth in Part 6, Division T-20, Chapter 2, Subchapter 4, Article 1 of the California Administrative Code.

Local

The 2000 Lassen County General Plan/Natural Resources Element-Energy Resources (Lassen County 2000b). The Lassen County Energy Element frames the local energy demand, use, and conservation regulatory setting in the following excerpts:

"In the context of both the 1970 energy crises and current environmental considerations, energy conservation and efficiency programs have become important components of energy planning. A successful program to reduce consumption of conventional energy resources and increase the use of renewable resources would not only reduce the disruptions to community life resulting from energy shortages, but also reduce environmental impacts related to energy production and consumption. In addition, a successful program to reduce use of conventional energy resources can contribute to state and federal efforts to promote energy conservation."

"Energy savings created in large quantity on a predictable schedule are energy resources. It is important to realize that conserving energy is a way of producing energy, and that energy production in Lassen County will be maximized by a reduction in consumption due to energy conservation and the use of renewable resource technologies." "The opportunities for saving energy are even more significant in cold climate regions, such as Lassen County, where appropriate siting and weatherization of buildings can reduce space heating needs and provide direct energy- and cost-savings results. Energy required for space and water heating, lighting, industrial processes, and transportation can be greatly diminished by reducing wasteful energy consumption practices and habits. The policies suggested at the end of this section envision an energy conservation program through the reduction of energy waste."

Goals, Policies and Implementation Measures:
The overriding goal and policy from the Energy Element Plan are each applicable to the efficient use and conservation of energy in the siting and development of this Project:

Goal N-17: Conservative management of Lassen County's energy resources so that those resources can be developed and utilized for the benefit of County residents with a high degree of efficiency and productivity.

NR63 Policy: The Energy Element of the Lassen County General Plan shall provide specific policies and measures pertaining to the conservation and management of energy resources, as well as the siting and development standards of projects proposing to utilize those resources.

These are reinforced by one general energy conservation policy and those policies commercial development and energy supply reliability, as follows:

4.3.3.1- Energy Conservation Policies:
3. The County encourages electrical providers to employ "integrated resource planning" to balance energy production and supply with demand.

4.3.3.3 Commercial Development:
2. The applicable general energy conservation policies and implementation measures identified above shall apply to commercial projects.

4.3.4.2 Energy Supply Reliability:
1. Lassen County encourages electric energy suppliers in the county to enter into cooperative agreements and make system improvements providing for the efficient intertying of distribution systems to alleviate the potential for prolonged or frequent power outages affecting the safety and welfare of anyone in the county.

Wendel Area Plan & EIR (Lassen County 1987).
Land Use, Growth, and Development - H. Issue: Energy Use
Goal and Objective: Promote conservative, efficient, and cost-effective energy consumption through the utilization of natural energy related resources and practices geothermal, solar, etc.).

Goal N-17 and NR63 Policy – both emphasize efficient use of Lassen County energy resources within the context of project siting and development standards;

Environment/Natural Resources - J. Energy Production
Goal and Objective: Provide for the development and efficient use of existing and appropriate new energy sources.

Lassen County Code. Title 12, Article 1, Chapter 12.17 of the Lassen County Code sets forth energy conservation standards for the construction of nonresidential buildings. It specifically adopts, with minor exceptions, Title 24 of the California Administrative Code on energy conservation standards for new residential and nonresidential buildings is set forth in Part 6, Division T-20, Chapter 2, Subchapter 4, Article 1 of the California Administrative Code.

3.6.3 Impacts and Mitigation Measures

Discussion of Energy Checklist Questions

a) *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?*

No Impact. The Project would not result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operations. The whole of the Project is considered in this determination, including the Project's energy demand and use. Construction would require a short-term increase in traffic volume on the local road network during construction activities due to worker trips and delivery trips to and from the site during construction. However, due to the size of the site and scope of construction activities, this temporary increase in vehicle trips and fuel use would be minor. The various phases of construction would span approximately 24 months and would require between 4 and 24 worker trips per day. Delivery truck trips would only occur on an as-needed basis to deliver equipment and/or materials to the site or to remove trash from the site. These construction-related trips would be limited and short-term during the construction phase and are not anticipated to result in significant impacts with respect to GHG emissions resulting from wasteful, inefficient, or unnecessary vehicle miles traveled. Similarly, operation and maintenance activities would occur at all Project improvements only as needed and include replacing damaged equipment and routine maintenance. No new permanent employees would be required for the operation and maintenance of the Project. Additionally, the Project would not, either directly or indirectly, result in an increase in housing or other development that would cause a permanent increase in traffic or Project-related vehicle miles in the area. There would therefore be no wasteful, inefficient, or unnecessary consumption of energy resources associated with vehicle miles traveled during Project construction or operation.

Project substations' buildings and facilities would be constructed and operated in full compliance with applicable Lassen County Building Codes, including those applicable to energy conservation. Estimated monthly energy demand would be approximately 3,400 to 3,500 kilowatts per hour each to operate the substations. Shaffer Substation service would be provided through two 345-kV station service voltage transformers (primary and backup). These transformers would be connected to the 345-kV electrical equipment and would step the voltage down for site power requirements. An electric service line from the local utility would not be required. These are standard energy requirements that are representative of energy demand and use at similar electrical substations that are equipped with battery backup and several protective relays and communications and control equipment. There would therefore be no wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

State Policy

No Impact. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency because it is consistent with all such applicable plans. Because the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operations associated with vehicle miles traveled, GHGs, or substation operations, it is fully consistent with applicable legislative findings and state policy cited above from the Warren-Alquist Act.

Local Plans and Policies

No Impact. LMUD has determined that the Project is needed in this area of their service territory to improve the capacity, efficiency and reliability of service to the LMUD system and to improve voltage conditions during summer peak load conditions. The Project would provide the means for increased development of renewable resources in both northern California and Nevada. In addition to increasing reliability, the Project would support the region's renewable energy goals, customer expectations and environmental priorities.

3.7 Geology and Soils

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
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 soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☒	☐	☐
f) Directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?	☐	☒	☐	☐

3.7.1 Environmental Setting

Geology

The Project area is in the northeastern corner of California within the Basin and Range geomorphic province. Areas within the Basin and Range geomorphic province typically exhibit abrupt changes in elevation due to flat arid valleys interspersed between faulted mountain ranges. The Project area is characterized by limited topography of predominantly 0 to 2 percent slopes. According to the NRCS Web Soil Survey (USDA) the parent material for the area includes aeolian sands and alluvium derived from mixed rocks and lacustrine (i.e. lakebed and playa) deposits.

Soils

The NRCS Web Soil Survey (USDA 2018) indicates that five soil map units are potentially affected by the Project. These include the following:

Skedaddle and Shaffer substation sites:

- Mazuma fine sandy loam, 0 to 2 percent slopes
- Zorravista loamy sand, 0 to 5 percent slopes
- Zorravista sand, 2 to 15 percent slopes

60-kV Transmission Line Corridor and Antola Road Switch Station:

- Herjun loamy sand, 0 to 2 percent slopes
- Yobe silt loam, 0 to 2 percent slopes

Map units potentially affected by the Project are level to nearly level, deep, moderately well to excessively drained soils dominated by coarse, sandy textures with few organics.

3.7.2 Regulatory Setting

Federal

No federal regulations related to geology and soils are applicable to the Project.

State

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act was enacted in 1972 (PRC Sections 2621–2630). The Act requires that "earthquake fault zones" be established along known active faults in California. The main purpose of the Alquist-Priolo Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults.

California Code of Regulations (CCR); Title 24 - California Building Standards Code (CBC). The State of California provides minimum standards for building design through the 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.

Local

Lassen County Code. Applicable sections include Title 12, Buildings and Construction. Article I, Building Code Chapter 12.08 – Uniform Building Code; Section 12.08.010.

Lassen County General Plan 2000. The Lassen County General Plan was adopted in 2000 and provides a tool to shape the use of land which will affect the quality of life and economic opportunities for generations. (Lassen County 2000) The following policies are applicable to the Project:

- Natural Resources Element: NR10 Policy: The County shall exercise an appropriate degree of regulation designed to minimize erosion, including the administration of standards for grading and site clearance related to development projects.
- Energy Element: Siting Policies 4.3.1.1: The development area (i.e. grading) shall be limited to relatively level areas where feasible. The site selection for proposed developments shall minimize the potential for erosion and sedimentation.
- Energy Element: Construction Policy 4.3.1.2.1: Surface disturbance and erosion during grading activities shall be kept to a minimum. Clearing limits for each facility shall be defined in a site development plan, and no vegetation removal shall occur outside these areas, except for fire safety considerations as required by the local fire authority.
- Energy Element: Construction Policy 4.3.1.2.2: No sedimentation from the Project shall be allowed to run off the site in a manner which has not been appropriately designed and approved.
- Energy Element: Construction Policy 4.3.1.2.6: Areas of cleared vegetation (e.g. construction sites, access roads) subject to vehicle traffic shall be watered or otherwise treated by the developer to reduce fugitive dust (particulate) emissions. Treatments shall be controlled so as not to significantly impact surrounding water quality, vegetation, or wildlife.

Energy Element: Implementation Measures:

a. Cut and fill areas shall be stabilized to minimize erosion and shall be rehabilitated by the developer to slopes of 3:1 or less. Construction fills shall be compacted to a minimum 90 percent relative compaction to minimize erosion. If significant erosion occurs, the developer shall take prompt remedial action.
b. Erosion and sediment control plans shall include a maintenance plan that provides for inspection and repair, if necessary of all erosion control structures prior to seasonal runoff periods.

3.7.3 Impacts and Mitigation Measures

Discussion of Geology and Soils IS Checklist Questions

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

No Impact. The Project would not expose people or structures to potential substantial adverse effects from the rupture of a known earthquake fault, or seismic ground shaking. The most recent Alquist-Priolo Earthquake Fault Zoning Map (CDC 2018) indicates that Project area is not in an Earthquake Fault Zone.

Division of Mines and Geology Special Publication 42 (CDC 2018a; Plate 1) indicates that because the Project is not within an earthquake fault zone, it is not regulated by the Alquist-Priolo Earthquake Fault Zoning Act. The Project substations would be unmanned and are not in an Earthquake Fault Zone.

ii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. The Project would have a less than significant impact of exposing proposed structures to a risk of loss. The likelihood of seismic-related ground failure is minimal per the responses to i) and ii) above.

Substation construction would comply with applicable building codes, including CCR; Title 24 - CBC. Chapter 18 – Soils and Foundations and the Uniform Building Code as adopted (Section 12.08.010) in the Lassen County Code, Title 12, Buildings and Construction, Article I, Building Code Chapter 12.08 – Uniform Building Code. It would also comply with the Lassen County General Plan – Energy Element General Policy 4.3.1.3, which states in part that: "The County shall take measures to minimize potential risks from seismic activity through requirements for proper design, construction, and safety measures."

Construction would include accepted best compaction and related engineering standards and practices (discussed under 'b,' below), making it less susceptible to shaking and failure than soils that have not been compacted. Liquefaction occurs in soils at or near saturation, and especially in finer textured soils. The water must nearly fill the space between the particles. Because of the coarse texture of the potentially affected soils, their low available water capacity, the application of appropriate soil engineering standards during construction, and the low likelihood of seismic ground shaking, there is a less than significant impact of seismic-related ground failure, including liquefaction.

iii) Landslides?

No Impact. The level to nearly level slopes of 0 to 2 percent over much of the Project area precludes the potential occurrence of landslides. Landslide is a general term for most types of mass movement landforms and processes involving the downslope movement of soils and rock materials. Project construction would comply with standard engineering practices for grading and leveling, drainage control, and other practices that prevent such mass movement. Because of the nearly level to level terrain, the low likelihood of seismic shaking, and the low water holding capacity of the potentially affected soils, the Project would not expose proposed structures to a risk of landslide loss.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The Mazuma and Zorravista map units comprise most of the soils in the area of the proposed substations. According to the NRCS Web Soil Survey, these units and soils are within Wind Erodibility Groups 1 through 3. A Wind Erodibility Group consists of soils that have similar properties affecting their susceptibility to wind erosion. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. Potentially affected soils along 60-kV transmission line corridor would be subject to less surface disturbance, and therefore minimal wind erodibility. None of the potentially affected soils are susceptible to sheet or rill erosion

associated with high rainfall or runoff conditions because of the relatively arid climate and flat topography of 0 to 2 percent slopes. Project construction would comply with the applicable Lassen County General Plan Policies (Lassen County 2000) as identified above and compliance with these policies would reduce the potential for substantial wind erosion or the loss of topsoil to a less than significant level.

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?

No Impact. The Project is not located on an unstable geologic unit or soils as indicated in the justification for the responses to *a)*, above. Potentially affected geology and soils would not become unstable as a result of the Project, which would require only relatively shallow excavations for construction. The stability of the site geology, relatively level terrain, arid climate, sandy soils with low available water and water holding capacity, and compliance with applicable building codes and construction standards would prevent any landslides, lateral spreading, subsidence, liquefaction, or collapse, resulting in no impact associated with the stable of site geology and soils.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact. Project facilities are not proposed to be located on expansive soils. According to the NRCS Web Soil Survey (United States Department of Agriculture 2018), the plasticity index for the potentially affected soils ranges from 0 to 2.5 percent at the proposed substation sites, thereby failing to meet one required criterion for being classified as expansive soils. Further, because the substations would be unmanned, no substantial risks to life would be created. Substation construction would comply with applicable building codes, including the CCR; Title 24 - CBC. Chapter 18 – Soils and Foundations and the Uniform Building Code as adopted (Section 12.08.010) in the Lassen County Code, Title 12, Buildings and Construction, Article I, Building Code Chapter 12.08 – Uniform Building Code. Compliance with applicable building codes and standards would minimize or prevent potential risks to property, resulting in no impact related to substantial risks associated with expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Septic tanks and alternative waste water disposal systems are not planned for the Project.

f) Directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?

Environmental Setting

The Project area is located on the northeast side of Honey Lake, just southwest of the Skedaddle and Amedee mountains in the Sierra Nevada geomorphic province. The Sierra Nevada province is dominated by the Sierra Nevada Mountains, the highest mountains in California. The province extends about 400 miles

north-south, terminating in the Cascade Ranges to the north and the Tehachapi Mountains and Mojave Desert to the south, and 40-100 miles east-west, bordered on the west by the Great Valley and to the east the Basin and Range province (Norris and Webb, 1990). The core of the mountains is made of the Sierra Nevada batholith, a composite of igneous plutons intruded in the Mesozoic Era (Van Buer et al., 2009). Sedimentary rocks dating as far back as the lower Cambrian are scattered throughout the mountains, displaying varying degrees of metamorphism (Norris and Webb, 1990). Near the Project area more recent Cenozoic sediments eroded from the surrounding mountains are common, overlying the older, metasedimentary rocks (Van Buer et al., 2009).

Locally, the Project area is located between Honey Lake and the Skedaddle and Amedee mountains. During the Pliocene to middle Pleistocene the climate of the Great Basin was much wetter than today, with lake levels anywhere from 25 to 70 meters higher than observed today (Reheis, 1999). During this time period, Honey Lake was part of a significantly larger lake system that connected the project area with the modern Pyramid Lake and the ancient Lake Lahontian (Reheis, 1999). The sediments in the area and in the subsurface would reflect this lacustrine history.

Regulatory Setting

Federal

Paleontological Resources Preservation, Omnibus Public Lands Act, Public Law 111-011, Title VI, Subtitle D (PRPA), 2009. This legislation directs the Secretaries of the U.S. Department of the Interior (USDI) and the USDA to manage and protect paleontological resources on federal land using "scientific principles and expertise." To formulate a consistent paleontological resources management framework, the PRPA incorporates most of the recommendations from the report of the Secretary of the Interior titled Assessment of Fossil Management on Federal and Indian Lands (USDI 2000). In passing the PRPA, Congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. The PRPA codifies existing policies of the Bureau of Land Management, National Park Service, U.S. Forest Service, Bureau of Reclamation, and U.S. Fish and Wildlife Service, and provides the following:

- uniform criminal and civil penalties for illegal sale and transport, and theft and vandalism of fossils from federal lands;
- uniform minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of applicants);
- uniform definitions for "paleontological resources" and "casual collecting;" and
- uniform requirements for curation of federal fossils in approved repositories.

Federal Land Policy and Management Act (FLPMA) of 1976(43 U.S. Code [USC] 1712[c], 1732[b]). Section 2, Federal Land Management and Policy Act of 1962 [30 USC 611]; Subpart 3631.0 et seq.), Federal Register Vol. 47, No. 159, 1982: FLMPA does not refer specifically to fossils. However, "significant fossils" are understood and recognized in policy as scientific resources. Permits, which authorize the collection of significant fossils for scientific purposes, are issued under the authority of FLPMA. Under FLPMA, federal agencies are charged to:

- manage public lands in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, archaeological, and water resources, and, where appropriate, preserve and protect certain public lands in their natural condition (Section 102[a][8] [11]);

- periodically inventory public lands so that the data can be used to make informed land-use decisions (Section 102[a][2]); and
- regulate the use and development of public lands and resources through easements, licenses, and permits (Section 302[b]).

NEPA as amended (Public Law [PL] 91-190, 42 USC 4321-4347, January 1, 1970, as amended by PL 94-52, July 3, 1975, PL 94-83, August 9, 1975, and PL 97-258 Section 4(b), Sept. 13, 1982): NEPA recognizes the continuing responsibility of the federal government to "preserve important historic, cultural, and natural aspects of our national heritage…" (Section 101 [42 USC Section 4321]; No. 382). With the passage of the PRPA, paleontological resources are considered a significant resource, and it is therefore now standard practice to include paleontological resources in NEPA studies in all instances where there is a possible impact.

Antiquities Act of 1906 (16 USC 431-433): States, in part:

> *That any person who shall appropriate, excavate, injure or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.*

Although there is no specific mention of natural or paleontological resources in the Act itself, or in the Act's uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR 3]), the term "objects of antiquity" has been interpreted to include fossils by certain federal agencies. Permits to collect fossils on lands administered by federal agencies are authorized under this Act. However, due to the large gray areas left open to interpretation due to the imprecision of the wording, agencies are hesitant to interpret this act as governing paleontological resources.

State

PRC Section 5097.5: 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.

Impacts and Mitigation Measures

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

Less Than Significant Impact with Mitigation. A significant adverse effect could occur if grading or excavation activities would disturb paleontological resources or geologic features which presently exist in the Project area. Geological mapping by Lydon et al. (1960) shows the surficial geology of the area consists of Quaternary lake bed sediments from the Pleistocene Lake Lahontan, which date from the Holocene to Pleistocene [Recent – around 35,000 years ago] (Adams et al., 2008). While these sediments are too young at the surface to preserve fossil resources, they increase in age with depth and are of an age to preserve fossils in the subsurface. Furthermore, older lacustrine sediments such as these have a well-established record of fossil preservation across California, with a wide variety of iconic Ice Age mammals such as mammoth, bison, camel, and horse, as well as smaller animals such as fish, rodents, birds, and reptiles commonly preserved (Jefferson 1991; McLeod 2018; Jefferson 2003; Preuschl 2011).

A record search from the Natural History Museum of Los Angeles County indicates that they do not have any fossil resources in their collection from the Project area, although similar lacustrine sediments in the region have produced significant fossil resources (McLeod 2018). The closest of these is roughly 30 km southeast, where a badger fossil was collected from Long Valley Creek south of Herlong, California (McLeod 2018). The online collection database of the University of California Museum of Paleontology (UCMP) has records of 585 fossil specimens collected from Pleistocene-aged sediments in Lassen County (UCMP 2018). While more specific locality or geologic information is not available for all of these sites in the online collections, six localities are described as coming from Lake Lahontan sediments, similar to those present in the area. These localities preserved 12 vertebrate fossils, including fish, camel, rabbit, and hare (UCMP 2018). At least one of these localities, Amedee, appears to be near the area, around Amedee Air Base 12 km south. Other notable localities include Secret Valley, where 78 specimens of mammals such as camel, bison, coyote, horse, and mastodon were collected from undescribed sediments in Secret Valley located 30 km north; and Ravendale, where 180 specimens, primarily fish, were collected from undescribed sediments near Ravendale, California, located 48 km north (UCMP 2018).

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 Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources," the Society of Vertebrate Paleontology (SVP)-2010:1-2 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 would not preserve fossil resources.

Using the significance definitions of the SVP, the extensive fossil record documented for Pleistocene lake bed sediments in Lassen County demonstrate that the sediments in the Project area have **low-to-high paleontological sensitivity**, increasing with depth. While the exact depth at which this transition to older, high sensitivity sediments occurs is unknown within the area, fossils have been found in similar lake deposits from as shallow as 5-10 feet below ground surface (Jefferson 2003). Any ground disturbance that exceeds 10 feet in depth in previously undisturbed sediments results in the potential risk of damaging or destroying fossil resources.

Mitigation Measures

PAL-1: *A qualified paleontologist meeting the standards of the SVP (2010) shall be retained prior to the approval of demolition or grading permits. The qualified paleontologist shall develop a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) for all ground-disturbing activities, shall provide technical and compliance oversight of all work as it relates to paleontological resources, and shall report to the site in the event potential paleontological resources are encountered.*

PAL-2*: The qualified paleontologist shall conduct a Worker Environmental Awareness Program for all construction workers prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the area site and the procedures to be followed if they are found. This information may be presented to contractors and their staff through the use of in-person "tailgate" meetings or other mechanisms (e.g., handouts). Documentation shall be retained demonstrating that all construction personnel attended the training.*

PAL-3*: Full-time paleontological resources monitoring shall be conducted for all ground disturbing activities that exceed 10 feet in depth and occur in previously undisturbed sediments, as outlined in the PRMMP prepared to satisfy PAL-1. The qualified paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. Paleontological resources monitoring shall be performed by the qualified paleontologist or under the direction of the qualified paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during Project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage, such as the UCMP. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The qualified paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort.*

PAL-4*: If construction or other personnel discover any potential fossils during construction, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until the qualified paleontologist 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.

Level of Significance after Mitigation – Less than Significant: With implementation of PAL-1 to PAL-4, the potential impact to paleontological resources would be reduced to a less-than-significant level. If any significant fossil resources are encountered during Project activities, the implementation of paleontological monitoring would ensure they are salvaged and deposited with an appropriate institution, such that the Project would not result in the loss or destruction of significant paleontological resources is they are located during Project activities.

3.8 Greenhouse Gas Emissions

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	☐	☐	☒	☐

3.8.1 Environmental Setting

GHGs are any gases that absorb infrared radiation in the atmosphere and are different from the criteria pollutants previously discussed in Section 3.3, Air Quality. The primary GHGs that are emitted into the atmosphere because of human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. These are most commonly emitted through the burning of fossil fuels (oil, natural gas, and coal), agricultural practices, decay of organic waste in landfills, and a variety of other chemical reactions and industrial processes (i.e., the manufacturing of cement). CO_2 is the most abundant GHG and is estimated to represent approximately 80–90% of the principal GHGs that are currently affecting the earth's climate. According to CARB, transportation (vehicle exhaust) and electricity generation are the main sources of GHG in the state.

Under CEQA, an individual project's GHG emissions would generally not result in direct significant impacts; this is because the climate change issue is global in nature. However, an individual project could be found to contribute to a potentially significant cumulative impact. Projects that have GHG emissions above the noted thresholds may be considered cumulatively considerable and require mitigation.

3.8.2 Regulatory Setting

Federal

No federal regulations related to GHGs are applicable to the Project.

State

California Executive Order (EO) S-03-05: Established the goal of reducing GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. CARB's first update to the Climate Change Scoping Plan (2014) set the groundwork to reach post-2020 goals set forth in the EO.

California EO B-30-15: Established a goal that requires GHG emissions to be reduced to 40 percent below 1990 levels by 2030. This EO also directed all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-03-05. The EO also required CARB to update its Scoping Plan to address the 2030 goal.

California EO S-01-07: Sets forth California's low carbon fuel standard, which requires the carbon intensity of the state's transportation fuels to be reduced by 10 percent by 2020.

Assembly Bill (AB) 32 (Global Warming Solutions Act of 2006): AB 32 recognized the need to reduce GHG emissions and set the GHG emissions reduction goal for the State of California into law. AB 32 codifies the requirement EO S-03-05, to reduce statewide GHG emissions to year 1990 levels by 2020. In accordance with AB 32, CARB prepared the Climate Change Scoping Plan for California, which was approved in 2008 and identifies all strategies necessary to fully achieve the required 2020 emissions reductions. The plan calls for an achievable reduction in California's carbon footprint. CARB, per the Climate Change Scoping Plan, recommends that local governments utilize a 15 percent GHG reduction below "today's" levels by 2020 to ensure that community emissions match the State's reduction target, where today's levels would be considered 2010 levels or business as usual levels. The Scoping Plan relies on existing technologies and improving energy efficiency to achieve the 30 percent reduction in GHG emission levels by 2020.

Senate Bill 375 (Sustainable Communities Strategy and Climate Protection Act): Required each Metropolitan Planning Organization (MPO) to develop a Sustainable Communities Strategy showing how its region would integrate transportation, housing, and land use planning to meet the GHG reduction targets established by the state. Lassen County is considered a Non-MPO Rural Regional Transportation Planning Agency Area. Senate Bill 375 also required CARB to establish targets for the reduction of GHG emissions from cars and light trucks for the years 2020 and 2035.

Local

No local regulations related to GHGs are applicable to the Project.

3.8.3 Impacts and Mitigation Measures

Discussion of GHG IS Checklist Questions

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Implementation of the Project would result in a temporary, short-term increase in GHG emissions associated with construction vehicle trips and heavy machinery; however, this increase would be short-term and limited to the duration of construction activities, which would span approximately 24 months. The various phases of construction would require between 4 and 24 worker trips per day and delivery trips on an as-needed basis. A detailed description of vehicle trips can be found in the Chapter 2 Project Description in Table 2-2.

There are no thresholds of significance adopted for the Northeast Plateau Air Basin. Because there are no local quantitative GHG thresholds, estimated Project GHG emissions were compared to thresholds established by the Bay Area and Sacramento Metropolitan AQMDs, as shown in Table 3.8-1. These thresholds are tied directly to AB 32 and statewide emissions reduction goals for 2020.

Table 3.8-1 GHG Emissions Thresholds		
Category	**Bay Area AQMD**	**Sacramento Metropolitan AQMD**
Construction	None recommended	1,100 metric tons/year CO_2e
Stationary Sources (Operation)	10,000 metric tons/year CO_2e	10,000 metric tons/year CO_2e
Land Use Projects	1,100 metric tons/year CO_2e 4.6 tons CO_2e/service population/year	1,100 metric tons/year CO_2e
Note: CO_2e = carbon dioxide equivalent.		

For the purposes of this impact assessment, the more conservative and commonly adopted numeric threshold for land use projects, 1,100 metric tons of CO_2e per year, has been utilized for analyzing project GHG emissions. Therefore, if emissions were to exceed 1,100 metric tons of CO_2e per year, the impact would be considered significant. GHG emissions for the Project were estimated using the CalEEMod (CalEEMod.2016.3.1) software. The CalEEMod is a statewide model designed to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. CalEEMod does not directly calculate O_3 emissions. Instead, the emissions associated with O_3 precursors are calculated. O_3 precursors are quantified as ROG and NO_X which, when released, interact in the atmosphere and produce O_3.

Construction GHG emissions are a one-time release and are typically considered separate from operational emissions because global climate change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. Based on the results of the CalEEMod, construction of the Project would emit 831.48 metric tons/year CO_2e, primarily from the combustion of diesel fuel in heavy equipment (CalEEMod 2018; see Attachment 3.3-1). Construction of the Project would not generate quantities of CO_2e emissions that would exceed the numerical threshold of 1,100 metric tons/year.

Operation of the Project would not require a substantial increase in energy demand or the use of off-road equipment, or increased maintenance trips compared to existing operational activities. Long-term operational GHG emissions generated by implementation of the Project would be negligible.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?

Less than Significant Impact. The Project would generate limited GHG emissions during short-term construction activities; however, construction-generated emissions of CO_2e would be well below the referenced threshold of 1,100 metric tons/year. This threshold is tied directly to AB 32 and statewide emissions reduction goals for 2020 as outlined in Section 3.8.2 Regulatory Setting. In addition, the Project would not result in a permanent increase in vehicle miles travelled and, therefore, would be consistent with SB 375. There are no other adopted plans that regulate GHG emissions that would apply to the Project. The Project would not conflict with an applicable plan, policy, or regulation adopted for reducing the emissions of GHGs.

3.9 Hazards and Hazardous Materials

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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 one-quarter 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 Section 65962.5 and, as a result, would it create a significant hazard to the public or 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 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?	☐	☐	☐	☒

3.9.1 Environmental Setting

A Phase I Environmental Site Assessment (ESA) was completed in September 2016 and covered APNs 121-050-10-11 and 121-050-24-11 and approximately 240 acres of land (ESA Study Area) (McGinley 2016). The ESA Study Area is also shown on Figure 1 (see Skedaddle Study area). The ESA was conducted to identify recognized environmental conditions (RECs) and was prepared in accordance with American Society for Testing and Materials (ASTM) International standard practices (ASTM E 1527-13). As defined by ASTM E 1527-13, a REC is the presence, or likely presence of any hazardous substances or petroleum products in, on or at the property due to any release to the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat of a future release to the environment. No RECs, historical RECs or controlled RECs were found, and no additional investigation was recommended (McGinley 2016).

The ESA Study Area includes primarily undeveloped land with prior use of limited agricultural development in southern area. Vegetation on the property consists primarily of brush and grass. The southernmost parcel, APN 121-050-24-11, contained a variety of agricultural equipment and a mobile home trailer connected to a septic tank. A truck-mounted drilling rig was also observed and positioned over a partially drilled slurry-sealed water well. The drill-rig was secured by two wire cables in a fenced off area.

The northernmost parcel, APN 121-050-10-11, contained predominately brushy vegetation scattered throughout two distinct areas. The northwest portion of the APN, which is not part of the ESA Study area, consists of sand dunes, evidence of use by off-road enthusiasts and multiple fire pits. The portion of APN 121-050-10-11 that would include the substations is predominately flat with brushy vegetation. Several unimproved roads both traverse and border the property. There are also electrical utility lines traversing the parcel with no transformers observed on the electric utility poles.

Historical reviews conducted as part of the ESA process indicate that the property has primarily been undeveloped with the southernmost parcel APN 121-050-24-11 being initially developed for agricultural use between 2006 and 2009 (McGinley 2016). While LMUD currently owns the parcels, an interview with the prior landowner of 12 years confirmed the development of APN 121-050-24-11 for agricultural use. It was also noted that 55-gallon barrels of gasoline were also stored on the property but there is no knowledge of any spills of petroleum products or hazardous materials.

In 2018, an ESA was also completed for approximately 53 acres of land along a 2.6-mile segment of the decommissioned Union Pacific railroad ROW. The ESA was completed as part of the property transfer of the railroad segment from Union Pacific to LMUD. The property subject to the 2018 ESA is generally surrounded by the Honey Lake Wildlife Area, undeveloped land and properties previously utilized for geothermal energy production. No RECs, historical RECs or controlled RECs were found, and no additional investigation was recommended as result of the ESA (McGinley 2018).

ESA Records Review

As part of the ESAs, regulatory agency reviews were conducted through commercial database searches and local regulatory inquiries to identify any regulatory actions imposed either within the ESA Study Areas, or at adjoining or nearby properties. Neither the 2016 nor 2018 ESA Study Area was identified in the database searches. In the 2016 ESA database search, five nearby sites were identified but were not subject to any further research because they were deemed unlikely to have caused environmental impacts either because of either their geographic distance or because they are considered hydrologically downgradient from or cross-gradient to the ESA Study Area with no reported releases or violations of hazardous waste regulations (McGinley 2016). Results of a Vapor Encroachment Screen meant to identify the potential vapors from hazardous substances and petroleum releases to reach the ESA Study Area from regulatory sites within one-third mile of the 2016 ESA Study Area identified one site. This site was deemed to have limited potential for the presence of contaminants of concern (McGinley 2016).

Results of the review of State Water Resources Control Board (SWRCB) records for the 2016 ESA identified two regulatory sites in the general area. A review of agency files for the first site located 2,000 feet southwest indicated petroleum impacts to soil and groundwater. After clean-up, this site received a

regulatory no-further action determination in 2010. The second site contained three leaking underground storage tanks (USTs) which were removed. The site received a no-further action determination in 2011.

The 2018 ESA database search identified one adjacent property located near the intersection of Antola and Amadee Roads and identified as "UP Railroad Former SP Yard", a site at which old oil dumps and open filled ponds (tar pits) and illegal dumping were previously reported in 1985. Based on the development and implementation of corrective action plans the site has been deemed closed by applicable regulatory agencies and would not impact the property subject to the 2018 ESA.

3.9.2 Regulatory Setting

Federal

USEPA): Primary responsibility for enforcing and implementing federal laws and regulations pertaining to hazardous materials. The applicable regulations are contained mainly in the Code of Federal Regulations (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).

In any given state, the USEPA or the state's hazardous waste regulatory agency enforces hazardous waste laws. Federal laws that govern the management of hazardous materials include:

- Resource Conservation and Recovery Act of 1976 (RCRA): Regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. RCRA was amended by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibit using certain techniques to dispose of various hazardous substances. In California, the California Department of Toxic Substances Control (DTSC), has delegated authority for regulating RCRA.
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): Provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites and accidents, spills, and other emergency releases of pollutants and contaminants into the environment.
- Superfund Amendments and Reauthorization Act of 1986 (SARA): Authorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities.
- Occupational Safety and Health Administration (OSHA) Worker Safety Requirements: OSHA is responsible for ensuring worker safety and 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.

State

State laws that govern the management of hazardous materials include:

- 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 and is administered by the California Emergency Management Agency. A HMBP is required if a hazardous substance would be stored for more than 30 days and includes 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. SWRCB. The SWRCB protects water quality and supports 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. The SWRCB (through the RWQCBs and some local agencies) also regulate releases with the potential to affect water resources under programs such as the UST Program and the Spills, Leaks, Investigations, and Cleanups Program. Regulatory authority for these programs is found in the California Health and Safety Code.

- Cal/OSHA Worker Safety Requirements. The Division of Occupational Safety and Health or Cal/OSHA, assumes primary responsibility for developing and enforcing workplace safety regulations and protecting and improving the health and safety of workers in California. Cal/OSHA 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.
- California Environmental Protection Agency (CalEPA). The CalEPA oversees and enforces a wide range of programs that protect the environment, and the people of California from exposure to toxic chemicals and pollutants. Senate Bill 1082 of 1993 (Health and Safety Code Chapter 6.11) required the Secretary of the CalEPA to establish a "unified hazardous waste and hazardous materials management" regulatory program (Unified Program) by January 1, 1996. The Unified Program consolidates, coordinates, and makes consistent the following existing programs: Hazardous Materials Release Response Plans and Inventories, California Accidental Release Prevention Program, UST Program, Aboveground Petroleum Storage Act, Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs, and the California Uniform Fire Code- Hazardous Material Management Plans and Hazardous Material Inventory Statements. A local agency applies to CalEPA for certification to implement the Unified Program within its jurisdiction as a Certified Unified Program Agency (CUPA).
- California Department of Transportation (Caltrans)/California Highway Patrol (CHP). Caltrans and the CHP are the State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous-materials transportation emergencies. 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 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. DTSC, SWRCB and other state and local government agencies are responsible for contributing to the information contained in the Cortese List. There were no sites listed for Lassen County (Cortese 2018).

Local

- Lassen County, Environmental Health Department- Hazardous Materials Management. The CUPA for the County of Lassen is the Lassen County Environmental Health Department and is responsible for regulating the Unified Program. The County also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

- Lassen County, City of Susanville and SIR Hazard Mitigation Plan (Hazard Plan). Adopted in 2010, the Hazard Plan was prepared to meet the requirements of the Disaster Mitigation Act of 2000, which allows eligibility for certain hazard mitigation to be eligible for certain disaster assistance and mitigation funding under the Federal Emergency Management Agency (FEMA). The overall goal of the Hazard Plan is to reduce the potential for damage to critical assets from natural hazards. The Hazard Plan is also in the process of being updated.

3.9.3 Impacts and Mitigation Measures

Discussion of Hazards and Hazardous Materials Initial Study Checklist Questions

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?*

Less than Significant. The ESAs evaluated the potential for on-site and/or off-site releases of hazardous materials that may affect the ESA Study Area. No RECs, historical RECs or controlled RECs were found, and no additional investigation was recommended (McGinley 2016, McGinley 2018). Interviews conducted as part of the ESA revealed that 55-gallon barrels of gasoline were also stored on the property but there is no knowledge of any spills of petroleum products or hazardous materials on the property.

Project Construction

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 and mineral oil, used to insulate transformers, would be transported to the site in sealed transformer equipment. Substation battery backup systems, containing liquid sulfuric acid, would be transported to the site in sealed cases, and the potential for rupture of the battery is negligible. Construction activities also would generate non-hazardous waste such as common household trash, cardboard, wood pallets, copper wire, scrap metal and wood wire spools, and packaging materials for equipment and parts. Non-hazardous waste would be collected in trash bins and picked up and either properly disposed of by a local waste disposal company or recycled.

Any construction contractors retained for the Project would be required to develop and implement a Spill Prevention and Response Plan (SPRP). The SPRP would include action measures to minimize the potential for accidental releases of hazardous materials into the environment and procedures for immediately cleaning up, reporting, and properly disposing of any released or spilled hazardous materials in accordance with applicable laws. 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.

Project Operations

Transformers and batteries used during the operation of the substations contain substances that are considered hazardous, such as dielectric fluids and liquid sulfuric acid electrolyte. These substances, however, would be enclosed and sealed within the equipment. If there is an equipment structure or system

malfunction, the dielectric fluids (mineral oils) are prevented from leaving the site by a spill containment system consisting of a berm, curb, or sump. Both substations would have a remote supervisory control and data acquisition (SCADA) system that would send alarms to dispatch centers in the event of a malfunction.

Project operation would require storing and using mineral oil on-site to operate the transformer. There would be transformer oil used for cooling and insulation purposes. The transformer oils would be completely contained within the equipment and would not enter the atmosphere or have contact with ground surfaces. Occasional filtering of the transformer oil would be required to remove impurities. The use oil would be either removed and recycled or disposed of in accordance with federal, state, and local requirements for hazardous waste disposal.

Spill prevention, control, and countermeasures (SPCCs) would be prepared and maintained during Project operations if more than 1,320 gallons of petroleum products are present on-site (excluding vehicles). The SPCC plans would be prepared in accordance with state and federal requirements and identify engineering and containment measures for preventing oil releases into waterways.

An environmental training program would also be established to communicate environmental concerns and appropriate work practices to all field personnel, including spill prevention, emergency response measures, and proper Best Management Practices. All personnel would be required to review all site-specific plans, including but not limited to the health and safety plan (as required by Cal/OSHA) and fugitive dust control plan.

Operation-specific HMBPs would also be filed with the Lassen County Environmental Health Department, the CUPA for Lassen County, if any hazardous substance would be stored for more than 30 days and includes 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. The HMBP would identify site activities, provide an inventory of hazardous materials used on-site, provide a facilities map, and identify an emergency response plan/contingency plan.

All Project contractors would be required to comply with applicable regulations which would reduce the potential for accidental releases of hazardous materials during construction and operation. These regulations are specifically designed to protect the public health through improved handling and transport of hazardous materials and coordinated and rapid emergency response.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no existing or proposed schools are located within one-quarter mile. The closest school is Shaffer Elementary School which is located over eight miles from the proposed substation area (California Schools 2016).

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

No Impact. As previously noted, the 2016 and 2018 ESAs, included a regulatory agency review of commercial database searches and local regulatory inquiries to see regulatory actions have ever been imposed either within the ESA Study Area, adjoining or nearby properties. The ESA Study Areas were not identified in the database searches. A small number of nearby sites which were identified in the database search and were all deemed unlikely to have caused environmental impacts to the ESA Study Areas. The Project is also not located on the list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (GeoTracker 2018).

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

No Impact. The closest public use airport to the Project is the Herlong Airport which is located almost 15 miles from the proposed substation area (Federal Aviation Administration (FAA) 2018).

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

No Impact. Emergency access to roadways in the area would not be affected by the Project construction. The proposed substation area would be accessed by a new access road constructed off Wendel Road. Slow-moving trucks entering and exiting the access road could slightly delay the movement of emergency vehicles. However, these vehicles would typically pull to the side of the road when emergency vehicles are using their sirens. Also, Wendel Road is a two-lane road so the other lane not being used to access the proposed substation area could also be used by emergency vehicles. Construction of the transmission line segments along Wendel Road and the Antola Switching Station near the intersection of Antola and Fish and Game would occur outside of the road ROW and would not involve any long-term closures of the public roads.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. The Project is not located adjacent to urbanized areas, and there are no residences nearby. LMUD routinely complies with all applicable fire safety regulations, including but not limited to applicable sections of the California Government, Health and Safety, and PRCs, California Public Utilities Commission (CPUC) General Order (GO) 95 regulations as updated, and applicable sections of the CCR pertaining to fire safety.

3.10 Hydrology and Water Quality

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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 release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.10.1 Environmental Setting

Much of Lassen County is arid, with some areas receiving an average of less than five inches of annual rainfall. Most precipitation in the mountainous areas falls as snow. Desert areas receive relatively little annual precipitation (less than two inches in some locations) but this can be concentrated and lead to flash flooding in parts of the region.

The geology and soils of the Lahontan Region have been shaped by a variety of processes and are correspondingly diverse. Parent materials in the northern mountains are granitic or volcanic; evidence of glacial action is widespread. Soils in the desert valleys of the region are derived from alluvium. Groundwater occurs throughout most of Lassen County. Water use in Lassen County has historically been dominated by agricultural irrigation. Consumptive municipal and agricultural use of water is relatively low in most parts of the Lahontan Region compared to other parts of California, due to the low resident population and the agricultural emphasis on range livestock grazing rather than crops. Irrigation is mostly for pasture, rather than for row crops and orchards.

There are 12 major watersheds (called "hydrologic units" under the California Department of Water Resources (CDWR) mapping system) in the North Lahontan Basin. The specific basin potentially affected by the Project is the Horse Lake Valley Basin (Basin 6-097).

3.10.2 Regulatory Setting

Federal

No federal regulations related to hydrology and water quality are applicable to the Project.

State

California RWQCB – Lahontan Region. Water Quality Control Plan for the Lahontan Region-North and South Basins (1995)[1]: Water quality standards and control measures for surface and ground waters of the Lahontan Region are contained in the Water Quality Control Plan for the Lahontan Region. The plan designates beneficial uses for water bodies and establishes water quality objectives, waste discharge prohibitions, and other implementation measures to protect those beneficial uses. State water quality standards also include a Non-degradation Policy. Water quality control measures include Total Maximum Daily Loads, which are often, but not always, adopted as plan amendments.

State of California. California Natural Resources Agency-CDWR Sustainable Groundwater Management Program. Sustainable Groundwater Management Act (SGMA) 2018 Basin Prioritization (2019). The SGMA-Water Code Section 10722.4(a) applies to all California groundwater basins. CDWR is required to update California's groundwater basin prioritization in accordance with the requirements of SGMA and related laws[2]. CDWR is required to prioritize basins for the purposes of the SGMA, which was enacted, among other things, to provide for the sustainable management of groundwater basins. The prioritization methodology accounts for the following factors:

- The population overlying the basin or subbasin.
- The rate of current and projected growth of the population overlying the basin or subbasin.
- The number of public supply wells that draw from the basin or subbasin.
- The total number of wells that draw from the basin or subbasin.
- The irrigated acreage overlying the basin or subbasin.
- The degree to which persons overlying the basin or subbasin rely on groundwater as their primary source of water.
- Any documented impacts on the groundwater within the basin or subbasin, including overdraft, subsidence, saline intrusion, and other water quality degradation.
- Any other information determined to be relevant by CDWR, including adverse impacts on local habitat and local streamflows, adjudicated areas, critically overdrafted basins, and groundwater-related transfers.

[1] Recently approved amendments to the Basin Plan that have not been incorporated into the main electronic text of the Basin Plan are available as "Fully Approved Basin Plan Amendments" @ https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/#fully

[2] Water Code sections 10722.4 and 10933; Water Code Section 10720.9; and Stats. 2009-2010, 7th Ex. Sess., c. 1 (Senate Bill 6), § 1, eff. Feb. 3, 2010.

Each basin is assigned priority points for each of these factors. The points are then totaled to arrive at a Basin Priority, as follows:

Priority	Total Priority Point Ranges; X = Cumulative Priority Points
Very Low	$0 \leq X \leq 7$
Low	$7 \leq X \leq 14$
Medium	$14 \leq X \leq 21$
High	$021 \leq X \leq 42$

The SGMA evaluation of the Horse Lake Valley Basin assigned it a "Very Low" Basin Priority. The SGMA requires that high and medium priority groundwater basins form Groundwater Sustainability Agencies and be managed in accordance with locally-developed Groundwater Sustainability Plans (GSPs) or alternatives to GSPs. High and medium priority basins identified in Bulletin 118-Interim Update 2016 as a Critically Overdrafted Basin are required to submit a GSP by January 31, 2020. The remaining high and medium priority basins are required to submit a GSP by January 31, 2022. No such requirements have been set for basins of 'Low' or 'Very Low' priority.

Local

Lassen County General Plan-Natural Resources Element: Water Resources Goals N-3, N-4, N-5, and N-6; Policies NR 13-NR-24, Policies, and corresponding implementation measures (Lassen County 2000b).

3.10.3 Impacts and Mitigation Measures

Discussion of Hydrology and Water Quality IS Checklist Questions

a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

No Impact. The Project would not violate any water quality standards or waste discharge requirements. There would be no water or waste discharges from Project components.

b) *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

No Impact. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that it may impede sustainable groundwater management of the basin. No groundwater pumping is planned during construction or operation.

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?

No Impact. The Project would not substantially alter the existing drainage pattern of the site or area. It would not alter the course of a stream or a river. The Project would not add impervious surfaces which would result in substantial erosion or siltation or increased surface runoff or impedance of flood flows. In addition, the Project as constructed and operated would not result in impacts associated with 1-4, below.

i. *Substantial erosion or siltation on- or off-site*. No erosion or siltation is anticipated because of the low annual rainfall, flat (0 to 1 percent slopes) site topography, and excessively drained soils with high rates of deep infiltration. High infiltration and permeability rates facilitate a very high level of absorption of rainfall on these flat slopes, even during high precipitation level events.
ii. *Substantial increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite*. The rate or amount of surface runoff would range from none to minimal because of the low annual rainfall, flat (0 to 1 percent slopes) site topography, and excessively drained soils with high rates of deep infiltration during rainfall events. Minimal to no surface runoff would occur because of the high infiltration and permeability of the affected soils.
iii. *Creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff*. The Project would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Minimal to no surface runoff would occur during rainfall events. The NRCS has mapped the hydrologic soil groups of the soils potentially affected by the Project. Project-affected soils are classified as classified as Hydrologic Soil Group 'A,' which are soils having a high infiltration rate (low runoff potential) when thoroughly wet. This low runoff potential is consistent with these soils' deep, well to excessively well drained and sandy characteristics.
iv. *Impedance or redirection of flood flows*. The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. No streams or rivers would be affected by construction and operation. According to FEMA, the lands potentially affected by the Project are not mapped within a 100-year flood zone. Project lands are listed on those maps within Zone X, which is characterized as areas determined to be outside the 0.2 percent annual chance floodplain; resulting in a de-minimis chance of flood flows.

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

No Impact. The Project would not be impacted, and no pollutants released through inundation by seiche, tsunami, or mudflow. A seiche is a temporary disturbance or oscillation in the water level of a lake or

partially enclosed body of water. No such water bodies could affect the Project area. A tsunami is a seismic sea wave that would not affect the Project area. The NRCS has mapped the flooding frequency of the soils potentially affected by the Project as "None,' which means that flooding is not only not probable, but that the chance of flooding is nearly 0 percent in any year. Flooding (under this classification) occurs less than once in 500 years.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The absence of impacts to surface and groundwater supply, quality, runoff, siltation, flooding, and other factors affecting water quality control planning or sustainable groundwater management would not conflict with the North Lahontan Region Water Quality Control Plan, or the management of groundwater in the Horse Lake Valley Basin. This finding is reinforced by the 'Very Low" Priority assigned to the Horse Lake Valley Basin through the 2018 SGMA Basin Prioritization Process. That classification did not detect declining groundwater levels or water quality issues through the assignment of 0 factor specific priority points for each of those considerations under the applicable criteria, among several other factor-specific evaluations. Because of the 'Very Low" Priority, the Horse Lake Valley is not required to prepare a GSP.

3.11 Land Use and Planning

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☐	☒

3.11.1 Environmental Setting

The Project would be located in the unincorporated area of Wendel, Lassen County, California. LMUD owns two parcels in Section 19, Township 29N, Range 16E - APNs 121-050-10-11 and 121-050-24-11. The parcels are surrounded by undeveloped land to the north and west, with residential agricultural land to the east and south. The NV Energy 345-kilovolt Reno-Alturas line is in an easement that crosses APN 121-050-11 in a northwesterly direction on the eastern end. The Skedaddle and Shaffer substations would be located on LMUD owned property at 736415 Wendel Road (APN 121-050-10-11).

The general Project area is currently undeveloped and vacant and is considered Upland Conservation which includes agriculture, power generation, airstrips, poultry, dairy and hog farms, geothermal, gas and oil, among others. The properties immediately surrounding this property consist primarily of agricultural properties, Honey Lake and undeveloped land (McGinley 2016).

3.11.2 Regulatory Setting

Federal

No federal regulations related to land use are applicable to the Project.

State

California Government Code Section 53091, 53096; Public Utilities Code Section 12808.5. Governs the applicability of building and zoning ordinances. Pursuant to the Lassen County code, a Conditional Use Permit is typically required for the approval of certain uses of land or types of businesses which are not allowed as a matter of right in a particular land use. Construction of the Project would normally require such an authorization.

LMUD, as a public agency, is exempt from County zoning ordinances regarding the construction of facilities for the production, generation, or transmission of electrical energy. Lassen County therefore, is not required in this instance to make discretionary action decisions related to this project. California Government Code Section 53091 subdivisions (d) and (e) expressly provide this exemption. As LMUD proposes to connect the Project at a voltage in excess of 100,000 volts exemption under Government Code section 53096 and Public Utilities Code section 12808.5 is applicable. In order to satisfy the public notice requirements under Government Code section 53096 and Public Utilities Code 12808.5, LMUD provided

notice of a public hearing 10 days prior (March 14, 2019) to the public hearing which occurred on March 26, 2019.

LMUD does not own any other property that has the acreage and necessary features for a successful interconnection project. LMUD representatives were unable to identify any other sites owned by LMUD with sufficient space suitable for the installation of the proposed facilities. LMUD received, considered and responded to all comments from the public as well as any interested persons or agencies, at the required public hearing on this matter.

Local

Lassen County General Plan. Adopted in 2000 and provides a tool to shape the use of land which would affect the quality of life and economic opportunities for generations (Lassen County 2000).

Wendel Area Plan and EIR. Prepared in compliance with Government Code Section 65300, wherein Lassen County chose to fulfil this State planning law by preparing individual "area" plans which cover selected portions of the County. The plan is designed to guide physical and economic development in the area (Lassen County 1987).

3.11.3 Impacts and Mitigation Measures

Discussion of Land Use and Planning IS Checklist Questions

a) Physically divide an established community?

No Impact. The Project would not divide an established community. The proposed substations would be located on APN 121-050-10-11, which is currently undeveloped and vacant and is considered Upland Conservation which includes agriculture, power generation, airstrips, poultry, dairy and hog farms, geothermal, gas and oil, among others. The substations would also be surrounded by fences. The immediate area around the proposed substation sites includes and unimproved road to the North; Wendel Road and agricultural properties to the South; Helman Road and agricultural properties to the East; and Wendel Road and undeveloped land to the West (McGinley 2016).

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?

No Impact. Pursuant to the California Government Code, a Conditional Use Permit would typically be required for the approval of certain uses of land or types of business which are not allowed as a matter of right in a particular land use. Construction of the Project would normally require such an authorization. LMUD, as a public agency, is exempt from County zoning ordinances regarding the construction of facilities for the production, generation, or transmission of electrical energy as further described above in Section 3.11.2-Regulatory Setting.

Based on a review of the Lassen County General Plan (Lassen County 2000) and the Wendel Area Plan (Lassen County 1987), which is the area specific plan that covers the Project site; the Project is not expected to conflict with any applicable land use plan, policy, or regulation.

3.12 Mineral Resources

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.12.1 Environmental Setting

Historic discoveries of gold along the Diamond Mountain Range, Hayden Hill, and other locations attracted many of the early settlers to Lassen County. Mining has continued sporadically at these and other nearby locations. Although the Diamond Mountain and Hayden Hill areas have been the predominate precious metal producers in Lassen County, there have been more modest discoveries and mining of gold and silver in other Lassen County locations, including Round Valley and the Skedaddle Mountains.

3.12.2 Regulatory Setting

Federal

No federal regulations related to mineral resources are applicable to the Project.

State

Other than the CEQA Guidelines, no state regulations related to mineral resources are applicable to the Project.

Local

Lassen County General Plan. Section 2 (Goals, Policies, and Implementation Measures, with Background Reports); Subsection 7 (Minerals Resources) of the Natural Resources Element of the Lassen County General Plan provides additional background information on Lassen County minerals resources (Lassen County 2000b).

3.12.3 Impacts and Mitigation Measures

Discussion of Mineral Resources IS Checklist Questions

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. According to the CDC-Divisions of Mines and Geology (California Division of Mines and Geology 2018), the area has not been identified as an area of known mineral resources. According to the NRCS Web Soil Survey (United States Department of Agriculture 2018), potentially affected soils in the area are each rated as "Poor" sources of gravel suitable for commercial use. Because of the lack of identified minerals or commercial sources of aggregate resources in the area, and the relatively small permanent area

of land impacted by Project construction (14 acres), there would be no impact regarding the potential loss of minerals resources that would be of value to the region or 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?*

No Impact. The Project area has not been historically used for mineral extraction and is not identified in the Lassen County General Plan (Lassen County 2000b) as a locally-important mineral recovery site.

3.13 Noise

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Generation of 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 ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Environmental Setting

Primary sources of noise in the Wendel Planning Area include the disposal of explosive materials through detonation at the Sierra Army Depot and the Southern Pacific Railroad. Railroad operations may result in occasional noise levels of 100A-weighted decibels (dBA) (i.e. the relative loudness of sounds in air as perceived by the human ear) at 50 feet from the source. Other sources which create occasional high noise levels include traffic (especially on U.S. Highway 395), seasonal hunting and associated firearm use (common throughout much of the area), and occasional operation of farm machinery and aggregate mining operations. The only concentrated noise-sensitive area within the Wendel Planning Area is the unincorporated community of Wendel (Lassen County 1987).

The Project area is in a rural setting, primarily surrounded by vacant land and agriculture in the Wendel Planning Area. The primary sources of noise include cars travelling on surrounding roadways, the Southern Pacific Railroad and agricultural operations. The nearest noise-sensitive receptors include approximately ten private residences located between 300-800 feet south of the proposed 60-kVtransmission line, south of the intersection of Wendel Road and Amedee Road.

3.13.2 Regulatory Setting

Federal

No federal regulations related to noise are applicable to the Project.

State

Other than the CEQA Guidelines, no state regulations related to noise are applicable to the Project

Local

Lassen County General Plan-Noise Element. The Lassen County Noise Element exerts the most regulatory control over the Project. The Noise Element is a General Plan element that is mandated by section 65302

of the California Government Code. The Noise Element provides mechanisms to mitigate existing noise conflicts and to minimize future noise conflicts through the adoption of policies and implementation measures designed to achieve land use compatibility for proposed development. The Noise Element includes goals, policies, and implementation measures related to noise. The overall goals of the Lassen County Noise Element are to protect the citizens of Lassen County from the harmful and annoying effects of exposure to excessive noise and to protect the economic base of Lassen County by preventing the encroachment of incompatible land uses within areas affected by existing noise-producing uses (Lassen County 1989).

Wendel Area Plan and EIR The Wendel Area Plan (Lassen County 1987) includes the following policy and implementation measure related to noise.

Policy:

- 3-A: The County shall protect noise sensitive land uses from existing or future noise generators by locating them within compatible noise environments or by requiring noise mitigation measures.

Implementation Measures:

- 3.1: County Planning staff will evaluate the noise potential of proposed projects and their effect on surrounding uses. If the project is incompatible with the surrounding area, it should be directed to a more compatible area. Conversely, planning staff should encourage noise sensitive uses to locate away from existing noise generators.
- 3.2: When new streets are planned, measures such as sound walls or berms should be included to mitigate significant noise impacts if the noise levels created would be significant.
- 3.3: New developments shall not exceed the noise standards of the Lassen County General Plan.
- 3.4: New development locating near noise generators should incorporate design features which will reduce the noise impacts.
- 3.5: New noise generators shall incorporate design features or devices to reduce the amount of noise which they will emit, or otherwise mitigate the effects of such noise.
- 3.6: Lands designated as Public Safety shall be expanded to encompass a three-mile perimeter around the Sierra Army Depot upper demolition range.
- 3.7: Lands designated as Public Safety shall be zoned "P-S, Public Safety, or "O-S", Open Space.

3.13.3 Impacts and Mitigation Measures

Discussion of Noise IS Checklist Questions

a) Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant with Mitigation. The Lassen County General Plan Noise Element includes noise level performance standards for locally regulated noise sources associated with new projects or developments as detailed in Table 3.13-1 below.

Table 3.13-1 Noise Level Performance Standards for New Projects and Developments			
Category	**Exterior Noise Level Standards, dBA**		
	Cumulative number of minutes in any one-hour time period	**Daytime 7 a.m. to 10 p.m.**	**Nighttime 10 p.m. to 7 a.m.**
1	30	50	40
2	15	55	45
3	5	60	50
4	1	65	55
5	0	70	60
Notes: Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Source: Lassen County 1989.			

The Lassen County General Plan Noise Element also includes the following acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise thresholds for community noise environments, as detailed in Table 3.13-2 below.

Table 3.13-2 Land Use Compatibility for Community Noise Environments				
Land Use Category	**Community Noise Exposure Level (in dbAs)**			
	Normally Acceptable	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Residential	50-60	60-70	70-75	75-85
Transient lodging, motels, hotels	50-60	60-70	70-80	80-85
Schools, libraries, churches, hospitals, nursing homes	50-60	60-70	70-80	80-85
Auditoriums, concert halls, amphitheaters, sports arenas	N/A	50-75	N/A	75-85
Playgrounds, Neighborhood Parks	50-70	N/A	70-75	75-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	N/A	75-80	80-85
Office Buildings, Business Commercial and Professional	50-67	67-75	75-85	N/A
Industrial Manufacturing, Utilities, Agriculture	50/70	70-80	80-85	N/A

Table 3.13-2 Land Use Compatibility for Community Noise Environments				
Land Use Category	**Community Noise Exposure Level (in dbAs)**			
	Normally Acceptable	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Source: Lassen County 1989				

The Project has the potential to result in increases in ambient noise levels because of short-term construction activities or long-term operational activities, as discussed further below.

Short-term Construction Related Noise

Project construction would generate temporary noise associated with the use and movement of construction equipment during construction activities. As described in Section 2, Project Description, blasting activities may be required (though not expected) in rocky areas where normal excavation methods are unable to meet Project excavation specifications. Estimated noise levels generated by typical construction equipment are identified in Table 3.12-3 below. Based on Table 3.13-3 construction equipment anticipated to be used for Project construction typically generates maximum noise levels ranging between 55 and 85 dBA at a distance of 50 feet. If blasting activities are determined necessary, a maximum of approximately 94 dBA could occur at a distance of 50 feet.

Table 3.13-3 Typical Noise Levels for Construction Equipment	
Equipment	**Typical Noise Level (dBA) 50 feet from Source**
Backhoes, excavators	80-85
Concrete pumps, mixers	82-85
Cranes (moveable)	81
Pick-up truck	55
Dump truck	76
Equipment/tool van	55
Dozer	82
Compactors	82
Water truck	76
Grader	85
Drill rigs	70-85
Pneumatic tools	85
Rock transport	76
Blasting	94
Roller	80
Hole auger	84
Line truck and trailer	55

Table 3.13-3 Typical Noise Levels for Construction Equipment	
Equipment	**Typical Noise Level (dBA) 50 feet from Source**
Source: USEPA 1971; California Department of Transportation 2013	

Noise generated by construction activities typically attenuates at a rate of 6 dBA per doubling of distance, assuming the intervening ground is a smooth surface without much vegetation. At an attenuation rate of 6 dBA, 55 to 85 dBA noise levels would drop to 49 to 79 dBA at a distance of 100 feet, 43 to 73 dBA at a distance of 200 feet, 37 to 67 dBA at 400 feet, and 31 to 61 dBA at distance of 800 feet. If blasting activities are required, a maximum of approximately 94 dBA could occur at a distance of 50 feet, 94 dBA noise levels would then drop to 88 dBA at a distance of 100 feet, 82 dBA at a distance of 200 feet, 76 dBA at a distance of 400 feet, and 70 dBA at a distance of 800 feet. These noise levels would generally be within the noise thresholds established by the Lassen County General Plan Noise Element for community noise exposure for residential land uses. However, if blasting activities are required within 800 feet of residential land uses, particularly near the intersection of Wendel Road and Amedee Road near the nearest sensitive receptors, they could exceed conditionally acceptable maximum community exposure level of 70 dBA, identified in Table 3.12-2. Lassen County does not have a noise ordinance or General Plan policy for noise impacts specifically associated with construction activities. As discussed in the Chapter 2, Project Description, construction crews would normally work during weekday daylight hours Monday through Friday, unless otherwise required for Project safety. Weekend work could be scheduled to minimize customer impacts for necessary line outages or for construction efficiency. All construction activities would abide by applicable Lassen County guidelines and noise thresholds for sensitive receptors. If blasting activities are determined necessary, mitigation has been included to ensure blasting activities would comply with applicable Lassen County guidelines and noise thresholds for sensitive receptors in the project vicinity.

Construction activities would be temporary in nature and would only occur over approximately 24 months. Due to the distance from the nearest sensitive receptor and the limited, short-term duration of construction activities near the nearest sensitive receptor, impacts related to typical Project-generated construction noise would be less than significant.

Mitigation Measures

NOISE-1: *Blasting activities shall be avoided within 800 feet of sensitive receptors to the greatest extent feasible. If blasting activities within 800 feet of sensitive receptors cannot be avoided, they shall be conducted in a manner which does not violate applicable Lassen County guidelines and noise thresholds for sensitive receptors. Specific techniques to reduce noise from blasting activities may include, but are not limited to, restrictions on construction timing, use of sound control devices on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise.*

Level of Significance after Mitigation – Less than Significant: With implementation of NOISE-1, the potential impact that would occur if blasting is required and would result in a substantial temporary increase in ambient noise levels in the vicinity of the Project in excess of established standards be reduced to a less-than-significant level.

Long-term Operational Noise

Long-term operational noise generated by the Project would be limited to noise associated with transformer operation at the substations, corona noise from energized transmission lines, and intermittent noise from crews conducting routine inspection and maintenance activities. The only operational noise that could be audible from the nearest sensitive receptor would be corona noise from the proposed energized overhead transmission line along Wendel Road. Corona noise is a phenomenon associated with all energized transmission lines. Corona is the physical manifestation of energy loss and can transform discharge energy into very small amounts of sounds, radio noise, heat, and chemical reactions of the air components. Transmission lines generate a small amount of sound energy during corona activity. This audible noise caused by corona is usually not an issue for power lines rated at 230-kV and lower voltages (CPUC 1999). Any potential corona noise generated by the proposed 60-kV transmission line located approximately 250 feet north of the nearest sensitive receptor would not be detectable at the sensitive receptor. Therefore, Project operations would not result in significant permanent increases in the ambient noise levels that could exceed established thresholds.

b) Generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. Construction equipment and activities have the potential to generate ground borne vibration or noise in the immediate vicinity of construction activities. Tamping of ground surfaces, the passing of heavy trucks on uneven surfaces, grading, and drilling would each create perceptible vibration in the immediate vicinity of the activity. The level of ground borne vibration that could reach sensitive receptors depends on the distance to the receptor, what activity or equipment is creating the vibration, and the soil conditions surrounding the construction site. The impact from construction-related ground borne vibration would be short-term and confined to only the immediate area around the activity (within about 50 feet). As all proposed construction activities would occur more than 50 feet from any occupied structure, impacts related to ground borne vibration would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is not located within two miles of a private airstrip or a public airport, and is it not located within an airport land use plan.

3.14 Population and Housing

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

As of January 1, 2018, the total estimated population of Lassen County was 30,911 (California Department of Finance (DOF) 2018a). Nearly half of the population is living in the City of Susanville, with the other half spread throughout the balance of the county. The county's population is expected to decrease slightly over the years with an estimate of 30,626 in 2020 (California DOF 2018a).

In January 2018, the California DOF estimated that the total number of housing units in Lassen County was 12,756, with an average household size of 2.42 persons per unit. Single family detached homes reportedly made up most of housing units in 2018, at approximately 71 percent (California DOF 2018b).

3.14.2 Regulatory Setting

Federal
No federal regulations related to population and housing are applicable to the Project.

State
Other than the CEQA Guidelines, no state regulations related to population and housing are applicable to the Project.

Local
No local regulations related to population and housing are applicable to the Project.

3.14.3 Impacts and Mitigation Measures

Discussion of Population and Housing IS Checklist Questions

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Project's construction schedule is estimated to be 24 months. Construction by both LMUD and NV Energy would occur concurrently. Skedaddle Substation work would occur over approximately eight months. The 60-kV transmission line Antola Switching Station and access road construction would

take approximately three months. Shaffer Substation work would occur over approximately 18 months. Construction of various Project features would be staggered so not all peak workforces occur at the same time.

The source of the construction labor force is expected to generally be from the local labor pool where workers would either commute daily to the site or temporarily stay in the area during the work week and commute home on the weekends. Project construction would not result in substantial in migration of workers that would induce substantial population growth or otherwise affect the local population.

The Project would also function as an unmanned site and would be operated and maintained by existing service technicians. No new workers would be hired for Project operation and maintenance. The Project would not involve constructing new homes or businesses or extending roadways or other infrastructure that would directly or indirectly induce population growth.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project would not displace any existing housing or necessitate the construction of replacement housing elsewhere. A small number of residences are near the Project area but would not be displaced by construction or operation and maintenance activities.

3.15 Public Services

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.15.1 Environmental Setting

The closest fire station to the Project area is the Standish-Litchfield Fire Station located at 472-250 Chappius Lane, Standish and approximately 15 miles away. The Lassen County Sheriff's Department is responsible for prevention, detection and investigation of crimes in the unincorporated areas of the County, including the Project area. It operates a 24-hour Adult Detention Facility, manages a 911 dispatch center, provides search and rescue services, boating safety services on navigable waters, and court security services. The Lassen County Sheriff's Department also serves all State mandated writs, warrants, and other notices issued by the Court, and serves as the Coroner of Lassen County.

Lassen County serves approximately 4,500 students in transitional kindergarten through 12th grades. Ten individual school districts, three independent charter schools, Lassen Community College and the Lassen County Office of Education work collaboratively. Lassen County contains several existing neighborhood and regional parks and other recreational facilities. These include Janesville Park, Memorial Park, Pat Murphy Little League Park, Riverside Park, the River Walk, Susanville Ranch Park, Susan River Park, and Skyline Park in the City of Susanville. It also includes the Lassen Volcanic National Park, the Lassen National Forest, the Eagle Lake Recreation Area, and a wide range of camping, fishing, hunting, trails, and related outdoor recreational facilities. Other public facilities include but are not limited to those supporting public health and social services, employment, housing, and senior services.

3.15.2 Regulatory Setting

Federal

No federal regulations related to public services are applicable to the Project.

State

California GO Order 95. Regulations governing Rules for Overhead Electric Line Construction, including applicable standards for recently enacted fire safety regulations.

Local

Lassen County Code. The Lassen Code Titles 1 through 19 are generally applicable to the Project as the current codes guide activities in the county (Lassen County Code 2018).

3.15.3 Impacts and Mitigation Measures

Discussion of Public Services IS Checklist Questions

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

Fire Protection?

No Impact. The closest fire station to the Project area is the Standish-Litchfield Fire Station located approximately 15 miles away. Construction and operations would comply with applicable fire safety standards thereby minimizing the needs for service calls.

All Project components would be installed and maintained in full compliance with all applicable California GO 95 regulations governing Rules for Overhead Electric Line Construction, including applicable standards for recently enacted fire safety regulations. The Project would have no substantial adverse physical impacts associated with the provision of fire protection services to maintain acceptable service ratios, response times or other performance objectives.

Police Protection?

No Impact. There may be a slightly greater need for police protection services during construction. However, the Project would require no additional police protection services during operation. The Project would not add any additional residences or businesses to the area and would therefore not affect sheriff protection services, service ratios, or response times to the community of Wendel or the surrounding area.

Schools?

No Impact. Project construction, operation, and maintenance would add no residences, require no long-term increases in employment or families in the area, and therefore would have no impact on the capacity of existing schools or their performance levels.

Parks?

No Impact. The Project is for the development of new electrical substations and accompanying interconnection to existing electrical facilities. Project development would not directly add to the population of the local area. The Project would therefore not impact existing park use. Section 3.16-Recreation includes additional information on existing parks and recreation.

Other Public Facilities?

No Impact. No other public facilities would be affected by the Project. Because of the minimal size of temporary construction crews and the unmanned nature of all Project facilities when in operation, the Project would not impact other public facilities or other emergency response services.

3.16 Recreation

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☐	☒
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Environmental Setting

Lassen County contains several existing neighborhood and regional parks and other recreational facilities. These include Janesville Park, Memorial Park, Pat Murphy Little League Park, Riverside Park, the River Walk, Susanville Ranch Park, Susan River Park, and Skyline Park in the City of Susanville. The area also includes the Lassen Volcanic National Park, the Lassen National Forest, the Eagle Lake Recreation Area, and a wide range of camping, fishing, hunting, trails, and related outdoor recreational facilities. Park use is only one recreational choice among a wide range of other, similar opportunities.

3.16.2 Regulatory Setting

Federal

NPS. U.S. Department of the Interior, Lassen Volcanic National Park. Superintendent's Compendium of Designations, Closures, Permit Requirements and Other Restrictions Imposed Under Discretionary Authority. This document includes provisions applicable to all lands and waters administered by the NPS within the boundaries of the Lassen Volcanic National Park. These include but are not limited to visiting hours, public use limits, closures, activities that require a permit, and general regulations. (NPS 2018).

Lassen National Forest. USDA. 6 U.S. Code, Title 16, Chapter 87. Federal Lands Recreation Enhancement: Sections 6802 (Recreation fee authority); 6803 (Public participation); 6804 (Recreation passes) and related sections. These sections of the referenced act establish certain procedures related to recreational use and visitation.

State

Other than the CEQA Guidelines, no state regulations related to recreation are applicable to the Project.

Local

Lassen County General Plan. Natural Resources Element. Section 9 – Recreation Resources. Goal N-18: An expanded range of outdoor recreation resources, facilities, and opportunities (Lassen County General Plan 2000b).

3.16.3 Impacts and Mitigation Measures

Discussion of Recreation IS Checklist Questions

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?

No Impact. The Project's construction schedule is estimated to be 24 months. Construction by both LMUD and NV Energy would occur concurrently. Skedaddle Substation work would occur over approximately eight months. The 60-kV transmission line Antola Switching Station and access road construction would take approximately three months. Shaffer Substation work would occur over approximately 18 months.

Because of the short duration and size of the participating workforces involved in the Project, and the expectation that a majority of that workforce would originate from the local labor pool, it is expected that the visitation and use rates for existing neighborhood and regional parks would not deviate from the current rates that would be expected by this same local labor pool. Because the frequency and intensity of these visitation and use rates are expected to remain stable and consistent with existing labor pool rates, the Project is not expected to substantially increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of those facilities would occur or be accelerated.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The Project does not include recreational facilities or require the construction or expansion of recreational facilities that could have an adverse physical effect on the environment.

3.17 Transportation

Would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project 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?	☐	☐	☐	☒

3.17.1 Environmental Setting

The Project area is in a rural area near the unincorporated community of Wendel in Lassen County. Roads in the area primarily include Wendel Road, Antola Road, Amedee Road, Helman Road, Viewland Road, Fish and Game Road, and US Highway 395 (see Figure 2). Amedee Road and Antola Road are identified in the Circulation Element of the Wendel Area Plan as roads designated for improvement. Due to the rural character of the area, no new roads and few road improvements are anticipated to be required to support the land uses of the Wendel Area Plan (Lassen County 1987).

3.17.2 Regulatory Setting

Federal

No federal regulations related to transportation are applicable to the Project.

State and Local

Regional Transportation Plan (RTP)- The RTP is the principal planning document for the coordination of transportation system improvements and services in Lassen County. The most recent Lassen RTP was last adopted in 2012 but is currently undergoing an update. The programing of state highway projects is a planning function through the State Transportation Improvement Program involving the Regional Transportation Planning Agency and Caltrans. An adequate, well-maintained system of streets and highways is an essential component of Lassen County's transportation program. Although the expansion of the highway system is desirable, maintenance of the existing system is mandatory. A delay in road maintenance can result in greater deterioration and, eventually, increased repair costs. Without adequate maintenance, the County faces the costly prospect of having to completely rebuild sections of roadways. Policies of the RTP reflect the County's objectives to maintain its streets and roads as adequately as possible with the funds available.

Lassen County General Plan. The Lassen County General Plan Circulation Element includes goals, policies and implementation measures related to the circulation network in the unincorporated county (Lassen County 2000c). The following policies are applicable to the Project:

Policies:

CE-8: No new roads should be accepted into the County road system unless those roads have been constructed to a paved standard appropriate for the classification of the road being offered for dedication for public use.

CE10: In consideration of proposed projects which would generate a substantial number of large trucks carrying heavy loads, the County shall require special mitigation measures to ensure that those projects do not cause, or will adequately mitigate, significant deterioration of County roads.

CE-30: The County shall, as appropriate, refer to other pertinent General Plan elements, including the Natural Resources Element, regarding the development of new utility transmission and distribution lines.

Implementation Measures:

CE-C Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will insure that project developers adequately and fairly compensate or participate with the County in the necessary upgrading and/or repair of the affected roads.

CE12: No public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speeds; extremely difficult to maneuver; some stoppages).

CE29: The County recognizes and shall refer to the Energy Element of the General Plan for policies pertaining to energy-related utility issues.

CE-H The Energy Element shall be consulted as necessary for relevant policies pertaining to energy utilities.

Wendel Area Plan and EIR. The Wendel Area Plan Circulation Element includes policies and implementation measures related to the circulation network in the planning area. The following implementation measures are applicable to the Project (Lassen County 1987).

Implementation Measures:

19.1 The County shall require new development, including industrial projects, to contribute to the construction and improvements of the roads which will serve their projects and the populations resulting from them.

19.2 Prior to the approval of all new projects, the County shall evaluate the potential effect on existing traffic patterns and railroad crossings and shall require as a condition of approval any improvements or in lieu fees necessary to ensure traffic safety.

19.3 The County should provide for the necessary improvements and maintenance to upgrade Amadee Road to County standards.

3.16.3 Impacts and Mitigation Measures

Discussion of Transportation IS Checklist Questions

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The Project would generate short-term increases in traffic volume on the local road network during construction activities due to worker and delivery trips to and from the site; however, due to the size of the site and scope of construction activities, temporary increase in trips would be minor. The various phases of construction would span approximately 24 months and would require between 4 and 24 worker trips per day. Delivery truck trips would only occur on an as-needed basis to deliver equipment and/or materials to and from the site. These construction-related trips would be limited and short-term during the construction phase and are not anticipated to result in significant impacts on the local road network.

As discussed in Chapter 2-Project Description and as shown on Figures 1 and 2, access to the substation sites would be from a permanent road constructed alongside the 60-kV transmission line from Wendel Road on LMUD owned property. The road surface would be 20 feet wide and include a gravel base. Appropriate drainage features would also extend beyond the road surface. A fence and gate would be installed beginning at the access road entrance at Wendel Road to secure the area and restrict unauthorized access. This road would be used during construction and for ongoing operation and maintenance activities. There is an existing 12-foot wide maintenance access road running parallel to the LMUD owned portion of the decommissioned railroad ROW which would be used to provide continual access for ongoing operation and maintenance for that segment of the proposed 60-kV electrical transmission line. Other portions of the proposed 60-kV transmission line route would be readily accessible from existing public roads and would not require new access roads.

The Skedaddle and Shaffer substations and Antola Switching Station would function as unmanned sites and would be operated and maintained by existing service technicians. Ground maintenance patrols would monitor the transmission line ROW periodically, utilizing existing roadways and the new access road ROWs. Operation and maintenance activities would occur at all Project components and include replacing damaged equipment and routine maintenance. No new permanent employees would be required for the operation and maintenance of the Project. Additionally, the Project would not, either directly or indirectly, result in an increase in housing or other development that would cause a permanent increase in traffic in the area.

The Project would not remove or change the location of any sidewalk, bicycle lane, ride sharing or public transportation facility. There are no adopted policies, plans or programs related to alternative transportation that would apply to the Project or facilities in the Project vicinity; therefore, no impact to bicycle or pedestrian facilities would occur.

The Project does not include the development of new roads that would be accepted into the County road system and would not generate a substantial number of large truck trips, consistent with the Lassen County General Plan Circulation Element Policies CE-8 and CE-10. The Project includes the construction and/or improvement of roadways that would serve the Project, consistent with the Wendel Area Plan Circulation Element Implementation Measure 19.1.

Based on the limited increase in local traffic volume that would occur during construction activities and the negligible increase in traffic trips associated with routine maintenance and operation, implementation of

the Project would not substantially affect the surrounding transportation network in the long term, and would not conflict with existing plans, ordinances, policies, or programs.

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

Less than Significant Impact. As discussed above, construction activities would generate short-term increases in traffic volume on the local road network because of worker trips and delivery trips; however, this temporary, negligible increase in trips and the construction of additional access roads to service the Project would not substantially increase traffic trips or vehicle miles traveled. The operation of the Project would not generate new permanent long-term traffic trips, though existing maintenance trips would be diverted to the Project area. The negligible increase in vehicle miles traveled would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The Project would not result in a permanent alteration of public access routes or an increase in hazards due to transportation design features or incompatible uses. E existing roadways and/or new private roadways would be used to access the Project sites. None of these roadways include unique or hazardous design features, topography, or intersections. Access adjacent to the LMUD owned portion of the railroad ROW would not be dangerous, as this railroad ROW has been decommissioned and is no longer in use.

d) Result in inadequate emergency access?

No Impact. Emergency access would be maintained throughout construction and there are no existing or foreseeable long-term constraints on access and/or emergency access routes in the vicinity that the Project could affect.

3.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a TCR, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1 Environmental Setting

PAR contacted tribes in compliance with AB 52 (now incorporated into California PRC 5097.94). The NAHC was contacted on September 7, 2017 and a response was received on September 14, 2017. A sacred lands search did not reveal any known tribal resources. Sixteen individuals representing 10 tribes were contacted, based on the NAHC list. Based on results of this consultation, two groups, the SIR and Honey Lake Maidu, expressed interest in the Project.

Table 3.18-1
Project Tribal Consultation Table

Name	Organization	Information Sought	Date(s) and Means Contacted	Response
Frank Lienert	NAHC	Native American concerns/sacred sites search	September 7, 2017 – letter	September 14, 2017 – Email, provided list of tribal contacts, Sacred Lands File negative for tribal resources
James Barlese	Pit River Tribe of California – Hammawi Band	Native American Concerns	November 20, 2017 - letter	Requested that the THPO Brenda Heard-Duncan be contacted for territory map. If in their territory requested a site visit.
Chris Brown	Pit River Tribe of California – Kosealekte Band	Native American concerns	November 20, 2017 - letter	Contacted THPO prior to follow up call – project is not in tribal territory; no response to date
Evarado Dela Torre	Pit River Tribe of California – Aporige Band	Native American concerns	November 20, 2017 - letter	Contacted THPO prior to follow up call – project is not in tribal territory; no response to date
Brenda Heard-Duncan	Pit River Tribe of California –	Native American concerns	November 20, 2017 - letter and phone	Provided a territory map - project is not in their tribal area

Table 3.18-1 Project Tribal Consultation Table				
Name	**Organization**	**Information Sought**	**Date(s) and Means Contacted**	**Response**
	Historical Preservation		December 20, 2017 – phone January 16, 2018- phone January 17, 2018 – email	
Mickey Gemmill Jr. Chairperson	Pit River Tribe of California	Native American concerns	November 20, 2017 – letter	Contacted THPO prior to follow up call – project is not in tribal territory; no response to date
Mary Preston	Pit River Tribe of California – Atwamsini Band	Native American concerns	November 20, 2017 - letter	Contacted THPO prior to follow up call – project is not in tribal territory; no response to date
Herb Quinn Sr.	Pit River Tribe of California – Atwamsini Band	Native American concerns	November 20, 2017 - letter	Contacted THPO prior to follow up call – project is not in tribal territory; no response to date
Ron Morales, Chairperson	Honey Lake Maidu	Native American concerns	December 19, 2017 - letter January 16, 2018 – phone May 8, 2019 – letter	Requested more detail on building plans for substation, will contact LMUD. No response to the May 8, 2019 letter received to date
Paul Garcia, Chairperson	Honey Lake Maidu	Native American concerns	November 20, 2017 - letter December 21, 2017 – phone	No concerns
Darrel Cruz Tribal Historic Preservation Officer	Washoe Tribe of Nevada and California	Native American concerns	November 20, 2017 - letter December 21, 2017 - phone	Deferred to SIR – no concerns
Brandon Guitierez. Chairperson	SIR	Native American concerns	November 20, 2017 - letter	No response to date.
Melany Johnson, Tribal Historic Preservation Officer	SIR	Native American concerns	November 15, 2017 – phone November 20, 2017 - letter December 21, 2017 – phone January 3, 2018 - phone May 8, 2019 – Site visit	Answered questions on SIR's role in consultation for region, awaiting response to letter, left a message on phone December 21, 2017; call January 3, 2018 requested site records for prehistoric sites (provided on January 3, 2018). Site visit held on May 8, 2019 to discuss potential impacts and evaluation efforts.
Don Ryberg, Chairperson	Tsi Akim Maidu	Native American concerns	November 20, 2017 letter	Left message and asked for a call back with any

Table 3.18-1 Project Tribal Consultation Table				
Name	**Organization**	**Information Sought**	**Date(s) and Means Contacted**	**Response**
			December 20, 2017 - phone	concerns - No response to date
Grayson Coney, Cultural Director	Tsi Akim Maidu	Native American concerns	November 20, 2017 - letter December 20, 2017 – phone	Out of service number - No response to date.
Kyle Self	Greenville Rancheria	Native American concerns	November 20, 2017 - letter December 20, 2017 – phone	Left message and asked for a call back with any concerns - No response to date
Harold Dixon	Northern Paiute	Native American concerns	No mailing address. December 21, 2017 – phone	Called December 21, 2017 to provided number, voicemail was for a wrong number.
THPO – Tribal Historic Preservation Office Susanville Indian Rancheria – SIR				

3.18.2 Regulatory Setting

Federal

NHPA Section 106. Section 106 requires tribal consultation in all steps of the process when a permitted action may affect historic properties that are either located on tribal lands, or when any Native American tribe or Native Hawaiian organization attaches religious or cultural significance to the historic property, regardless of the property's location.

Overall federal policy is set out in several EOs, including President Obama's Executive Memorandum of November 4, 2009 which calls on agencies to engage in consultation with tribes; President Bush's EO 13336, requiring American Indian and Alaska Native education, and President Clinton's EO 13175, requiring agencies to consult and coordinate with tribal governments.

State

PRC 5097.94. PRC 5097.94 established that TCRs must be considered by the lead agency under CEQA and provided for additional Native American consultation requirements to be undertaken by the lead agency. A TCR is a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe, and that is:

i) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A project that has potential to impact a TCR such that it would cause a substantial adverse change constitutes a significant effect on the environment unless mitigation reduces such effects to a less than significant level. PRC Section 2071 defines "Tribal Cultural Resources as "Sites, features, places, cultural

landscapes, sacred places, and objects with cultural value to a California Native American tribe" which are included on local, state, or national registers. A cultural landscape must first meet the CRHR before being considered a TCR.

3.18.3 Impacts and Mitigation Measures

Discussion of TCR IS Checklist Questions

a) Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC section 5020.1(k),

Less than Significant with Mitigation. Six prehistoric sites have been identified as eligible or potentially eligible for listing in the CRHR. Four of these sites would be impacted by the Project.

Table 3.18-1: Table of prehistoric resources findings and eligibility status

Trinomial	Primary	Description	Comments	Impact Assessment
CA-LAS-536	P-18-536	Sparse lithics	Two-three flakes identified in the Project area	One pole would be placed in the site and one pole would be removed
CA-LAS-1759/H	P-18-1759	Lithic scatter	Sparse	One pole would be placed in this site and one pole would be removed
CA-LAS-5661	P-18-5661	Diffuse flake scatter	South of decommissioned Union Pacific Railroad grade	One pole would be placed in this site and one pole would be removed
CA-LAS-5662	P-18-5662	Diffuse flake scatter	A few concentrations	Two poles would be placed in this site and one pole would be removed
CA-LAS-5667	P-18-5667	Lithics, groundstone, beads	Both artifacts and burned bone	Would be avoided during construction
CA-LAS-5672	P-18-5672	Diffuse flake scatter	Six tools	Would be avoided during construction

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation. The SIR and Honey Lake Maidu have consistently expressed interest in prehistoric sites in the Honey Lake area and responded to the consultation requests for the Project; therefore, the prehistoric sites within the Project area are considered TCRs. LMUD continues to consult with these tribes to reach an agreement on measures to mitigate potential impacts at these sites. Mitigation Measures CUL-2 to CUL-7 as provided in Section 3.5 outline the steps proposed to reach a less than significant impact to the four sites that would be impacted by the Project. In addition, Mitigation Measures TCR-1, TCR-2, and TCR-3 shall be implemented.

Mitigation Measures

TCR-1: *LMUD, or its consulting archaeologist, shall continue consultation with interested tribes in compliance with Mitigation Measure CUL-3. LMUD shall provide project updates and scheduling to interested tribes and would continue tribal outreach through completion of construction.*

TCR-2: *LMUD, or its consulting archaeologist, shall request that interested tribes appoint one Native American representative responsible for monitoring activities and information meetings as stipulated in Mitigations Measures CUL-2, CUL-4, CUL-5, and CUL-6. Upon completion of the project LMUD, or its consulting archaeologist, shall provide a summary of monitoring results to the interested tribes for their records.*

TCR-3: *LMUD or its consulting archaeologist, shall contact interested tribes within 24 hours of accidentally exposing an unanticipated prehistoric site or human remains that the coroner has identified as Native American in origin. Interested tribes shall be asked to participate in implementation of Mitigation Measures CUL-7 and CUL-8 through completion of the work.*

Level of Significance after Mitigation – Less than Significant: With implementation of TCR-1 to TCR-3 in collaboration with CUL-1 to CUL-8, the potential impact to identified TCRs in the Project area would be reduced to a less-than-significant level.

3.19 Utilities and Service Systems

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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 effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future developments during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.19.1 Environmental Setting

The community of Wendel does not have a domestic water system or sewage system. All parcels utilize individual septic tanks or wells. Due to the highly rural character of the area and the lack of housing demand; public systems have not been necessary (Lassen County 1987). The Lassen Regional Solid Waste Management Authority (Authority) is responsible for all aspects of municipal solid waste management within Lassen County. The Authority operates two municipal solid waste landfills (Bass Hill Landfill and Westwood Landfill) and nine transfer stations within Lassen County (Lassen County Solid Waste 2018). The Bass Hill Landfill is classified as a Class III municipal solid waste landfill facility. The landfill is permitted to accept agricultural, ash, construction and demolition debris, mixed municipal waste, sludge other designated debris and dead animals. According to CalRecycle, the Bass Hill Landfill has a maximum permitted throughput of 300 tons per day and has a remaining capacity of approximately 603,404 cubic yards (CalRecycle 2018). The Westwood Landfill classified as a Class III municipal solid waste landfill facility. The landfill is permitted to accept construction/demolition, mixed municipal, tires, and dead animals. According to CalRecycle, the Bass Hill Landfill has a maximum permitted throughput of 10 tons per day and has a remaining capacity of approximately 89,369 (CalRecycle 2018).

3.19.2 Regulatory Setting

Federal

No federal regulations related to utilities and service systems are applicable to the Project.

State

California Assembly Bill 939 or the California Integrated Waste Management Act of 1989. Under the Act, the California Integrated Waste Management Board or CalRecycle was created. CalRecycle is the agency designated to oversee, manage, and track the 92 million tons of waste generated in California each year. CalRecycle provides grants and loans to help cities, counties, businesses, and organizations meet the state's goals for waste reduction, reuse, and recycling, promotes the use of new technologies to divert resources away from landfills.

2013 California Green Building Standards Code (CALGreen Code). The CALGreen Code was developed to enhance the design and construction of buildings and the use of sustainable construction practices, through planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. Chapter 7, Section 708 of the 2013 CALGreen Code requires all construction contractors to reduce construction waste and demolition debris by 50%.

Local

Lassen County General Plan. The policies of the County General Plan that are applicable to utilities and service systems are included in the 2000 Lassen County General Plan (Lassen County 2000).

3.19.3 Impacts and Mitigation Measures

Discussion of Utility and Service Systems IS Checklist Questions

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 effects?*

No Impact. The Project would not require or result in the construction of any new water or wastewater treatment facilities or the expansion of existing facilities. The Project would operate as an unmanned site and would be operated and maintained by existing service technicians.

b) *Have sufficient water supplies available to serve the project and reasonably foreseeable future developments during normal, dry and multiple dry years?*

No Impact. The Project would not include any uses that would require a permanent water supply. Water would be imported in water tankers and would be applied for dust suppression purposes during construction, but no water facilities would be constructed or required for Project operations.

c) *Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?*

No Impact. The Project would not require or result in the construction of any new water or wastewater treatment facilities or the expansion of existing facilities. The Project would operate as an unmanned site and would be operated and maintained by existing service technicians.

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?

No Impact. The Authority operates two municipal solid waste landfills (Bass Hill Landfill and Westwood Landfill) and nine transfer stations within Lassen County. Construction of the Project would produce a negligible amount of waste and would not have an impact on the either landfills permitted capacity. The Project would function as an unmanned site and would be operated and maintained by existing service technicians and is not expected to produce solid waste.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. Construction of the Project would produce a negligible amount of waste and would not have an impact on the either landfills permitted capacity. The Project would function as an unmanned site and would be operated and maintained by existing service technicians.

3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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 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 risk, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The Project area is dominated by rangeland vegetated by big sagebrush, greasewood, cheatgrass, and weedy plants that are indicative of the relatively harsh moisture regime and limited agricultural productivity of the immediately adjacent soils. Project slopes are level to nearly level ranging from 0 to 2 percent.

The climate of Lassen County is variable but in general is characterized by warm dry summers and cold moist winters. Average Susanville temperatures range from 41°Farenheit (F) in December and January to 89°F in July. The average annual temperature is approximately 64°F. The average annual precipitation is approximately 12 inches of rainfall and 14 inches of snowfall. The average hourly wind speed in Susanville experiences mild seasonal variation over the course of the year. The windier part of the year lasts for approximately 4 months, from February to June, with average wind speeds of about six miles per hour. The predominant average hourly wind direction in Susanville varies throughout the year.

3.20.2 Regulatory Setting

Federal

No federal regulations related to wildfire are applicable to the Project.

State

State Responsibility Area. The State Responsibility Area (SRA) is the area where the State of California has the primary financial responsibility for the prevention and suppression of wildland fires. The SRA forms one large area over 31 million acres to which the California Department of Forestry and Fire Protection

(CAL FIRE) provides a basic level of wildland fire prevention and protection services. State law describes SRA in Sections 4125-4128 of the PRC. Specifically, Section 4126 states that SRA includes:

- Lands covered wholly or in part by forests or by trees capable of producing forest products.
- Lands covered wholly or in part by timber, brush, undergrowth, or grass, whether of commercial value or not, which protect the soil from excessive erosion, retard runoff of water, or accelerate water percolation, if such lands are sources of water which is available for irrigation or for domestic or industrial use.
- Lands in areas which are principally used or useful for range or forage purposes, which are contiguous to other lands so defined. Lands in SRA are based on vegetative cover and natural resource values. SRA lands include state and privately-owned forest, watershed, and rangeland in which the primary financial responsibility for preventing and suppressing wildland fires rests with the state.

The substations, the temporary access road, and approximately 1.4 miles of the eastern portion of the proposed 60kV transmission line are located in a SRA.

State Fire Hazard Severity Zones. Moderate, high, and very high Fire Hazard Severity Zones (FHSZs) are found in areas where the state has financial responsibility for fire protection and prevention, i.e. the SRA. Only very high FHSZs are found in Local Responsibility Areas (LRAs). A FHSZ is a mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). While FHSZ zones do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. FHSZ maps evaluate wildfire hazards, which are physical conditions that create a likelihood that an area will burn over a 30- to 50-year period. They do not account for modifications such as fuel reduction efforts. FHSZs are meant to help limit wildfire damage to structures through planning, prevention, and mitigation activities/requirements that reduce risk.

The classification of a zone as moderate, high, or very high fire hazard is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings. Zone boundaries and hazard levels are determined based on vegetation. For wildland areas, the current FHSZ model uses burn probability and expected fire behavior based on weather, fuel, and terrain conditions. For urban areas, zone boundaries and hazard levels are based on vegetation density, adjacent wildland FHSZ scores, and distance from wildland areas. Each area of the map gets a score for flame length, embers, and the likelihood of the area burning. Scores are then averaged over the zone areas.

There are no High or Very High Fire Severity Zones in the Project area. Proposed substations, the temporary access road, and approximately 1.4 miles of the eastern portion of the proposed 60kV transmission line are located in a Moderate Fire Hazard Severity Zone.

High Fire Threat Districts and Fire Safety Regulations. In October 2007, several devastating wildfires in Southern California were reportedly ignited by overhead utility power lines and aerial communication facilities in close proximity to power lines. The CPUC therefore initiated a series of rulemakings to consider and adopt regulations to protect the public from potential fire hazards associated with overhead powerline facilities and nearby aerial communication facilities.

The CPUC issued several decisions from 2009 to 2015 in Rulemaking 08-11-005 that together adopted dozens of new fire-safety regulations. Most of the adopted fire-safety regulations consisted of new or revised rules in CPUC GO 95. The CPUC commenced the development of a single statewide fire-threat map to designate areas where (1) there is an elevated risk for destructive power line fires, and (2) where stricter fire-safety regulations should apply. Additional rulemakings from 2015 to 2017 resulted in the following CPUC regulatory actions:

- On December 21, 2017, the CPUC issued Decision (D.) 17-12-024 adopting regulations to enhance fire-safety in designated High Fire Threat Districts (HFTDs).
- On January 19, 2018 the CPUC adopted, the final CPUC Fire-Threat Map. The adopted CPUC Fire-Threat Map, together with the map of Tier 1 High Hazard Zones (HHZs) on the U.S. Forest Service (USFS) — CAL FIRE joint map of tree mortality HHZs, comprise the HFTD Map where stricter fire-safety regulations apply.

Pursuant to D. 17-01-009, the boundary of the HFTD is based on two maps. These maps are: (1) the USFS and "CAL FIRE" joint map of Tree Mortality High Hazard Zones ("Tree Mortality Map"); and (2) the CPUC Fire Threat Map. The HFTD has three fire-threat areas:

- Zone 1 consists of Tier 1 HHZs on the Tree Mortality Map. Tier 1 HHZs are in direct proximity to communities, roads, and utility lines, and are a direct threat to public safety.
- Tier 2 consists of areas on the CPUC Fire Threat Map where there is an elevated risk from wildfires associated with overhead utility facilities.
- Tier 3 consists of areas on the CPUC Fire Threat Map where there is an extreme risk from wildfires associated with overhead utility facilities.
- Proposed substations, the temporary access road, and approximately 1.4 miles of the eastern portion of the proposed 60kV transmission line are located in a Tier 2 HFTD — where there is an elevated risk from wildfires associated with overhead utility facilities.

There are no CPUC Fire Threat Tier 1 or Tier 3 areas in the Project area.

Rules for Overhead Electric Line Construction. Section III of CPUC GO 95, Rules for Overhead Electric Line Construction includes requirements for all overhead line construction for the general arrangements of lines, grounds and neutrals, foreign attachments, vegetation management, minimum clearances of wires from signs, from other wires, and above railroads, thoroughfares and buildings.

Rules for Electric Utility Substations. GO 174, Rules for Electric Utility Substations state that: "substations shall be designed, constructed and maintained for their intended use, regard being given to the conditions under which they are to be operated, to promote the safety of workers and the public and enable adequacy of service. Design, construction and maintenance should be performed in accordance with accepted good practices for the given local conditions known at the time by those responsible."

Local

Lassen County Code. The Lassen County Code governs local building standards. It is the policy of Lassen County that all new development within the county meet the minimum standards for adequate fire protection for that type of development. Any law, regulation or ordinance involving fire safety which is

more restrictive will take precedence over these standards. The standards do not apply to the City of Susanville, and state and federal agencies are encouraged to utilize these standards as guidelines.

These fire safety standards apply to all new development in Lassen County. Development is defined as parcel map applications, subdivisions and other development which includes commercial, industrial, residential and any development requiring a county permit. "Building" means any structure used or intended for supporting or sheltering any use or occupancy. The term building shall be construed as if followed by the words "or portion thereof." These fire safety standards apply to buildings and structures classified in Chapter 4 of NFPA Standard 101. This standard is met by Exhibit B of Chapter 9.16 (Fire Hazards) of Title 9 (Public Pease, Safety, and Morals) of the Lassen County Code. Section 4-1.11 defines "Unusual Structures" as: Occupancies in unusual structures include any building or structure which cannot be properly classified in any of the proceeding occupancy groups either by reason of some function not encompassed or some unusual combination of functions necessary to the purpose of the building or structure. Such miscellaneous buildings and structures shall conform to the fundamental principles stated in Chapter 2 of the Lassen County Code and to any specific provisions applicable thereto in Chapter 30 of the Lassen County Code.

3.20.3 Impacts and Mitigation Measures

Discussion of Wildfire Checklist Questions

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

No Impact. The Project would not impair an adopted emergency response plan or emergency evacuation plan. Traffic flow on roads leading into and away from the proposed construction sites that comprise emergency access and/or evacuation routes would be maintained throughout construction and there are no existing or foreseeable long-term constraints on access and/or emergency access routes in the area that the Project could affect.

b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire?*

No Impact. Project construction and operation would not affect existing slopes, prevailing wind speeds or directions, or other factors affecting fire hazard risks and/or severity. There would be no exacerbation of existing wildfire risks. After construction, the Project would be unmanned and staffed only as needed for periodic routine operations and maintenance activities. Because there would be no change in existing wildfire risks, and no ongoing Project occupation, no one would be exposed to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire attributable to Project construction, operations, and maintenance.

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?*

No Impact. The Project would only require the installation or maintenance of infrastructure on site, none of which would have the potential to exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. The temporary access road would serve to support fire response activities while in service and will be removed upon completion of construction. The Project does not include fuel break maintenance activities. No emergency water sources will be affected in any way by Project construction, operations, and maintenance. Project construction, operations, and maintenance activities associated with the proposed 60kV transmission line and supporting interconnections will be completed in full compliance with applicable CPUC GO 95 regulations. Those regulations include extensive fire safety precautions, including vegetation management requiring minimum distance from conductors to vegetation. The Project would not 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 risk, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

No Impact. Project construction will comply with standard engineering practices for grading and leveling, drainage control, and other practices that prevent such mass movement. The level to nearly level slopes of 0 to 2 percent over much of the proposed construction site preclude the potential occurrence of landslides prior to or after a wildfire event. None of the potentially affected soils are susceptible to sheet or rill erosion associated with high rainfall or runoff conditions because of the relatively arid climate and flat topography of 0 to 2 percent slopes. Landslide is a general term for most types of mass movement landforms and processes involving the downslope movement of soils and rock materials. Because of the nearly level to level terrain, the low likelihood of seismic shaking, and the low water holding capacity of the potentially affected soils, the Project could not cause post-fire slope instability. In addition, there are no other structures near the Project that could be affected by Project construction and operation. The Project would not expose proposed structures from proposed risk of landslide loss following a wildfire event.

3.21 Mandatory Finds of Significance

Would the Project:				
Environmental Issue Area	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion of Mandatory Findings of Significance IS Checklist Questions

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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant. The Project would located near the unincorporated community of Wendel, Lassen County. There are few biological resources on the site, and as described in Section 3.4, Biological Resources, the Project's impacts on special-status species would be less than significant with mitigation. There are several known cultural resources in the Project area. As described in Section 3.5, Cultural Resources and Section 3.18, Tribal Cultural Resources, the Project's potential impacts on historic, archaeological, and TCRs would be less than significant with mitigation. Because the Project would incorporate mitigation measures and comply with permit conditions, the Project would not have the potential to degrade the quality of the environment. The overall impact of the Project on the quality of the environment would be less than significant.

b) Does the Project have impacts that are individually limited, but cumulatively considerable?

Less than Significant. The cumulative setting is the rural areas of Lassen County, including the unincorporated community of Wendel. CEQA requires that LMUD assess whether its Project's incremental

effects would be significant when viewed in connection with the effects of other projects. In general, there has been little change in the Project area over the last several years. The most noticeable new development in the area is the new Honey Lake solar facility which is situated immediately adjacent to the north side of the existing Honey Lake Power Company biomass plant and as such would appear as an expansion of the existing industrial land use. The Honey Lake Power Company biomass plant and adjacent new Honey Lake Power solar generating facility are located off Wendel Road, approximately 2.5 miles from the substations. Utility poles and aerial lines are commonly seen throughout the region, with many of them paralleling public roadways. Given the distance between the other existing energy projects and based on the analysis presented in the IS/MND, the Project would not contribute incrementally to considerable environmental changes when considered in combination with other projects in the area. All identified potentially significant impacts discussed herein would be mitigated to less than significant levels. Therefore, the potential cumulative environmental effects of the Project were determined to be less than cumulatively considerable.

c) *Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less than Significant. The Project would have potentially significant impacts to aesthetics, biological resources, cultural resources, geology and soils, noise and TCRs; however, these impacts would be addressed by incorporating the mitigation measures presented in this IS/MND. Implementation of these mitigation measures would reduce these impacts to less than significant. No other direct or indirect impacts on human beings were identified in this IS/MND.

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Appendix 3.3.1

California Emissions Estimator Model (CalEEMod)

Skedaddle Interconnection Project

Lassen County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	4,356.00	1000sqft	100.00	4,356,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	56
Climate Zone	14			**Operational Year**	2020
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Lassen Municipal Utility District

Land Use - Project impact area is 100 acres on vacant/undeveloped land. Project includes development of two substations, transmission lines, and access roads.

Construction Phase - Estimated construction timeline provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD
Off-road Equipment - Equipment details provided by LMUD

Trips and VMT - Worker trip details provided by LMUD. Between 4 and 24 worker trips would be required per day during the various construction phases.

On-road Fugitive Dust - CalEEMod defaults.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - No regular operational mobile trips would be required for the unmanned project; however, infrequent maintenance trips would occur as needed.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Road Dust - CalEEMod defaults.

Woodstoves - Not applicable.

Consumer Products - Not applicable

Area Coating - CalEEMod defaults.

Landscape Equipment - Not applicable.

Energy Use - Not applicable

Water And Wastewater - Not applicable

Solid Waste - Not applicable

Grading - 2 acres of permanent disturbance for Skedaddle and 9 acres for Shaffer

Demolition - No demolition proposed.

Stationary Sources - Emergency Generators and Fire Pumps - Not applicable

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	250	0
tblAreaCoating	Area_EF_Residential_Interior	250	0
tblAreaCoating	Area_Nonresidential_Exterior	2178000	0

Skedaddle Interconnection Project - Lassen County APCD Air District, Annual

tblAreaCoating	Area_Nonresidential_Interior	6534000	0
tblConstructionPhase	NumDays	60.00	43.00
tblConstructionPhase	NumDays	155.00	29.00
tblConstructionPhase	NumDays	1,550.00	140.00
tblConstructionPhase	NumDays	1,550.00	41.00
tblConstructionPhase	NumDays	155.00	64.00
tblConstructionPhase	NumDays	1,550.00	328.00
tblConstructionPhase	NumDays	1,550.00	45.00
tblGrading	AcresOfGrading	48.00	9.00
tblGrading	AcresOfGrading	36.25	2.00
tblOffRoadEquipment	HorsePower	231.00	9.00
tblOffRoadEquipment	HorsePower	16.00	81.00
tblOffRoadEquipment	HorsePower	402.00	81.00
tblOffRoadEquipment	HorsePower	16.00	231.00
tblOffRoadEquipment	HorsePower	247.00	89.00
tblOffRoadEquipment	HorsePower	367.00	187.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	63.00	80.00
tblOffRoadEquipment	HorsePower	97.00	247.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	221.00	97.00
tblOffRoadEquipment	HorsePower	402.00	97.00
tblOffRoadEquipment	LoadFactor	0.29	0.56
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.29

tblOffRoadEquipment	LoadFactor	0.40	0.20
tblOffRoadEquipment	LoadFactor	0.48	0.41
tblOffRoadEquipment	LoadFactor	0.20	0.42
tblOffRoadEquipment	LoadFactor	0.31	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Rollers	Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes

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tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	0
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	18.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	36.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	40.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	20.00
tblTripsAndVMT	WorkerTripNumber	25.00	10.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	23.00	8.00

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					
2018	0.1171	1.2172	0.5908	1.1300e-003	0.3906	0.0620	0.4525	0.2141	0.0570	0.2711	0.0000	102.8130	102.8130	0.0315	0.0000	103.6005
2019	0.2990	2.7709	1.9986	4.0000e-003	0.1795	0.1294	0.3089	0.0867	0.1213	0.2079	0.0000	354.9180	354.9180	0.0856	0.0000	357.0590
2020	0.5956	5.2039	4.1857	9.4400e-003	0.0647	0.2474	0.3121	0.0174	0.2306	0.2480	0.0000	825.9779	825.9779	0.2202	0.0000	831.4820
2021	0.2389	1.9777	1.7439	4.2200e-003	0.0324	0.0883	0.1206	8.6900e-003	0.0824	0.0911	0.0000	369.5410	369.5410	0.0965	0.0000	371.9539
Maximum	**0.5956**	**5.2039**	**4.1857**	**9.4400e-003**	**0.3906**	**0.2474**	**0.4525**	**0.2141**	**0.2306**	**0.2711**	**0.0000**	**825.9779**	**825.9779**	**0.2202**	**0.0000**	**831.4820**

2.1 Overall Construction

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					
2018	0.1171	1.2172	0.5908	1.1300e-003	0.3906	0.0620	0.4525	0.2141	0.0570	0.2711	0.0000	102.8129	102.8129	0.0315	0.0000	103.6003
2019	0.2990	2.7709	1.9985	4.0000e-003	0.1795	0.1294	0.3089	0.0867	0.1213	0.2079	0.0000	354.9176	354.9176	0.0856	0.0000	357.0586
2020	0.5956	5.2039	4.1857	9.4400e-003	0.0647	0.2474	0.3121	0.0174	0.2306	0.2480	0.0000	825.9770	825.9770	0.2202	0.0000	831.4812
2021	0.2389	1.9776	1.7439	4.2200e-003	0.0324	0.0883	0.1206	8.6900e-003	0.0824	0.0911	0.0000	369.5406	369.5406	0.0965	0.0000	371.9535
Maximum	**0.5956**	**5.2039**	**4.1857**	**9.4400e-003**	**0.3906**	**0.2474**	**0.4525**	**0.2141**	**0.2306**	**0.2711**	**0.0000**	**825.9770**	**825.9770**	**0.2202**	**0.0000**	**831.4812**

	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	**11-1-2018**	**1-31-2019**	1.7292	1.7292
2	**2-1-2019**	**4-30-2019**	0.6157	0.6157
3	**5-1-2019**	**7-31-2019**	0.0574	0.0574
		Highest	1.7292	1.7292

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	17.0162	3.7000e-004	0.0403	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0778	0.0778	2.1000e-004	0.0000	0.0831
Energy	0.0829	0.7538	0.6332	4.5200e-003		0.0573	0.0573		0.0573	0.0573	0.0000	820.5582	820.5582	0.0157	0.0150	825.4344
Mobile	16.4078	64.5967	214.6471	0.4247	32,973.7059	0.6319	32,974.3378	3,285.0139	0.5956	3,285.6095	0.0000	38,526.6926	38,526.6926	2.2230	0.0000	38,582.2673
Waste						0.0000	0.0000		0.0000	0.0000	1,096.4435	0.0000	1,096.4435	64.7980	0.0000	2,716.3924
Water						0.0000	0.0000		0.0000	0.0000	319.5778	0.0000	319.5778	32.8237	0.7750	1,371.1318
Total	**33.5068**	**65.3508**	**215.3205**	**0.4292**	**32,973.7059**	**0.6893**	**32,974.3952**	**3,285.0139**	**0.6530**	**3,285.6669**	**1,416.0213**	**39,347.3286**	**40,763.3499**	**99.8606**	**0.7901**	**43,495.3089**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	17.0162	3.7000e-004	0.0403	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0778	0.0778	2.1000e-004	0.0000	0.0831
Energy	0.0829	0.7538	0.6332	4.5200e-003		0.0573	0.0573		0.0573	0.0573	0.0000	820.5582	820.5582	0.0157	0.0150	825.4344
Mobile	16.4078	64.5967	214.6471	0.4247	32,973.7059	0.6319	32,974.3378	3,285.0139	0.5956	3,285.6095	0.0000	38,526.6926	38,526.6926	2.2230	0.0000	38,582.2673
Waste						0.0000	0.0000		0.0000	0.0000	1,096.4435	0.0000	1,096.4435	64.7980	0.0000	2,716.3924
Water						0.0000	0.0000		0.0000	0.0000	319.5778	0.0000	319.5778	32.8237	0.7750	1,371.1318
Total	**33.5068**	**65.3508**	**215.3205**	**0.4292**	**32,973.7059**	**0.6893**	**32,974.3952**	**3,285.0139**	**0.6530**	**3,285.6669**	**1,416.0213**	**39,347.3286**	**40,763.3499**	**99.8606**	**0.7901**	**43,495.3089**

	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2018	12/31/2018	5	43	
2	Grading (Skedaddle)	Grading	1/1/2019	2/8/2019	5	29	
3	Grading (Shaffer)	Grading	2/9/2019	5/9/2019	5	64	
4	Construction (Skedaddle)	Building Construction	5/10/2019	11/21/2019	5	140	
5	Construction (Shaffer)	Building Construction	1/18/2020	4/21/2021	5	328	
6	Construction (Shaffer Transmission)	Building Construction	4/22/2021	6/23/2021	5	45	
7	Construction (Skedaddle Transmission)	Building Construction	11/22/2019	1/17/2020	5	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction (Skedaddle)	Cranes	1	7.00	231	0.29
Construction (Skedaddle Transmission)	Cranes	1	4.00	9	0.56
Grading (Skedaddle)	Dumpers/Tenders	1	4.00	81	0.73
Construction (Skedaddle)	Off-Highway Trucks	5	4.00	81	0.73
Grading (Shaffer)	Dumpers/Tenders	1	4.00	231	0.29
Grading (Shaffer)	Rubber Tired Dozers	1	4.00	89	0.20
Grading (Shaffer)	Scrapers	1	4.00	187	0.41
Construction (Skedaddle Transmission)	Forklifts	1	4.00	130	0.42
Construction (Skedaddle Transmission)	Aerial Lifts	1	4.00	80	0.38

Grading (Skedaddle)	Rubber Tired Dozers	1	4.00	247	0.40
Construction (Skedaddle)	Tractors/Loaders/Backhoes	2	4.00	247	0.40
Grading (Shaffer)	Rollers	1	4.00	97	0.37
Grading (Skedaddle)	Rollers	1	4.00	97	0.37
Construction (Skedaddle)	Bore/Drill Rigs	1	4.00	97	0.37
Construction (Skedaddle Transmission)	Off-Highway Trucks	4	4.00	97	0.37
Grading (Shaffer)	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading (Skedaddle)	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading (Skedaddle)	Off-Highway Trucks	1	4.00	402	0.38
Site Preparation	Off-Highway Trucks	2	4.00	402	0.38
Construction (Skedaddle)	Rollers	1	4.00	80	0.38
Construction (Skedaddle)	Trenchers	1	4.00	78	0.50
Construction (Skedaddle)	Forklifts	1	4.00	89	0.20
Grading (Shaffer)	Off-Highway Trucks	1	4.00	402	0.38
Construction (Shaffer)	Off-Highway Trucks	5	4.00	402	0.38
Construction (Shaffer)	Bore/Drill Rigs	1	4.00	221	0.50
Construction (Shaffer)	Tractors/Loaders/Backhoes	5	4.00	97	0.37
Construction (Shaffer)	Rollers	1	4.00	80	0.38
Construction (Shaffer)	Trenchers	1	4.00	78	0.50
Construction (Shaffer Transmission)	Cranes	1	4.00	231	0.29
Construction (Shaffer Transmission)	Off-Highway Trucks	5	4.00	402	0.38
Construction (Shaffer Transmission)	Forklifts	1	4.00	89	0.20
Construction (Shaffer Transmission)	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Construction (Shaffer Transmission)	Aerial Lifts	1	4.00	63	0.31
Construction (Shaffer)	Cranes	1	7.00	231	0.29
Grading (Skedaddle)	Excavators	2	4.00	158	0.38
Grading (Shaffer)	Excavators	2	4.00	158	0.38

Construction (Shaffer)	Forklifts	3	8.00	89	0.20
Construction (Skedaddle)	Generator Sets	1	8.00	84	0.74
Construction (Shaffer)	Generator Sets	1	8.00	84	0.74
Construction (Shaffer Transmission)	Generator Sets	1	8.00	84	0.74
Construction (Skedaddle Transmission)	Generator Sets	1	8.00	84	0.74
Grading (Skedaddle)	Graders	1	4.00	187	0.41
Grading (Shaffer)	Graders	1	4.00	187	0.41
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading (Skedaddle)	Scrapers	2	4.00	367	0.48
Construction (Skedaddle Transmission)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction (Skedaddle)	Welders	1	8.00	46	0.45
Construction (Shaffer)	Welders	1	8.00	46	0.45
Construction (Shaffer Transmission)	Welders	1	8.00	46	0.45
Construction (Skedaddle Transmission)	Welders	1	8.00	46	0.45

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
Construction (Skedaddle)	14	18.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction (Shaffer)	19	36.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction (Shaffer Transmission)	12	40.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction (Skedaddle Transmiss	12	20.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading (Skedaddle)	10	10.00	0.00	0.00	16.80	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Grading (Shaffer)	9	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	9	8.00	0.00	0.00	16.80	0.00	0.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

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					0.3884	0.0000	0.3884	0.2135	0.0000	0.2135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1147	1.2153	0.5736	1.1000e-003		0.0619	0.0619		0.0570	0.0570	0.0000	100.6673	100.6673	0.0313	0.0000	101.4507
Total	**0.1147**	**1.2153**	**0.5736**	**1.1000e-003**	**0.3884**	**0.0619**	**0.4504**	**0.2135**	**0.0570**	**0.2705**	**0.0000**	**100.6673**	**100.6673**	**0.0313**	**0.0000**	**101.4507**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3800e-003	1.9100e-003	0.0173	2.0000e-005	2.1200e-003	2.0000e-005	2.1500e-003	5.6000e-004	2.0000e-005	5.9000e-004	0.0000	2.1457	2.1457	1.6000e-004	0.0000	2.1497
Total	**2.3800e-003**	**1.9100e-003**	**0.0173**	**2.0000e-005**	**2.1200e-003**	**2.0000e-005**	**2.1500e-003**	**5.6000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.1457**	**2.1457**	**1.6000e-004**	**0.0000**	**2.1497**

3.2 Site Preparation - 2018

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					0.3884	0.0000	0.3884	0.2135	0.0000	0.2135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1147	1.2153	0.5736	1.1000e-003		0.0619	0.0619		0.0570	0.0570	0.0000	100.6671	100.6671	0.0313	0.0000	101.4506
Total	**0.1147**	**1.2153**	**0.5736**	**1.1000e-003**	**0.3884**	**0.0619**	**0.4504**	**0.2135**	**0.0570**	**0.2705**	**0.0000**	**100.6671**	**100.6671**	**0.0313**	**0.0000**	**101.4506**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3800e-003	1.9100e-003	0.0173	2.0000e-005	2.1200e-003	2.0000e-005	2.1500e-003	5.6000e-004	2.0000e-005	5.9000e-004	0.0000	2.1457	2.1457	1.6000e-004	0.0000	2.1497
Total	**2.3800e-003**	**1.9100e-003**	**0.0173**	**2.0000e-005**	**2.1200e-003**	**2.0000e-005**	**2.1500e-003**	**5.6000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.1457**	**2.1457**	**1.6000e-004**	**0.0000**	**2.1497**

3.3 Grading (Skedaddle) - 2019

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					0.0447	0.0000	0.0447	0.0241	0.0000	0.0241	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0398	0.4496	0.2706	5.5000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	48.9782	48.9782	0.0155	0.0000	49.3656
Total	**0.0398**	**0.4496**	**0.2706**	**5.5000e-004**	**0.0447**	**0.0193**	**0.0640**	**0.0241**	**0.0178**	**0.0419**	**0.0000**	**48.9782**	**48.9782**	**0.0155**	**0.0000**	**49.3656**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.4200e-003	0.0128	2.0000e-005	1.7900e-003	2.0000e-005	1.8100e-003	4.8000e-004	2.0000e-005	4.9000e-004	0.0000	1.7584	1.7584	1.2000e-004	0.0000	1.7613
Total	**1.8400e-003**	**1.4200e-003**	**0.0128**	**2.0000e-005**	**1.7900e-003**	**2.0000e-005**	**1.8100e-003**	**4.8000e-004**	**2.0000e-005**	**4.9000e-004**	**0.0000**	**1.7584**	**1.7584**	**1.2000e-004**	**0.0000**	**1.7613**

3.3 Grading (Skedaddle) - 2019

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					0.0447	0.0000	0.0447	0.0241	0.0000	0.0241	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0398	0.4496	0.2706	5.5000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	48.9781	48.9781	0.0155	0.0000	49.3656
Total	**0.0398**	**0.4496**	**0.2706**	**5.5000e-004**	**0.0447**	**0.0193**	**0.0640**	**0.0241**	**0.0178**	**0.0419**	**0.0000**	**48.9781**	**48.9781**	**0.0155**	**0.0000**	**49.3656**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.4200e-003	0.0128	2.0000e-005	1.7900e-003	2.0000e-005	1.8100e-003	4.8000e-004	2.0000e-005	4.9000e-004	0.0000	1.7584	1.7584	1.2000e-004	0.0000	1.7613
Total	**1.8400e-003**	**1.4200e-003**	**0.0128**	**2.0000e-005**	**1.7900e-003**	**2.0000e-005**	**1.8100e-003**	**4.8000e-004**	**2.0000e-005**	**4.9000e-004**	**0.0000**	**1.7584**	**1.7584**	**1.2000e-004**	**0.0000**	**1.7613**

3.4 Grading (Shaffer) - 2019

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					0.1011	0.0000	0.1011	0.0535	0.0000	0.0535	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0463	0.5120	0.3190	6.9000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	61.6812	61.6812	0.0195	0.0000	62.1691
Total	**0.0463**	**0.5120**	**0.3190**	**6.9000e-004**	**0.1011**	**0.0225**	**0.1237**	**0.0535**	**0.0207**	**0.0742**	**0.0000**	**61.6812**	**61.6812**	**0.0195**	**0.0000**	**62.1691**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1100e-003	6.2700e-003	0.0566	9.0000e-005	7.9000e-003	8.0000e-005	7.9800e-003	2.1000e-003	7.0000e-005	2.1700e-003	0.0000	7.7611	7.7611	5.2000e-004	0.0000	7.7742
Total	**8.1100e-003**	**6.2700e-003**	**0.0566**	**9.0000e-005**	**7.9000e-003**	**8.0000e-005**	**7.9800e-003**	**2.1000e-003**	**7.0000e-005**	**2.1700e-003**	**0.0000**	**7.7611**	**7.7611**	**5.2000e-004**	**0.0000**	**7.7742**

3.4 Grading (Shaffer) - 2019

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					0.1011	0.0000	0.1011	0.0535	0.0000	0.0535	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0463	0.5120	0.3190	6.9000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	61.6811	61.6811	0.0195	0.0000	62.1690
Total	**0.0463**	**0.5120**	**0.3190**	**6.9000e-004**	**0.1011**	**0.0225**	**0.1237**	**0.0535**	**0.0207**	**0.0742**	**0.0000**	**61.6811**	**61.6811**	**0.0195**	**0.0000**	**62.1690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1100e-003	6.2700e-003	0.0566	9.0000e-005	7.9000e-003	8.0000e-005	7.9800e-003	2.1000e-003	7.0000e-005	2.1700e-003	0.0000	7.7611	7.7611	5.2000e-004	0.0000	7.7742
Total	**8.1100e-003**	**6.2700e-003**	**0.0566**	**9.0000e-005**	**7.9000e-003**	**8.0000e-005**	**7.9800e-003**	**2.1000e-003**	**7.0000e-005**	**2.1700e-003**	**0.0000**	**7.7611**	**7.7611**	**5.2000e-004**	**0.0000**	**7.7742**

3.5 Construction (Skedaddle) - 2019

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	0.1534	1.4690	0.9512	1.9500e-003		0.0742	0.0742		0.0701	0.0701	0.0000	170.8973	170.8973	0.0421	0.0000	171.9496
Total	**0.1534**	**1.4690**	**0.9512**	**1.9500e-003**		**0.0742**	**0.0742**		**0.0701**	**0.0701**	**0.0000**	**170.8973**	**170.8973**	**0.0421**	**0.0000**	**171.9496**

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	5.6900e-003	0.1021	0.0468	1.7000e-004	4.1600e-003	9.8000e-004	5.1300e-003	1.2000e-003	9.3000e-004	2.1300e-003	0.0000	16.4759	16.4759	8.3000e-004	0.0000	16.4967
Worker	0.0160	0.0123	0.1114	1.7000e-004	0.0156	1.6000e-004	0.0157	4.1400e-003	1.4000e-004	4.2800e-003	0.0000	15.2797	15.2797	1.0300e-003	0.0000	15.3055
Total	**0.0217**	**0.1144**	**0.1582**	**3.4000e-004**	**0.0197**	**1.1400e-003**	**0.0208**	**5.3400e-003**	**1.0700e-003**	**6.4100e-003**	**0.0000**	**31.7557**	**31.7557**	**1.8600e-003**	**0.0000**	**31.8022**

3.5 Construction (Skedaddle) - 2019

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	0.1534	1.4690	0.9512	1.9500e-003		0.0742	0.0742		0.0701	0.0701	0.0000	170.8971	170.8971	0.0421	0.0000	171.9494
Total	**0.1534**	**1.4690**	**0.9512**	**1.9500e-003**		**0.0742**	**0.0742**		**0.0701**	**0.0701**	**0.0000**	**170.8971**	**170.8971**	**0.0421**	**0.0000**	**171.9494**

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	5.6900e-003	0.1021	0.0468	1.7000e-004	4.1600e-003	9.8000e-004	5.1300e-003	1.2000e-003	9.3000e-004	2.1300e-003	0.0000	16.4759	16.4759	8.3000e-004	0.0000	16.4967
Worker	0.0160	0.0123	0.1114	1.7000e-004	0.0156	1.6000e-004	0.0157	4.1400e-003	1.4000e-004	4.2800e-003	0.0000	15.2797	15.2797	1.0300e-003	0.0000	15.3055
Total	**0.0217**	**0.1144**	**0.1582**	**3.4000e-004**	**0.0197**	**1.1400e-003**	**0.0208**	**5.3400e-003**	**1.0700e-003**	**6.4100e-003**	**0.0000**	**31.7557**	**31.7557**	**1.8600e-003**	**0.0000**	**31.8022**

3.6 Construction (Shaffer) - 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	0.5234	4.9090	3.6596	8.3700e-003		0.2410	0.2410		0.2245	0.2245	0.0000	729.3238	729.3238	0.2130	0.0000	734.6480
Total	**0.5234**	**4.9090**	**3.6596**	**8.3700e-003**		**0.2410**	**0.2410**		**0.2245**	**0.2245**	**0.0000**	**729.3238**	**729.3238**	**0.2130**	**0.0000**	**734.6480**

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	7.9300e-003	0.1639	0.0705	3.1000e-004	7.4000e-003	1.0800e-003	8.4800e-003	2.1400e-003	1.0300e-003	3.1700e-003	0.0000	29.2003	29.2003	1.2900e-003	0.0000	29.2325
Worker	0.0527	0.0389	0.3516	5.9000e-004	0.0553	5.3000e-004	0.0559	0.0147	4.8000e-004	0.0152	0.0000	52.7594	52.7594	3.1800e-003	0.0000	52.8390
Total	**0.0606**	**0.2028**	**0.4221**	**9.0000e-004**	**0.0627**	**1.6100e-003**	**0.0644**	**0.0169**	**1.5100e-003**	**0.0184**	**0.0000**	**81.9597**	**81.9597**	**4.4700e-003**	**0.0000**	**82.0715**

3.6 Construction (Shaffer) - 2020

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	0.5234	4.9090	3.6596	8.3700e-003		0.2410	0.2410		0.2245	0.2245	0.0000	729.3230	729.3230	0.2130	0.0000	734.6471
Total	**0.5234**	**4.9090**	**3.6596**	**8.3700e-003**		**0.2410**	**0.2410**		**0.2245**	**0.2245**	**0.0000**	**729.3230**	**729.3230**	**0.2130**	**0.0000**	**734.6471**

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	7.9300e-003	0.1639	0.0705	3.1000e-004	7.4000e-003	1.0800e-003	8.4800e-003	2.1400e-003	1.0300e-003	3.1700e-003	0.0000	29.2003	29.2003	1.2900e-003	0.0000	29.2325
Worker	0.0527	0.0389	0.3516	5.9000e-004	0.0553	5.3000e-004	0.0559	0.0147	4.8000e-004	0.0152	0.0000	52.7594	52.7594	3.1800e-003	0.0000	52.8390
Total	**0.0606**	**0.2028**	**0.4221**	**9.0000e-004**	**0.0627**	**1.6100e-003**	**0.0644**	**0.0169**	**1.5100e-003**	**0.0184**	**0.0000**	**81.9597**	**81.9597**	**4.4700e-003**	**0.0000**	**82.0715**

3.6 Construction (Shaffer) - 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	0.1504	1.3660	1.1291	2.6600e-003		0.0656	0.0656		0.0611	0.0611	0.0000	231.4360	231.4360	0.0673	0.0000	233.1194
Total	**0.1504**	**1.3660**	**1.1291**	**2.6600e-003**		**0.0656**	**0.0656**		**0.0611**	**0.0611**	**0.0000**	**231.4360**	**231.4360**	**0.0673**	**0.0000**	**233.1194**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1400e-003	0.0479	0.0195	1.0000e-004	2.3500e-003	2.4000e-004	2.5800e-003	6.8000e-004	2.2000e-004	9.0000e-004	0.0000	9.2035	9.2035	3.7000e-004	0.0000	9.2128
Worker	0.0156	0.0110	0.0987	1.8000e-004	0.0176	1.6000e-004	0.0177	4.6700e-003	1.5000e-004	4.8100e-003	0.0000	16.1982	16.1982	8.8000e-004	0.0000	16.2203
Total	**0.0177**	**0.0589**	**0.1183**	**2.8000e-004**	**0.0199**	**4.0000e-004**	**0.0203**	**5.3500e-003**	**3.7000e-004**	**5.7100e-003**	**0.0000**	**25.4017**	**25.4017**	**1.2500e-003**	**0.0000**	**25.4330**

3.6 Construction (Shaffer) - 2021

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	0.1504	1.3660	1.1291	2.6600e-003		0.0656	0.0656		0.0611	0.0611	0.0000	231.4357	231.4357	0.0673	0.0000	233.1191
Total	**0.1504**	**1.3660**	**1.1291**	**2.6600e-003**		**0.0656**	**0.0656**		**0.0611**	**0.0611**	**0.0000**	**231.4357**	**231.4357**	**0.0673**	**0.0000**	**233.1191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1400e-003	0.0479	0.0195	1.0000e-004	2.3500e-003	2.4000e-004	2.5800e-003	6.8000e-004	2.2000e-004	9.0000e-004	0.0000	9.2035	9.2035	3.7000e-004	0.0000	9.2128
Worker	0.0156	0.0110	0.0987	1.8000e-004	0.0176	1.6000e-004	0.0177	4.6700e-003	1.5000e-004	4.8100e-003	0.0000	16.1982	16.1982	8.8000e-004	0.0000	16.2203
Total	**0.0177**	**0.0589**	**0.1183**	**2.8000e-004**	**0.0199**	**4.0000e-004**	**0.0203**	**5.3500e-003**	**3.7000e-004**	**5.7100e-003**	**0.0000**	**25.4017**	**25.4017**	**1.2500e-003**	**0.0000**	**25.4330**

3.7 Construction (Shaffer Transmission) - 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	0.0597	0.5185	0.4229	1.1200e-003		0.0221	0.0221		0.0208	0.0208	0.0000	97.2088	97.2088	0.0272	0.0000	97.8877
Total	**0.0597**	**0.5185**	**0.4229**	**1.1200e-003**		**0.0221**	**0.0221**		**0.0208**	**0.0208**	**0.0000**	**97.2088**	**97.2088**	**0.0272**	**0.0000**	**97.8877**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2200e-003	0.0273	0.0111	6.0000e-005	1.3400e-003	1.3000e-004	1.4700e-003	3.9000e-004	1.3000e-004	5.1000e-004	0.0000	5.2425	5.2425	2.1000e-004	0.0000	5.2478
Worker	9.8800e-003	6.9300e-003	0.0625	1.1000e-004	0.0111	1.0000e-004	0.0112	2.9500e-003	9.0000e-005	3.0500e-003	0.0000	10.2520	10.2520	5.6000e-004	0.0000	10.2660
Total	**0.0111**	**0.0342**	**0.0736**	**1.7000e-004**	**0.0125**	**2.3000e-004**	**0.0127**	**3.3400e-003**	**2.2000e-004**	**3.5600e-003**	**0.0000**	**15.4945**	**15.4945**	**7.7000e-004**	**0.0000**	**15.5138**

3.7 Construction (Shaffer Transmission) - 2021

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	0.0597	0.5185	0.4229	1.1200e-003		0.0221	0.0221		0.0208	0.0208	0.0000	97.2087	97.2087	0.0272	0.0000	97.8876
Total	**0.0597**	**0.5185**	**0.4229**	**1.1200e-003**		**0.0221**	**0.0221**		**0.0208**	**0.0208**	**0.0000**	**97.2087**	**97.2087**	**0.0272**	**0.0000**	**97.8876**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2200e-003	0.0273	0.0111	6.0000e-005	1.3400e-003	1.3000e-004	1.4700e-003	3.9000e-004	1.3000e-004	5.1000e-004	0.0000	5.2425	5.2425	2.1000e-004	0.0000	5.2478
Worker	9.8800e-003	6.9300e-003	0.0625	1.1000e-004	0.0111	1.0000e-004	0.0112	2.9500e-003	9.0000e-005	3.0500e-003	0.0000	10.2520	10.2520	5.6000e-004	0.0000	10.2660
Total	**0.0111**	**0.0342**	**0.0736**	**1.7000e-004**	**0.0125**	**2.3000e-004**	**0.0127**	**3.3400e-003**	**2.2000e-004**	**3.5600e-003**	**0.0000**	**15.4945**	**15.4945**	**7.7000e-004**	**0.0000**	**15.5138**

3.8 Construction (Skedaddle Transmission) - 2019

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	0.0232	0.1950	0.1961	2.9000e-004		0.0119	0.0119		0.0113	0.0113	0.0000	25.3955	25.3955	5.6400e-003	0.0000	25.5365
Total	**0.0232**	**0.1950**	**0.1961**	**2.9000e-004**		**0.0119**	**0.0119**		**0.0113**	**0.0113**	**0.0000**	**25.3955**	**25.3955**	**5.6400e-003**	**0.0000**	**25.5365**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1400e-003	0.0204	9.3600e-003	3.0000e-005	8.3000e-004	2.0000e-004	1.0300e-003	2.4000e-004	1.9000e-004	4.3000e-004	0.0000	3.2952	3.2952	1.7000e-004	0.0000	3.2994
Worker	3.5500e-003	2.7400e-003	0.0248	4.0000e-005	3.4600e-003	3.0000e-005	3.4900e-003	9.2000e-004	3.0000e-005	9.5000e-004	0.0000	3.3955	3.3955	2.3000e-004	0.0000	3.4012
Total	**4.6900e-003**	**0.0232**	**0.0341**	**7.0000e-005**	**4.2900e-003**	**2.3000e-004**	**4.5200e-003**	**1.1600e-003**	**2.2000e-004**	**1.3800e-003**	**0.0000**	**6.6907**	**6.6907**	**4.0000e-004**	**0.0000**	**6.7006**

3.8 Construction (Skedaddle Transmission) - 2019

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	0.0232	0.1950	0.1961	2.9000e-004		0.0119	0.0119		0.0113	0.0113	0.0000	25.3955	25.3955	5.6400e-003	0.0000	25.5365
Total	**0.0232**	**0.1950**	**0.1961**	**2.9000e-004**		**0.0119**	**0.0119**		**0.0113**	**0.0113**	**0.0000**	**25.3955**	**25.3955**	**5.6400e-003**	**0.0000**	**25.5365**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1400e-003	0.0204	9.3600e-003	3.0000e-005	8.3000e-004	2.0000e-004	1.0300e-003	2.4000e-004	1.9000e-004	4.3000e-004	0.0000	3.2952	3.2952	1.7000e-004	0.0000	3.2994
Worker	3.5500e-003	2.7400e-003	0.0248	4.0000e-005	3.4600e-003	3.0000e-005	3.4900e-003	9.2000e-004	3.0000e-005	9.5000e-004	0.0000	3.3955	3.3955	2.3000e-004	0.0000	3.4012
Total	**4.6900e-003**	**0.0232**	**0.0341**	**7.0000e-005**	**4.2900e-003**	**2.3000e-004**	**4.5200e-003**	**1.1600e-003**	**2.2000e-004**	**1.3800e-003**	**0.0000**	**6.6907**	**6.6907**	**4.0000e-004**	**0.0000**	**6.7006**

3.8 Construction (Skedaddle Transmission) - 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	9.6500e-003	0.0824	0.0902	1.4000e-004		4.7500e-003	4.7500e-003		4.5100e-003	4.5100e-003	0.0000	11.6396	11.6396	2.5700e-003	0.0000	11.7038
Total	**9.6500e-003**	**0.0824**	**0.0902**	**1.4000e-004**		**4.7500e-003**	**4.7500e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**11.6396**	**11.6396**	**2.5700e-003**	**0.0000**	**11.7038**

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	8.5500e-003	3.6800e-003	2.0000e-005	3.9000e-004	6.0000e-005	4.4000e-004	1.1000e-004	5.0000e-005	1.7000e-004	0.0000	1.5245	1.5245	7.0000e-005	0.0000	1.5262
Worker	1.5300e-003	1.1300e-003	0.0102	2.0000e-005	1.6100e-003	2.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.5303	1.5303	9.0000e-005	0.0000	1.5326
Total	**1.9400e-003**	**9.6800e-003**	**0.0139**	**4.0000e-005**	**2.0000e-003**	**8.0000e-005**	**2.0600e-003**	**5.4000e-004**	**6.0000e-005**	**6.1000e-004**	**0.0000**	**3.0548**	**3.0548**	**1.6000e-004**	**0.0000**	**3.0588**

3.8 Construction (Skedaddle Transmission) - 2020

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	9.6500e-003	0.0824	0.0902	1.4000e-004		4.7500e-003	4.7500e-003		4.5100e-003	4.5100e-003	0.0000	11.6395	11.6395	2.5700e-003	0.0000	11.7038
Total	**9.6500e-003**	**0.0824**	**0.0902**	**1.4000e-004**		**4.7500e-003**	**4.7500e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**11.6395**	**11.6395**	**2.5700e-003**	**0.0000**	**11.7038**

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	8.5500e-003	3.6800e-003	2.0000e-005	3.9000e-004	6.0000e-005	4.4000e-004	1.1000e-004	5.0000e-005	1.7000e-004	0.0000	1.5245	1.5245	7.0000e-005	0.0000	1.5262
Worker	1.5300e-003	1.1300e-003	0.0102	2.0000e-005	1.6100e-003	2.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.5303	1.5303	9.0000e-005	0.0000	1.5326
Total	**1.9400e-003**	**9.6800e-003**	**0.0139**	**4.0000e-005**	**2.0000e-003**	**8.0000e-005**	**2.0600e-003**	**5.4000e-004**	**6.0000e-005**	**6.1000e-004**	**0.0000**	**3.0548**	**3.0548**	**1.6000e-004**	**0.0000**	**3.0588**

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	16.4078	64.5967	214.6471	0.4247	32,973.7059	0.6319	32,974.3378	3,285.0139	0.5956	3,285.6095	0.0000	38,526.6926	38,526.6926	2.2230	0.0000	38,582.2673
Unmitigated	16.4078	64.5967	214.6471	0.4247	32,973.7059	0.6319	32,974.3378	3,285.0139	0.5956	3,285.6095	0.0000	38,526.6926	38,526.6926	2.2230	0.0000	38,582.2673

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	30,361.32	5,749.92	2962.08	88,594,021	88,594,021
Total	30,361.32	5,749.92	2,962.08	88,594,021	88,594,021

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
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.486350	0.043929	0.213525	0.153817	0.058858	0.009856	0.011313	0.008940	0.002418	0.002009	0.006238	0.001089	0.001658

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	0.0829	0.7538	0.6332	4.5200e-003		0.0573	0.0573		0.0573	0.0573	0.0000	820.5582	820.5582	0.0157	0.0150	825.4344
NaturalGas Unmitigated	0.0829	0.7538	0.6332	4.5200e-003		0.0573	0.0573		0.0573	0.0573	0.0000	820.5582	820.5582	0.0157	0.0150	825.4344

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					
General Light Industry	1.53767e+007	0.0829	0.7538	0.6332	4.5200e-003		0.0573	0.0573		0.0573	0.0573	0.0000	820.5582	820.5582	0.0157	0.0150	825.4344
Total		**0.0829**	**0.7538**	**0.6332**	**4.5200e-003**		**0.0573**	**0.0573**		**0.0573**	**0.0573**	**0.0000**	**820.5582**	**820.5582**	**0.0157**	**0.0150**	**825.4344**

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					
General Light Industry	1.53767e+007	0.0829	0.7538	0.6332	4.5200e-003		0.0573	0.0573		0.0573	0.0573	0.0000	820.5582	820.5582	0.0157	0.0150	825.4344
Total		**0.0829**	**0.7538**	**0.6332**	**4.5200e-003**		**0.0573**	**0.0573**		**0.0573**	**0.0573**	**0.0000**	**820.5582**	**820.5582**	**0.0157**	**0.0150**	**825.4344**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.89922e+007	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			
General Light Industry	1.89922e+007	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	17.0162	3.7000e-004	0.0403	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0778	0.0778	2.1000e-004	0.0000	0.0831
Unmitigated	17.0162	3.7000e-004	0.0403	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0778	0.0778	2.1000e-004	0.0000	0.0831

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	17.0124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.7900e-003	3.7000e-004	0.0403	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0778	0.0778	2.1000e-004	0.0000	0.0831
Total	**17.0162**	**3.7000e-004**	**0.0403**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0778**	**0.0778**	**2.1000e-004**	**0.0000**	**0.0831**

6.2 Area by SubCategory

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	17.0124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.7900e-003	3.7000e-004	0.0403	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0778	0.0778	2.1000e-004	0.0000	0.0831
Total	**17.0162**	**3.7000e-004**	**0.0403**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0778**	**0.0778**	**2.1000e-004**	**0.0000**	**0.0831**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	319.5778	32.8237	0.7750	1,371.1318
Unmitigated	319.5778	32.8237	0.7750	1,371.1318

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1007.33 / 0	319.5778	32.8237	0.7750	1,371.1318
Total		**319.5778**	**32.8237**	**0.7750**	**1,371.1318**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1007.33 / 0	319.5778	32.8237	0.7750	1,371.1318
Total		**319.5778**	**32.8237**	**0.7750**	**1,371.1318**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,096.4435	64.7980	0.0000	2,716.3924
Unmitigated	1,096.4435	64.7980	0.0000	2,716.3924

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	5401.44	1,096.4435	64.7980	0.0000	2,716.3924
Total		**1,096.4435**	**64.7980**	**0.0000**	**2,716.3924**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	5401.44	1,096.4435	64.7980	0.0000	2,716.3924
Total		**1,096.4435**	**64.7980**	**0.0000**	**2,716.3924**

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

Skedaddle Interconnection Project

Lassen County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	4,356.00	1000sqft	100.00	4,356,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	56
Climate Zone	14			**Operational Year**	2020
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Lassen Municipal Utility District

Land Use - Project impact area is 100 acres on vacant/undeveloped land. Project includes development of two substations, transmission lines, and access roads.

Construction Phase - Estimated construction timeline provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD

Off-road Equipment - Equipment details provided by LMUD
Off-road Equipment - Equipment details provided by LMUD

Trips and VMT - Worker trip details provided by LMUD. Between 4 and 24 worker trips would be required per day during the various construction phases.

On-road Fugitive Dust - CalEEMod defaults.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - No regular operational mobile trips would be required for the unmanned project; however, infrequent maintenance trips would occur as needed.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Road Dust - CalEEMod defaults.

Woodstoves - Not applicable.

Consumer Products - Not applicable

Area Coating - CalEEMod defaults.

Landscape Equipment - Not applicable.

Energy Use - Not applicable

Water And Wastewater - Not applicable

Solid Waste - Not applicable

Grading - 2 acres of permanent disturbance for Skedaddle and 9 acres for Shaffer

Demolition - No demolition proposed.

Stationary Sources - Emergency Generators and Fire Pumps - Not applicable

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	250	0
tblAreaCoating	Area_EF_Residential_Interior	250	0
tblAreaCoating	Area_Nonresidential_Exterior	2178000	0

Skedaddle Interconnection Project - Lassen County APCD Air District, Winter

tblAreaCoating	Area_Nonresidential_Interior	6534000	0
tblConstructionPhase	NumDays	60.00	43.00
tblConstructionPhase	NumDays	155.00	29.00
tblConstructionPhase	NumDays	1,550.00	140.00
tblConstructionPhase	NumDays	1,550.00	41.00
tblConstructionPhase	NumDays	155.00	64.00
tblConstructionPhase	NumDays	1,550.00	328.00
tblConstructionPhase	NumDays	1,550.00	45.00
tblGrading	AcresOfGrading	48.00	9.00
tblGrading	AcresOfGrading	36.25	2.00
tblOffRoadEquipment	HorsePower	231.00	9.00
tblOffRoadEquipment	HorsePower	16.00	81.00
tblOffRoadEquipment	HorsePower	402.00	81.00
tblOffRoadEquipment	HorsePower	16.00	231.00
tblOffRoadEquipment	HorsePower	247.00	89.00
tblOffRoadEquipment	HorsePower	367.00	187.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	63.00	80.00
tblOffRoadEquipment	HorsePower	97.00	247.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	221.00	97.00
tblOffRoadEquipment	HorsePower	402.00	97.00
tblOffRoadEquipment	LoadFactor	0.29	0.56
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.29

tblOffRoadEquipment	LoadFactor	0.40	0.20
tblOffRoadEquipment	LoadFactor	0.48	0.41
tblOffRoadEquipment	LoadFactor	0.20	0.42
tblOffRoadEquipment	LoadFactor	0.31	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Rollers	Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes

Skedaddle Interconnection Project - Lassen County APCD Air District, Winter

tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	0
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	VendorTripNumber	714.00	10.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	18.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	36.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	40.00
tblTripsAndVMT	WorkerTripNumber	1,830.00	20.00
tblTripsAndVMT	WorkerTripNumber	25.00	10.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	23.00	8.00

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					
2018	5.4595	56.6297	27.5291	0.0523	18.1684	2.8818	21.0503	9.9578	2.6513	12.6091	0.0000	5,269.2714	5,269.2714	1.6151	0.0000	5,309.6484
2019	2.8831	31.1259	19.5955	0.0389	3.4156	1.3322	4.5441	1.7390	1.2257	2.9225	0.0000	3,854.6562	3,854.6562	1.1872	0.0000	3,884.3360
2020	4.7435	41.1471	33.0048	0.0743	0.5209	1.9486	2.4695	0.1395	1.8157	1.9552	0.0000	7,171.2542	7,171.2542	1.9264	0.0000	7,219.4150
2021	4.3060	36.1510	31.7608	0.0742	0.5720	1.6695	2.1905	0.1531	1.5556	1.6951	0.0000	7,155.9035	7,155.9035	1.9151	0.0000	7,203.7806
Maximum	**5.4595**	**56.6297**	**33.0048**	**0.0743**	**18.1684**	**2.8818**	**21.0503**	**9.9578**	**2.6513**	**12.6091**	**0.0000**	**7,171.2542**	**7,171.2542**	**1.9264**	**0.0000**	**7,219.4150**

2.1 Overall Construction (Maximum Daily Emission)

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					
2018	5.4595	56.6297	27.5291	0.0523	18.1684	2.8818	21.0503	9.9578	2.6513	12.6091	0.0000	5,269.2714	5,269.2714	1.6151	0.0000	5,309.6484
2019	2.8831	31.1259	19.5955	0.0389	3.4156	1.3322	4.5441	1.7390	1.2257	2.9225	0.0000	3,854.6562	3,854.6562	1.1872	0.0000	3,884.3360
2020	4.7435	41.1471	33.0048	0.0743	0.5209	1.9486	2.4695	0.1395	1.8157	1.9552	0.0000	7,171.2542	7,171.2542	1.9264	0.0000	7,219.4150
2021	4.3060	36.1510	31.7608	0.0742	0.5720	1.6695	2.1905	0.1531	1.5556	1.6951	0.0000	7,155.9035	7,155.9035	1.9151	0.0000	7,203.7806
Maximum	**5.4595**	**56.6297**	**33.0048**	**0.0743**	**18.1684**	**2.8818**	**21.0503**	**9.9578**	**2.6513**	**12.6091**	**0.0000**	**7,171.2542**	**7,171.2542**	**1.9264**	**0.0000**	**7,219.4150**

	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	93.2605	4.1300e-003	0.4476	3.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003		0.9533	0.9533	2.5600e-003		1.0172
Energy	0.4543	4.1302	3.4694	0.0248		0.3139	0.3139		0.3139	0.3139		4,956.2224	4,956.2224	0.0950	0.0909	4,985.6748
Mobile	119.9907	515.6822	1,665.6364	3.0497	239,877.6015	4.6132	239,882.2147	23,897.8674	4.3481	23,902.2155		304,750.6997	304,750.6997	18.1252		305,203.8293
Total	**213.7055**	**519.8165**	**1,669.5534**	**3.0745**	**239,877.6015**	**4.9287**	**239,882.5302**	**23,897.8674**	**4.6636**	**23,902.5310**		**309,707.8754**	**309,707.8754**	**18.2227**	**0.0909**	**310,190.5213**

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	93.2605	4.1300e-003	0.4476	3.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003		0.9533	0.9533	2.5600e-003		1.0172
Energy	0.4543	4.1302	3.4694	0.0248		0.3139	0.3139		0.3139	0.3139		4,956.2224	4,956.2224	0.0950	0.0909	4,985.6748
Mobile	119.9907	515.6822	1,665.6364	3.0497	239,877.6015	4.6132	239,882.2147	23,897.8674	4.3481	23,902.2155		304,750.6997	304,750.6997	18.1252		305,203.8293
Total	**213.7055**	**519.8165**	**1,669.5534**	**3.0745**	**239,877.6015**	**4.9287**	**239,882.5302**	**23,897.8674**	**4.6636**	**23,902.5310**		**309,707.8754**	**309,707.8754**	**18.2227**	**0.0909**	**310,190.5213**

	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	Site Preparation	11/1/2018	12/31/2018	5	43	
2	Grading (Skedaddle)	Grading	1/1/2019	2/8/2019	5	29	
3	Grading (Shaffer)	Grading	2/9/2019	5/9/2019	5	64	
4	Construction (Skedaddle)	Building Construction	5/10/2019	11/21/2019	5	140	
5	Construction (Shaffer)	Building Construction	1/18/2020	4/21/2021	5	328	
6	Construction (Shaffer Transmission)	Building Construction	4/22/2021	6/23/2021	5	45	
7	Construction (Skedaddle Transmission)	Building Construction	11/22/2019	1/17/2020	5	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction (Skedaddle)	Cranes	1	7.00	231	0.29
Construction (Skedaddle Transmission)	Cranes	1	4.00	9	0.56
Grading (Skedaddle)	Dumpers/Tenders	1	4.00	81	0.73

Construction (Skedaddle)	Off-Highway Trucks	5	4.00	81	0.73
Grading (Shaffer)	Dumpers/Tenders	1	4.00	231	0.29
Grading (Shaffer)	Rubber Tired Dozers	1	4.00	89	0.20
Grading (Shaffer)	Scrapers	1	4.00	187	0.41
Construction (Skedaddle Transmission)	Forklifts	1	4.00	130	0.42
Construction (Skedaddle Transmission)	Aerial Lifts	1	4.00	80	0.38
Grading (Skedaddle)	Rubber Tired Dozers	1	4.00	247	0.40
Construction (Skedaddle)	Tractors/Loaders/Backhoes	2	4.00	247	0.40
Grading (Shaffer)	Rollers	1	4.00	97	0.37
Grading (Skedaddle)	Rollers	1	4.00	97	0.37
Construction (Skedaddle)	Bore/Drill Rigs	1	4.00	97	0.37
Construction (Skedaddle Transmission)	Off-Highway Trucks	4	4.00	97	0.37
Grading (Shaffer)	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading (Skedaddle)	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading (Skedaddle)	Off-Highway Trucks	1	4.00	402	0.38
Site Preparation	Off-Highway Trucks	2	4.00	402	0.38
Construction (Skedaddle)	Rollers	1	4.00	80	0.38
Construction (Skedaddle)	Trenchers	1	4.00	78	0.50
Construction (Skedaddle)	Forklifts	1	4.00	89	0.20
Grading (Shaffer)	Off-Highway Trucks	1	4.00	402	0.38
Construction (Shaffer)	Off-Highway Trucks	5	4.00	402	0.38
Construction (Shaffer)	Bore/Drill Rigs	1	4.00	221	0.50
Construction (Shaffer)	Tractors/Loaders/Backhoes	5	4.00	97	0.37
Construction (Shaffer)	Rollers	1	4.00	80	0.38
Construction (Shaffer)	Trenchers	1	4.00	78	0.50
Construction (Shaffer Transmission)	Cranes	1	4.00	231	0.29
Construction (Shaffer Transmission)	Off-Highway Trucks	5	4.00	402	0.38

Construction (Shaffer Transmission)	Forklifts	1	4.00	89	0.20
Construction (Shaffer Transmission)	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Construction (Shaffer Transmission)	Aerial Lifts	1	4.00	63	0.31
Construction (Shaffer)	Cranes	1	7.00	231	0.29
Grading (Skedaddle)	Excavators	2	4.00	158	0.38
Grading (Shaffer)	Excavators	2	4.00	158	0.38
Construction (Shaffer)	Forklifts	3	8.00	89	0.20
Construction (Skedaddle)	Generator Sets	1	8.00	84	0.74
Construction (Shaffer)	Generator Sets	1	8.00	84	0.74
Construction (Shaffer Transmission)	Generator Sets	1	8.00	84	0.74
Construction (Skedaddle Transmission)	Generator Sets	1	8.00	84	0.74
Grading (Skedaddle)	Graders	1	4.00	187	0.41
Grading (Shaffer)	Graders	1	4.00	187	0.41
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading (Skedaddle)	Scrapers	2	4.00	367	0.48
Construction (Skedaddle Transmission)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction (Skedaddle)	Welders	1	8.00	46	0.45
Construction (Shaffer)	Welders	1	8.00	46	0.45
Construction (Shaffer Transmission)	Welders	1	8.00	46	0.45
Construction (Skedaddle Transmission)	Welders	1	8.00	46	0.45

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
Construction (Skedaddle)	14	18.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction (Shaffer)	19	36.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction (Shaffer Transmission)	12	40.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction (Skedaddle Transmiss	12	20.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading (Skedaddle)	10	10.00	0.00	0.00	16.80	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Grading (Shaffer)	9	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	9	8.00	0.00	0.00	16.80	0.00	0.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.3360	56.5238	26.6780	0.0513		2.8808	2.8808		2.6503	2.6503		5,161.2400	5,161.2400	1.6068		5,201.4091
Total	**5.3360**	**56.5238**	**26.6780**	**0.0513**	**18.0663**	**2.8808**	**20.9470**	**9.9307**	**2.6503**	**12.5810**		**5,161.2400**	**5,161.2400**	**1.6068**		**5,201.4091**

3.2 Site Preparation - 2018

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1235	0.1059	0.8511	1.0900e-003	0.1022	1.0400e-003	0.1032	0.0271	9.6000e-004	0.0281		108.0314	108.0314	8.3200e-003		108.2394
Total	**0.1235**	**0.1059**	**0.8511**	**1.0900e-003**	**0.1022**	**1.0400e-003**	**0.1032**	**0.0271**	**9.6000e-004**	**0.0281**		**108.0314**	**108.0314**	**8.3200e-003**		**108.2394**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.3360	56.5238	26.6780	0.0513		2.8808	2.8808		2.6503	2.6503	0.0000	5,161.2400	5,161.2400	1.6068		5,201.4091
Total	**5.3360**	**56.5238**	**26.6780**	**0.0513**	**18.0663**	**2.8808**	**20.9470**	**9.9307**	**2.6503**	**12.5810**	**0.0000**	**5,161.2400**	**5,161.2400**	**1.6068**		**5,201.4091**

3.2 Site Preparation - 2018

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1235	0.1059	0.8511	1.0900e-003	0.1022	1.0400e-003	0.1032	0.0271	9.6000e-004	0.0281		108.0314	108.0314	8.3200e-003		108.2394
Total	**0.1235**	**0.1059**	**0.8511**	**1.0900e-003**	**0.1022**	**1.0400e-003**	**0.1032**	**0.0271**	**9.6000e-004**	**0.0281**		**108.0314**	**108.0314**	**8.3200e-003**		**108.2394**

3.3 Grading (Skedaddle) - 2019

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					3.0842	0.0000	3.0842	1.6630	0.0000	1.6630			0.0000			0.0000
Off-Road	2.7417	31.0090	18.6613	0.0376		1.3310	1.3310		1.2245	1.2245		3,723.3949	3,723.3949	1.1780		3,752.8459
Total	**2.7417**	**31.0090**	**18.6613**	**0.0376**	**3.0842**	**1.3310**	**4.4152**	**1.6630**	**1.2245**	**2.8875**		**3,723.3949**	**3,723.3949**	**1.1780**		**3,752.8459**

3.3 Grading (Skedaddle) - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1414	0.1169	0.9342	1.3300e-003	0.1277	1.2300e-003	0.1290	0.0339	1.1400e-003	0.0350		131.2613	131.2613	9.1500e-003		131.4901
Total	**0.1414**	**0.1169**	**0.9342**	**1.3300e-003**	**0.1277**	**1.2300e-003**	**0.1290**	**0.0339**	**1.1400e-003**	**0.0350**		**131.2613**	**131.2613**	**9.1500e-003**		**131.4901**

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					3.0842	0.0000	3.0842	1.6630	0.0000	1.6630			0.0000			0.0000
Off-Road	2.7417	31.0090	18.6613	0.0376		1.3310	1.3310		1.2245	1.2245	0.0000	3,723.3949	3,723.3949	1.1780		3,752.8459
Total	**2.7417**	**31.0090**	**18.6613**	**0.0376**	**3.0842**	**1.3310**	**4.4152**	**1.6630**	**1.2245**	**2.8875**	**0.0000**	**3,723.3949**	**3,723.3949**	**1.1780**		**3,752.8459**

3.3 Grading (Skedaddle) - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1414	0.1169	0.9342	1.3300e-003	0.1277	1.2300e-003	0.1290	0.0339	1.1400e-003	0.0350		131.2613	131.2613	9.1500e-003		131.4901
Total	**0.1414**	**0.1169**	**0.9342**	**1.3300e-003**	**0.1277**	**1.2300e-003**	**0.1290**	**0.0339**	**1.1400e-003**	**0.0350**		**131.2613**	**131.2613**	**9.1500e-003**		**131.4901**

3.4 Grading (Shaffer) - 2019

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					3.1602	0.0000	3.1602	1.6712	0.0000	1.6712			0.0000			0.0000
Off-Road	1.4481	16.0004	9.9677	0.0215		0.7042	0.7042		0.6478	0.6478		2,124.7461	2,124.7461	0.6723		2,141.5522
Total	**1.4481**	**16.0004**	**9.9677**	**0.0215**	**3.1602**	**0.7042**	**3.8643**	**1.6712**	**0.6478**	**2.3191**		**2,124.7461**	**2,124.7461**	**0.6723**		**2,141.5522**

3.4 Grading (Shaffer) - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2828	0.2338	1.8684	2.6500e-003	0.2555	2.4700e-003	0.2579	0.0678	2.2800e-003	0.0700		262.5227	262.5227	0.0183		262.9802
Total	**0.2828**	**0.2338**	**1.8684**	**2.6500e-003**	**0.2555**	**2.4700e-003**	**0.2579**	**0.0678**	**2.2800e-003**	**0.0700**		**262.5227**	**262.5227**	**0.0183**		**262.9802**

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					3.1602	0.0000	3.1602	1.6712	0.0000	1.6712			0.0000			0.0000
Off-Road	1.4481	16.0004	9.9677	0.0215		0.7042	0.7042		0.6478	0.6478	0.0000	2,124.7461	2,124.7461	0.6723		2,141.5522
Total	**1.4481**	**16.0004**	**9.9677**	**0.0215**	**3.1602**	**0.7042**	**3.8643**	**1.6712**	**0.6478**	**2.3191**	**0.0000**	**2,124.7461**	**2,124.7461**	**0.6723**		**2,141.5522**

3.4 Grading (Shaffer) - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2828	0.2338	1.8684	2.6500e-003	0.2555	2.4700e-003	0.2579	0.0678	2.2800e-003	0.0700		262.5227	262.5227	0.0183		262.9802
Total	**0.2828**	**0.2338**	**1.8684**	**2.6500e-003**	**0.2555**	**2.4700e-003**	**0.2579**	**0.0678**	**2.2800e-003**	**0.0700**		**262.5227**	**262.5227**	**0.0183**		**262.9802**

3.5 Construction (Skedaddle) - 2019

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	2.1919	20.9861	13.5879	0.0279		1.0601	1.0601		1.0013	1.0013		2,691.1713	2,691.1713	0.6628		2,707.7424
Total	**2.1919**	**20.9861**	**13.5879**	**0.0279**		**1.0601**	**1.0601**		**1.0013**	**1.0013**		**2,691.1713**	**2,691.1713**	**0.6628**		**2,707.7424**

3.5 Construction (Skedaddle) - 2019

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	0.0856	1.4931	0.7498	2.4600e-003	0.0611	0.0142	0.0752	0.0176	0.0136	0.0311		256.2493	256.2493	0.0141		256.6024
Worker	0.2545	0.2104	1.6816	2.3900e-003	0.2299	2.2200e-003	0.2321	0.0610	2.0500e-003	0.0630		236.2704	236.2704	0.0165		236.6822
Total	**0.3401**	**1.7035**	**2.4313**	**4.8500e-003**	**0.2910**	**0.0164**	**0.3074**	**0.0785**	**0.0156**	**0.0942**		**492.5197**	**492.5197**	**0.0306**		**493.2845**

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	2.1919	20.9861	13.5879	0.0279		1.0601	1.0601		1.0013	1.0013	0.0000	2,691.1713	2,691.1713	0.6628		2,707.7424
Total	**2.1919**	**20.9861**	**13.5879**	**0.0279**		**1.0601**	**1.0601**		**1.0013**	**1.0013**	**0.0000**	**2,691.1713**	**2,691.1713**	**0.6628**		**2,707.7424**

3.5 Construction (Skedaddle) - 2019

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	0.0856	1.4931	0.7498	2.4600e-003	0.0611	0.0142	0.0752	0.0176	0.0136	0.0311		256.2493	256.2493	0.0141		256.6024
Worker	0.2545	0.2104	1.6816	2.3900e-003	0.2299	2.2200e-003	0.2321	0.0610	2.0500e-003	0.0630		236.2704	236.2704	0.0165		236.6822
Total	**0.3401**	**1.7035**	**2.4313**	**4.8500e-003**	**0.2910**	**0.0164**	**0.3074**	**0.0785**	**0.0156**	**0.0942**		**492.5197**	**492.5197**	**0.0306**		**493.2845**

3.6 Construction (Shaffer) - 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	4.2041	39.4297	29.3940	0.0672		1.9355	1.9355		1.8033	1.8033		6,457.3647	6,457.3647	1.8856		6,504.5044
Total	**4.2041**	**39.4297**	**29.3940**	**0.0672**		**1.9355**	**1.9355**		**1.8033**	**1.8033**		**6,457.3647**	**6,457.3647**	**1.8856**		**6,504.5044**

3.6 Construction (Shaffer) - 2020

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	0.0673	1.3444	0.6353	2.4500e-003	0.0611	8.8700e-003	0.0700	0.0176	8.4900e-003	0.0261		255.2109	255.2109	0.0123		255.5191
Worker	0.4721	0.3731	2.9755	4.6300e-003	0.4598	4.2200e-003	0.4641	0.1219	3.8900e-003	0.1258		458.6786	458.6786	0.0285		459.3915
Total	**0.5394**	**1.7174**	**3.6108**	**7.0800e-003**	**0.5209**	**0.0131**	**0.5340**	**0.1395**	**0.0124**	**0.1519**		**713.8895**	**713.8895**	**0.0409**		**714.9107**

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	4.2041	39.4297	29.3940	0.0672		1.9355	1.9355		1.8033	1.8033	0.0000	6,457.3647	6,457.3647	1.8856		6,504.5043
Total	**4.2041**	**39.4297**	**29.3940**	**0.0672**		**1.9355**	**1.9355**		**1.8033**	**1.8033**	**0.0000**	**6,457.3647**	**6,457.3647**	**1.8856**		**6,504.5043**

3.6 Construction (Shaffer) - 2020

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	0.0673	1.3444	0.6353	2.4500e-003	0.0611	8.8700e-003	0.0700	0.0176	8.4900e-003	0.0261		255.2109	255.2109	0.0123		255.5191
Worker	0.4721	0.3731	2.9755	4.6300e-003	0.4598	4.2200e-003	0.4641	0.1219	3.8900e-003	0.1258		458.6786	458.6786	0.0285		459.3915
Total	**0.5394**	**1.7174**	**3.6108**	**7.0800e-003**	**0.5209**	**0.0131**	**0.5340**	**0.1395**	**0.0124**	**0.1519**		**713.8895**	**713.8895**	**0.0409**		**714.9107**

3.6 Construction (Shaffer) - 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	3.8073	34.5831	28.5839	0.0673		1.6594	1.6594		1.5460	1.5460		6,458.5958	6,458.5958	1.8791		6,505.5719
Total	**3.8073**	**34.5831**	**28.5839**	**0.0673**		**1.6594**	**1.6594**		**1.5460**	**1.5460**		**6,458.5958**	**6,458.5958**	**1.8791**		**6,505.5719**

3.6 Construction (Shaffer) - 2021

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	0.0574	1.2374	0.5536	2.4300e-003	0.0611	6.1100e-003	0.0672	0.0176	5.8400e-003	0.0234		253.4552	253.4552	0.0112		253.7353
Worker	0.4413	0.3306	2.6233	4.4700e-003	0.4598	3.9900e-003	0.4638	0.1219	3.6800e-003	0.1256		443.8525	443.8525	0.0248		444.4734
Total	**0.4987**	**1.5679**	**3.1769**	**6.9000e-003**	**0.5209**	**0.0101**	**0.5310**	**0.1395**	**9.5200e-003**	**0.1490**		**697.3077**	**697.3077**	**0.0360**		**698.2086**

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	3.8073	34.5831	28.5839	0.0673		1.6594	1.6594		1.5460	1.5460	0.0000	6,458.5958	6,458.5958	1.8791		6,505.5719
Total	**3.8073**	**34.5831**	**28.5839**	**0.0673**		**1.6594**	**1.6594**		**1.5460**	**1.5460**	**0.0000**	**6,458.5958**	**6,458.5958**	**1.8791**		**6,505.5719**

3.6 Construction (Shaffer) - 2021

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	0.0574	1.2374	0.5536	2.4300e-003	0.0611	6.1100e-003	0.0672	0.0176	5.8400e-003	0.0234		253.4552	253.4552	0.0112		253.7353
Worker	0.4413	0.3306	2.6233	4.4700e-003	0.4598	3.9900e-003	0.4638	0.1219	3.6800e-003	0.1256		443.8525	443.8525	0.0248		444.4734
Total	**0.4987**	**1.5679**	**3.1769**	**6.9000e-003**	**0.5209**	**0.0101**	**0.5310**	**0.1395**	**9.5200e-003**	**0.1490**		**697.3077**	**697.3077**	**0.0360**		**698.2086**

3.7 Construction (Shaffer Transmission) - 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	2.6519	23.0438	18.7970	0.0498		0.9823	0.9823		0.9231	0.9231		4,762.4146	4,762.4146	1.3305		4,795.6762
Total	**2.6519**	**23.0438**	**18.7970**	**0.0498**		**0.9823**	**0.9823**		**0.9231**	**0.9231**		**4,762.4146**	**4,762.4146**	**1.3305**		**4,795.6762**

3.7 Construction (Shaffer Transmission) - 2021

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	0.0574	1.2374	0.5536	2.4300e-003	0.0611	6.1100e-003	0.0672	0.0176	5.8400e-003	0.0234		253.4552	253.4552	0.0112		253.7353
Worker	0.4904	0.3673	2.9148	4.9700e-003	0.5109	4.4400e-003	0.5154	0.1355	4.0900e-003	0.1396		493.1695	493.1695	0.0276		493.8593
Total	**0.5477**	**1.6046**	**3.4684**	**7.4000e-003**	**0.5720**	**0.0106**	**0.5826**	**0.1531**	**9.9300e-003**	**0.1630**		**746.6246**	**746.6246**	**0.0388**		**747.5946**

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	2.6519	23.0438	18.7970	0.0498		0.9823	0.9823		0.9231	0.9231	0.0000	4,762.4146	4,762.4146	1.3305		4,795.6762
Total	**2.6519**	**23.0438**	**18.7970**	**0.0498**		**0.9823**	**0.9823**		**0.9231**	**0.9231**	**0.0000**	**4,762.4146**	**4,762.4146**	**1.3305**		**4,795.6762**

3.7 Construction (Shaffer Transmission) - 2021

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	0.0574	1.2374	0.5536	2.4300e-003	0.0611	6.1100e-003	0.0672	0.0176	5.8400e-003	0.0234		253.4552	253.4552	0.0112		253.7353
Worker	0.4904	0.3673	2.9148	4.9700e-003	0.5109	4.4400e-003	0.5154	0.1355	4.0900e-003	0.1396		493.1695	493.1695	0.0276		493.8593
Total	**0.5477**	**1.6046**	**3.4684**	**7.4000e-003**	**0.5720**	**0.0106**	**0.5826**	**0.1531**	**9.9300e-003**	**0.1630**		**746.6246**	**746.6246**	**0.0388**		**747.5946**

3.8 Construction (Skedaddle Transmission) - 2019

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	1.6561	13.9284	14.0086	0.0209		0.8493	0.8493		0.8074	0.8074		1,999.5533	1,999.5533	0.4440		2,010.6538
Total	**1.6561**	**13.9284**	**14.0086**	**0.0209**		**0.8493**	**0.8493**		**0.8074**	**0.8074**		**1,999.5533**	**1,999.5533**	**0.4440**		**2,010.6538**

3.8 Construction (Skedaddle Transmission) - 2019

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	0.0856	1.4931	0.7498	2.4600e-003	0.0611	0.0142	0.0752	0.0176	0.0136	0.0311		256.2493	256.2493	0.0141		256.6024
Worker	0.2828	0.2338	1.8684	2.6500e-003	0.2555	2.4700e-003	0.2579	0.0678	2.2800e-003	0.0700		262.5227	262.5227	0.0183		262.9802
Total	**0.3684**	**1.7269**	**2.6182**	**5.1100e-003**	**0.3165**	**0.0167**	**0.3332**	**0.0853**	**0.0159**	**0.1012**		**518.7720**	**518.7720**	**0.0324**		**519.5825**

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	1.6561	13.9284	14.0086	0.0209		0.8493	0.8493		0.8074	0.8074	0.0000	1,999.5533	1,999.5533	0.4440		2,010.6538
Total	**1.6561**	**13.9284**	**14.0086**	**0.0209**		**0.8493**	**0.8493**		**0.8074**	**0.8074**	**0.0000**	**1,999.5533**	**1,999.5533**	**0.4440**		**2,010.6538**

3.8 Construction (Skedaddle Transmission) - 2019

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	0.0856	1.4931	0.7498	2.4600e-003	0.0611	0.0142	0.0752	0.0176	0.0136	0.0311		256.2493	256.2493	0.0141		256.6024
Worker	0.2828	0.2338	1.8684	2.6500e-003	0.2555	2.4700e-003	0.2579	0.0678	2.2800e-003	0.0700		262.5227	262.5227	0.0183		262.9802
Total	**0.3684**	**1.7269**	**2.6182**	**5.1100e-003**	**0.3165**	**0.0167**	**0.3332**	**0.0853**	**0.0159**	**0.1012**		**518.7720**	**518.7720**	**0.0324**		**519.5825**

3.8 Construction (Skedaddle Transmission) - 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	1.4847	12.6752	13.8727	0.0209		0.7302	0.7302		0.6945	0.6945		1,973.9092	1,973.9092	0.4356		1,984.7979
Total	**1.4847**	**12.6752**	**13.8727**	**0.0209**		**0.7302**	**0.7302**		**0.6945**	**0.6945**		**1,973.9092**	**1,973.9092**	**0.4356**		**1,984.7979**

3.8 Construction (Skedaddle Transmission) - 2020

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	0.0673	1.3444	0.6353	2.4500e-003	0.0611	8.8700e-003	0.0700	0.0176	8.4900e-003	0.0261		255.2109	255.2109	0.0123		255.5191
Worker	0.2623	0.2073	1.6531	2.5700e-003	0.2555	2.3500e-003	0.2578	0.0678	2.1600e-003	0.0699		254.8215	254.8215	0.0158		255.2175
Total	**0.3296**	**1.5516**	**2.2884**	**5.0200e-003**	**0.3165**	**0.0112**	**0.3278**	**0.0853**	**0.0107**	**0.0960**		**510.0323**	**510.0323**	**0.0282**		**510.7366**

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	1.4847	12.6752	13.8727	0.0209		0.7302	0.7302		0.6945	0.6945	0.0000	1,973.9092	1,973.9092	0.4356		1,984.7979
Total	**1.4847**	**12.6752**	**13.8727**	**0.0209**		**0.7302**	**0.7302**		**0.6945**	**0.6945**	**0.0000**	**1,973.9092**	**1,973.9092**	**0.4356**		**1,984.7979**

3.8 Construction (Skedaddle Transmission) - 2020

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	0.0673	1.3444	0.6353	2.4500e-003	0.0611	8.8700e-003	0.0700	0.0176	8.4900e-003	0.0261		255.2109	255.2109	0.0123		255.5191
Worker	0.2623	0.2073	1.6531	2.5700e-003	0.2555	2.3500e-003	0.2578	0.0678	2.1600e-003	0.0699		254.8215	254.8215	0.0158		255.2175
Total	**0.3296**	**1.5516**	**2.2884**	**5.0200e-003**	**0.3165**	**0.0112**	**0.3278**	**0.0853**	**0.0107**	**0.0960**		**510.0323**	**510.0323**	**0.0282**		**510.7366**

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	119.9907	515.6822	1,665.6364	3.0497	239,877.6015	4.6132	239,882.2147	23,897.8674	4.3481	23,902.2155		304,750.6997	304,750.6997	18.1252		305,203.8293
Unmitigated	119.9907	515.6822	1,665.6364	3.0497	239,877.6015	4.6132	239,882.2147	23,897.8674	4.3481	23,902.2155		304,750.6997	304,750.6997	18.1252		305,203.8293

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	30,361.32	5,749.92	2962.08	88,594,021	88,594,021
Total	30,361.32	5,749.92	2,962.08	88,594,021	88,594,021

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
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.486350	0.043929	0.213525	0.153817	0.058858	0.009856	0.011313	0.008940	0.002418	0.002009	0.006238	0.001089	0.001658

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	0.4543	4.1302	3.4694	0.0248		0.3139	0.3139		0.3139	0.3139		4,956.2224	4,956.2224	0.0950	0.0909	4,985.6748
NaturalGas Unmitigated	0.4543	4.1302	3.4694	0.0248		0.3139	0.3139		0.3139	0.3139		4,956.2224	4,956.2224	0.0950	0.0909	4,985.6748

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					
General Light Industry	42127.9	0.4543	4.1302	3.4694	0.0248		0.3139	0.3139		0.3139	0.3139		4,956.2224	4,956.2224	0.0950	0.0909	4,985.6748
Total		**0.4543**	**4.1302**	**3.4694**	**0.0248**		**0.3139**	**0.3139**		**0.3139**	**0.3139**		**4,956.2224**	**4,956.2224**	**0.0950**	**0.0909**	**4,985.6748**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	42.1279	0.4543	4.1302	3.4694	0.0248		0.3139	0.3139		0.3139	0.3139		4,956.2224	4,956.2224	0.0950	0.0909	4,985.6748
Total		**0.4543**	**4.1302**	**3.4694**	**0.0248**		**0.3139**	**0.3139**		**0.3139**	**0.3139**		**4,956.2224**	**4,956.2224**	**0.0950**	**0.0909**	**4,985.6748**

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	93.2605	4.1300e-003	0.4476	3.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003		0.9533	0.9533	2.5600e-003		1.0172
Unmitigated	93.2605	4.1300e-003	0.4476	3.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003		0.9533	0.9533	2.5600e-003		1.0172

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	93.2184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0421	4.1300e-003	0.4476	3.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003		0.9533	0.9533	2.5600e-003		1.0172
Total	**93.2605**	**4.1300e-003**	**0.4476**	**3.0000e-005**		**1.6100e-003**	**1.6100e-003**		**1.6100e-003**	**1.6100e-003**		**0.9533**	**0.9533**	**2.5600e-003**		**1.0172**

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	93.2184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0421	4.1300e-003	0.4476	3.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003		0.9533	0.9533	2.5600e-003		1.0172
Total	**93.2605**	**4.1300e-003**	**0.4476**	**3.0000e-005**		**1.6100e-003**	**1.6100e-003**		**1.6100e-003**	**1.6100e-003**		**0.9533**	**0.9533**	**2.5600e-003**		**1.0172**

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 3.4-1

Biological Resources Assessment

Biological Resources Assessment for the Lassen Municipal Utility District Skedaddle Interconnection Project, Wendel, Lassen County, California

JUNE 2019

PREPARED BY

SWCA Environmental Consultants

BIOLOGICAL RESOURCES ASSESSMENT FOR THE LASSEN MUNICIPAL UTILITY DISTRICT SKEDADDLE INTERCONNECTION PROJECT, WENDEL, LASSEN COUNTY, CALIFORNIA

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SWCA Project No. 43232

June 2019

Reporting Biologist: Benjamin Wagner, SWCA Environmental Consultants

June 11, 2019

EXECUTIVE SUMMARY / SYNOPSIS

SWCA Environmental Consultants (SWCA) has prepared this Biological Resources Assessment (BRA) at the request of the Lassen Municipal Utility District (LMUD; applicant) for the construction of the Lassen Municipal Utility District Skedaddle Interconnection Project (project) near the unincorporated community of Wendel, Lassen County, California. The purpose of this BRA is to describe and evaluate the potential impacts to biological resources associated with the proposed project.

The project will allow LMUD to interconnect to the Sierra Pacific Power Company d/b/a Nevada Energy (NV Energy) existing Reno-Alturas 345-kilovolt (kV) line that is adjacent to the project site. The project will include developing two new substations, a switching station, and associated distribution lines that will tie the substations to the existing infrastructure. To accomplish this, LMUD will build new and/or improve or decommission existing distribution lines in the area. These infrastructure improvements are being completed to improve system reliability for LMUD customers.

The two proposed substations will be located adjacent to each other on lands owned by LMUD, northeast of Wendel and just west of Helman Road. The proposed substations will connect with the existing 345 kv Reno to Alturas transmission line via a new 345 kV transmission line. A proposed 60 kV distribution line will traverse LMUD lands and existing LMUD right-of-way to the south and west from the proposed substations until it connects to the proposed Antola Road 60 kV Switching Station, to be located just southeast of the Antola Road and Fish and Game Road intersection, which is approximately 4.45 miles west of the proposed area for the two substations.

SWCA conducted field studies for the proposed project with the purpose of characterizing the existing conditions on and adjacent to the project site and to identify those biological resources that could be impacted by the project. Field studies included floristic botanical surveys in June 2017, August 2017, and May 2018; a general reconnaissance-level wildlife survey in August 2017; mapping of potentially jurisdictional waters in May 2018; and an Aquatic Resources Delineation in July 2018.

Based on a California Natural Diversity Database (CNDDB) query and literature review for the project, 19 special-status plant species have been documented within the vicinity of the project. Five of these species were identified in the project area, including Geyer's milkvetch (*Astragalus geyeri* var. *geyeri*), winged dock (*Rumex venosus*), snake milkvetch (*Astragalus iodanthus* var. *diaphanoides*), western seablite (*Suaeda occidentalis*), and spiked larkspur (*Delphinium stachydeum*). One special-status plant community, saltgrass flats, was observed during surveys.

Based on the CNDDB query and literature review, 13 sensitive wildlife species have been documented within the vicinity of the project. One of these species, loggerhead shrike (*Lanius ludovicianua*), was observed during surveys. In addition, SWCA determined that the following special-status animal taxa have the potential to occur within the biological study area: Carson wandering skipper (*Pseudocopaeodes eunus obscurus*), tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), Prairie falcon (*Falco* mexicanus), greater sandhill crane (*Grus canadensis tabida*), bank swallow (*Riparia riparia*), American badger (*Taxidea taxus*), and other nesting migratory birds. Avoidance and mitigation measures are recommended in this BRA to reduce potential impacts to less-than-significant levels.

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1 INTRODUCTION

1.1 Purpose of Biological Resources Assessment

SWCA Environmental Consultants (SWCA) has prepared this Biological Resources Assessment (BRA) at the request of Lassen Municipal Utility District (LMUD) for the proposed Lassen Municipal Utility District Skedaddle Interconnection Project (project). The purpose of this BRA is to identify and evaluate the potential impacts to biological resources associated with the proposed project. This BRA considers sensitive habitats, special-status plant and animal species, and potentially regulated jurisdictional features known to occur (or likely to occur) within or adjacent to the site. The intent of this report is to provide LMUD with technical natural resources information to support LMUD's California Environmental Quality Act (CEQA) evaluation, as well as responsible agency coordination.

For those instances where potential impacts to sensitive biological resources may occur, SWCA has provided recommendations with the objective of avoiding or minimizing the potential impacts. SWCA understands that this BRA would be used by the applicant (LMUD) and affected regulatory agencies during the environmental review process for the proposed project.

1.2 Location and Setting

LMUD proposes to construct the project near Wendel, Lassen County, California (Figure 1). Two proposed substations, Skedaddle Substation and Shaffer Substation will be located adjacent to each other on lands owned by LMUD, northeast of the unincorporated community of Wendel and just west of Helman Road, approximately 0.1 mile west of the existing 345 kV Reno to Alturas transmission line (Figure 2). The proposed substations will connect with the existing 345 kV Reno to Alturas transmission line via a new 345 kV transmission line. A proposed 60 kV distribution line will traverse LMUD lands and existing LMUD rights-of-way west and then extend south from the proposed substations along a new access road for the substation area until off of Wendel Road. The 60kV overhead line will then run west along the north side of Wendel Road, will cross Wendel Road as the road turns north, continue west and cross Antola Road, and continue northwest along a decommissioned railroad right-of-way until it connects to the proposed Antola Road 60 kV Switching Station, to be located just southeast of the Antola Road and Fish and Game Road intersection. Project maps are included in Appendix A.

For the purposes of this report, the biological study area (BSA) encompasses the entire project area boundary, within which the project facilities will be constructed and/or improved. The BSA includes 147 acres and encompasses the two proposed substations, the switching station, and the linear transmission line corridors that will be upgraded or removed for the project. Construction vehicles working on the transmission line will stay on previously developed roads to the greatest extent possible to avoid impacts to natural habitat. One permanent access road is proposed in the BSA, which will connect Wendel Road to the substation area. While only a portion of the BSA would be impacted through project activities, a larger area is analyzed in order to identify and avoid impacts to sensitive biological resources to the extent practicable.

Figure 1. Project vicinity map.

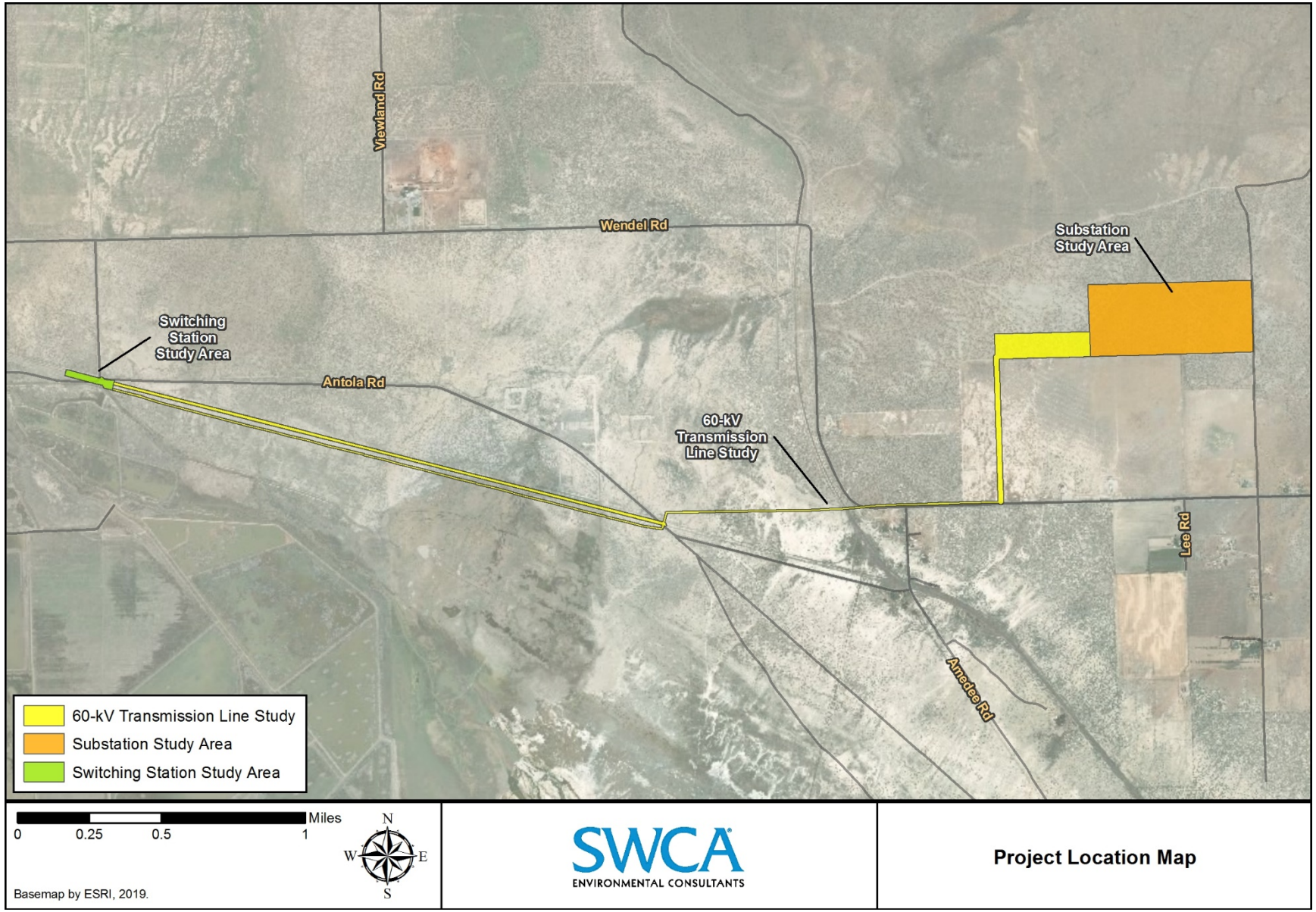

Figure 2. Project location map.

1.3 Project Description

The project will allow LMUD to interconnect to NV Energy via an existing 345 kV line that is adjacent to the project site. The project will include developing two substations, a switching station, and associated distribution lines that will tie the substation to the existing infrastructure. To accomplish this, LMUD would build new and/or improve or decommission existing distribution lines in the area. These infrastructure improvements are being completed to improve system reliability for LMUD customers, especially during the winter. The proposed project would include the following project components:

- Substation Area:
    1) The Skedaddle Substation, a 345/60 kV electrical substation with an approximately 2-acre footprint;
    2) The Shaffer Substation, a 345 kV electrical substation with an approximately 9-acre footprint;
    3) Overhead 345 kV transmission line to interconnect the Skedaddle and Shaffer Substations within the substation impact area (345 kV transmission line);
    4) Overhead 345 kV transmission line interconnection of the Shaffer Substation to the existing 345 kV Reno to Alturas transmission line, including two steel three-pole angle dead-end structures;
    5) Two temporary construction staging areas, including one just south of the substations and one just east of the substations;
    6) Permanent access road connecting the Skedaddle and Shaffer Substations and temporary staging area, just south of the substations; and
    7) Temporary access road connecting permanent access road to temporary construction staging area, just east of the substations;
- Antola Road 60 kV Switching Station
- Overhead 60 kV electrical transmission line (approximately 4.15 miles) to interconnect the Skedaddle Substation into LMUD's existing 60 kV transmission system via the proposed switching station; and
- Removal of existing transmission lines and poles along Wendel Road (8 poles), between Wendel Road and Antola Road (13 poles) and west of Antola Road (28 poles). At least 8 poles will be left in place along this stretch of transmission lines to avoid impacts to cultural and biological resources. Poles will be cut off at ground level and/or pulled and backfilled with engineering fill.

2 METHODOLGY

2.1 Literature Review

Prior to conducting the field surveys, SWCA conducted a literature review to gain insight on what species have known occurrences in the project vicinity. The review was initiated with a query of the most recent version of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) to identify reported occurrences of sensitive resources known to occur within a 5-mile radius of the project area (CNDDB 2018).

In addition to the CNDDB, an unofficial Information for Planning and Consultation (IPaC) Resource List was obtained from the U.S. Fish and Wildlife Service (USFWS) IPaC website, which lists regional

threatened and endangered species that may occur in the proposed project location, and/or may be affected by the proposed project (USFWS 2019). Also, the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants of California (CNPS 2018) was reviewed to provide additional information on rare plants that are known to occur in the area.

Additional species were considered based on SWCA's knowledge of and experience in the area, and those species that were positively identified in the field that were not previously included on the database lists. Because these lists are regional in nature, an analysis of the range and habitat preferences of the listed species was conducted to identify which species have the potential to occur in or near the BSA. SWCA conducted the evaluation, which considered the existing conditions, elevation, and soils within the BSA, prior to conducting field surveys. Species with habitat present were closely considered for potential presence within the project site. A map of the special-status species observed during field surveys is included in Appendix A. CNDDB mapped occurrences and a list of special-status species recorded within the project vicinity are included in Appendix B, and a list of species observed on-site is included as Appendix C. Representative photos of the BSA are included as Appendix D.

2.2 Field Surveys

Field studies for the proposed project included general reconnaissance-level wildlife surveys, floristic botanical surveys, mapping of potentially jurisdictional waters, and an Aquatic Resources Delineation (ARD) (Appendix E). The purpose of the field surveys was to: (1) characterize the existing conditions on and adjacent to the project site; and (2) identify those biological resources that could be impacted by future development on the project site.

The botanical surveys were conducted throughout the project area using 10-meter parallel transects to ensure even coverage and 100% visibility of the project area. These transects were preloaded onto a Trimble Global Positioning System (GPS) unit to facilitate navigation. Observations of special-status species were mapped with the Trimble GPS unit and photographed. Mapping was accomplished using point, polygon, and line features. The SWCA botanist collected location data for all special-status species observed. In addition, the biologist recorded a species list for all plants and animals observed (see Appendix C). The botanical surveys were conducted during the appropriate blooming period for those special-status plant species that were considered. No protocol-level surveys for special-status species were performed as part of this study. Table 1 summarizes the survey efforts conducted for the project.

Table 1. Survey Tasks, Dates, and Personnel

Study or Survey	Dates	SWCA Personnel
Floristic Botanical Survey	June 15–19, 2017	Matt Villaneva
Floristic Botanical Survey, Reconnaissance-Level Wildlife Survey	August 16, 2017	Matt Villaneva
Botanical Survey of 13 Acres Added to the BSA in the Proposed Substation Area	May 15, 2018	Matt Villaneva
Mapping of Potentially Jurisdictional Waters	May 15, 2018	Ben Wagner
Aquatic Resources Delineation	July 16, 2018	Alex Fisher, Wendy Broadhead

2.3 Agency Coordination and Professional Contacts

The following is a chronological summary of regulatory agency coordination and correspondence:

- **May 30, 2018:** SWCA Biologist Ben Wagner discussed potential requirement for notification pursuant to California Fish and Game Code (CFGC) Section 1602 via email with Adam McKannay, Senior Environmental Scientist, CDFW, Redding office. Mr. McKannay stated that, typically, areas with defined channels would require notification but areas with sinks, flats, and irrigation ditches would not require notification, unless the features capture natural stream flow. He also advised to discuss the proposed project with the local Regional Water Quality Control Board (RWQCB).
- **June 1, 2018:** SWCA Biologist Mr. Wagner discussed the potential need for a Clean Water Act Section 401 review for the project area via telephone with Robert Tucker, Senior Water Resources Control Engineer, Lahontan RWQCB. Mr. Tucker advised that areas within the proposed project would likely include waters of the state and would require review under Section 401.
- **June 7, 2018:** SWCA Biologist Mr. Wagner, Natural Resources Team Lead Jon Claxton, and Planning Team Lead Emily Creel discussed the potential for U.S. Army Corps of Engineers (USACE) regulatory jurisdiction under Section 404 of the Clean Water Act within the project area via telephone with Robert Chase, Regulatory Project Manager, USACE, Sacramento District, Northern Section. Mr. Chase advised that a Jurisdictional Determination would be necessary to determine jurisdiction under Section 404 of the Clean Water Act.
- **June 8, 2018:** SWCA Biologist Mr. Wagner discussed the potential need for a Clean Water Act Section 401 review for the project area with Elizabeth Van Diepen, Engineering Geologist, Lahontan RWQCB. Photographs of the proposed project area were supplied to the RWQCB, and Ms. Van Diepen advised that areas with alkali flats, alkali sinks, and seasonal and perennial channels would fall under RWQCB jurisdiction.
- **June 21, 2018:** SWCA Biologist Matt Villaneva discussed the potential for presence and suitable habitat within the project area of the federally endangered Carson wandering skipper (*Pseudocopaeodes eunus obscurus*) via telephone with USFWS biologist Marcy Haworth. Ms. Haworth indicated that the entire area would likely be considered suitable habitat based on the proximity to Honey Lake (known habitat) and the presence of saltgrass (*Distichlis spicata*). For such a minor impact, she thought that we could assume presence but that they would be *present, not likely to be adversely affected,* and that mitigation would include avoiding impacts to habitat during the flight season.
- **January 2, 2019:** SWCA Planning Team Lead Ms. Creel sent the ARD prepared for the site and a kmz file showing the project location and proposed areas of disturbance via email to Matthew Roberts, USACE, and requested Mr. Roberts to review the delineation and provide comments as appropriate.
- **January 3, 2019:** SWCA Planning Team Lead Ms. Creel spoke with Mr. Roberts, USACE, regarding the previously submitted ARD for the site. Mr. Roberts indicated that the ARD and associated mapping was acceptable and that if we submitted a map overlaying the project footprint over the delineated areas and showing avoidance of jurisdictional waters, he would issue a No Permit Required Letter for the project, since federal jurisdictional waters were being avoided. Transmission line pole placement was still being finalized during the time this BRA was prepared; therefore, SWCA had not received the No Permit Required Letter at the time this BRA was completed.
- **January 25, 2019:** SWCA Biologists Mr. Wagner and Travis Belt and SWCA Planning Team Lead Ms. Creel discussed permitting strategies for the project with Ms. Van Diepen, Engineering Geologist, Lahontan RWQCB. Ms. Van Diepen advised that applying for a permit for General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S.

Army Corps of Engineers to Be Outside of Federal Jurisdiction (General WDR Order No. 2004-0004-DWQ) was an appropriate strategy, since the proposed project will avoid USACE jurisdiction. She also provided SWCA with a Lahonton RWQCB-specific application for certification under Section 401.

3 RESULTS

3.1 Soils, Topography, and Elevation

According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey (NRCS 2018) the project area includes the following five distinct soil types (Figure 3): Herjun loamy sand (0 to 2 percent slopes), Mazuma fine sandy loam (0 to 2 percent slopes), Yobe silt loam (0 to 2 percent slopes), Zorravista loamy sand (0 to 5 percent slopes), and Zorravista sand (2 to 15 percent slopes).

Although, the project area includes five soil types, it is dominated by two soils that comprise over 84.5% of the project area—Zorravista loamy sand (102.62 acres or 69.9%) and Yobe silt loam (21.38 acres or 14.6%):

- Zorravista loamy sand comprises nearly the entire substation study area. This series "consists of very deep, excessively drained soils that formed in mixed eolian material derived from mixed rocks. The Zorravista soils are on semi-stabilized sand dunes and sand sheets superimposed on beach terraces, lake plains, barrier bars and alluvial fans. Slopes are 0 to 15 percent" (NRCS 2018).
- Yobe silt loam is found within the western portion of the project area adjacent to the Union Pacific Railroad right-of-way. This series "consists of very deep, somewhat poorly drained soils that formed in lacustrine deposits derived from mixed rocks. Yobe soils are on alluvial flats and lake plains. Slopes are 0 to 2 percent" (NRCS 2018).

The entire BSA area is generally flat with slight topographical variation throughout due to small vegetation hummocks, a raised railroad bed (west of Antola Road), and the Antola Road and Wedel Road embankments. The elevation of the BSA ranges from 4,135 feet above mean sea level (AMSL) on the far northeast corner of the BSA to approximately 4,000 feet AMSL along the decommissioned railroad right-of-way in the southern section of the BSA.

3.2 Habitat Types

The BSA encompasses approximately 147 acres of land composed of big sagebrush (Sawyer et al. 2009), greasewood scrub (Sawyer et al. 2009), saltgrass flats (Sawyer et al. 2009), agricultural, open water, and developed areas (see Appendix A).

3.2.1 Big Sagebrush

Big sagebrush (Sawyer et al. 2009) is a scrub habitat dominated by Great Basin sagebrush (Artemisia tridentata) and is widely distributed throughout the Great Basin, including much of California east of the Cascade-Sierra crest. Big sagebrush habitat is found in Modoc, Lassen, Mono, and Inyo Counties with scattered localities along the margins of the Mojave and Sonoran Deserts at elevations of 300 to 3,000 meters. Big sagebrush habitat is found in plains, alluvial fans, bajadas, pediments, lower slopes, and valley bottoms, and along seasonal and perennial stream channels and dry washes in sandy to loamy well-drained soils. Other species commonly associated with big sagebrush habitat includes hoary saltbush

(Atriplex canescens), black brush (Coleogyne ramosissima), Acton encelia (Encelia actonii), Nevada ephedra (Ephedra nevadensis), green ephedra (Ephedra viridis), and rubber rabbitbrush (Ericameria nauseosa) (Holland 1986; Sawyer et al. 2009).

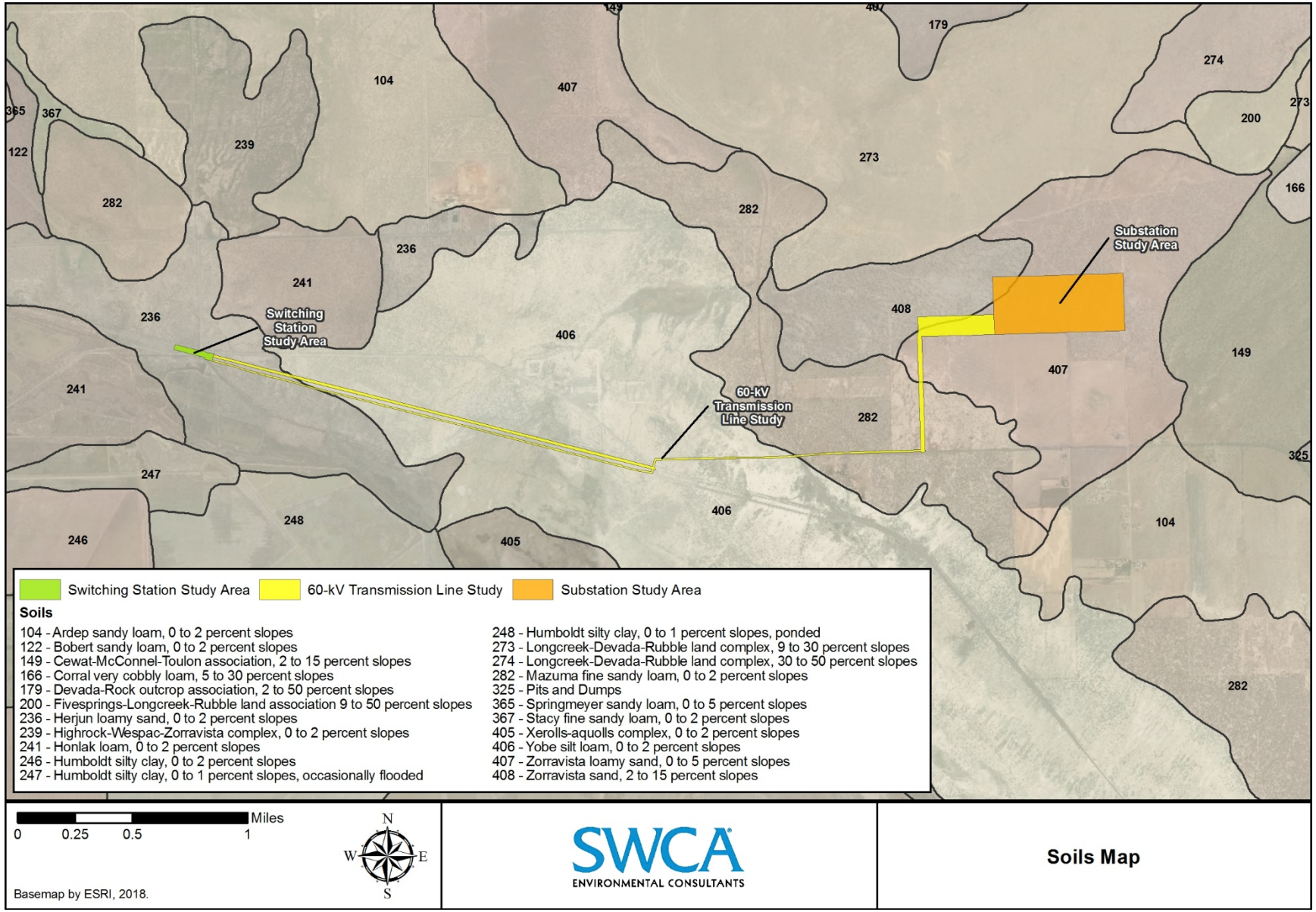

Figure 3. Soils map.

Within the BSA, this habitat spans the entire substation area. Other species found within this part of the BSA along with the dominant Great Basin sagebrush include horsebrush (*Tetradymia spinose* and *T. tetrameres*) and yellow rabbitbrush (*Chrysothamnus viscidiflorus*). Geyer's milkvetch (*Astragalus geyeri* var. *geyeri*) was present in this vegetation community, predominately along the northern and eastern edges of the substation area. Wildlife species observed within the big sagebrush area of the BSA include sagebrush sparrow (*Artemisiospiza nevadensis*), loggerhead shrike (*Lanius ludovicianus*), and sage thrasher (*Oreoscoptes montanus*). There were also observations of long-nosed leopard lizard (*Gambelia wislizenii*) and kangaroo rat (*Dipodomys* sp.), which were restricted to the stabilized sand dune area of the big sagebrush habitat.

3.2.2 Greasewood Scrub

Greasewood scrub (Sawyer et al. 2009) is a habitat dominated by greasewood (*Sarcobatus vermiculatus*) and is widely scattered throughout the Great Basin, Mojave, and Colorado Deserts and is found in valley bottoms, dry lake beds, old lake beds perched above current drainages, stable sand dunes, and barrier beaches from 100 to 2,000 meters. Soils are usually heavy, fine textured, and poorly drained, and often alkaline and saline. Other species commonly found in greasewood scrub include iodine bush (*Allenrolfea occidentalis*), Great Basin sagebrush, hoary saltbush, spiny saltbush (*Atriplex confertifolia*), rubber rabbitbrush, alkali heath (*Frankenia salina*) and Mohave seablite (*Suaeda nigra*). Grass species are often found in the understory (Holland 1986; Sawyer et al. 2009).

Within the BSA, greasewood scrub is found along the transmission line area adjacent to the Union Pacific Railroad right-of-way and Wendel Road. The herb layer within the greasewood scrub habitat in the BSA includes saltgrass and tall whitetop (*Lepidium latifolium*), a noxious weed species, especially in low-lying areas along the railroad embankment.

3.2.3 Saltgrass Flats

Saltgrass flats (Sawyer et al. 2009) or alkali meadow (Holland 1986) are dominated by saltgrass and consist of dense to open growth of usually low-growing perennial grasses and sedges. This community is found in inland habitats including playas, swales, and terraces along washes that are typically intermittently flooded. Soils are often fine textured, deep, and alkaline or saline. Saltgrass flats are commonly found in valley bottoms and lower portions of alluvial slopes. The soil surface often has visible salt accumulation when dry (Holland 1986; Sawyer et al. 2009). Saltgrass flats are designated as a California Sensitive Natural Community (CNDDB 2018).

Within the BSA, saltgrass flats are found in the area of the transmission line just west of Wendel Road. These areas have varying densities of saltgrass cover from open to forming dense mats. The open density areas have very evident salt crust over the ground and vegetation surfaces. The mat-forming areas within the BSA are isolated to the areas adjacent to open water. Wildlife species known to occur within these mat-forming saltgrass flats, adjacent to open water, in the proposed project vicinity include the Federally Endangered Carson wandering skipper butterfly.

3.2.4 Agricultural

The agricultural area, primarily fallow and grazed grain fields, is located in the eastern section of the transmission line where it runs in a north/south direction north of Wendel Road. This area was observed to have been tilled recently, as evident in publicly available aerial photographs of the area taken in June 2012. Vegetation within this area is ruderal and dominated by weedy species, including cheatgrass (*Bromus tectorum*) and clasping pepperweed (*Lepidium perfoliatum*). There were some native shrub species that have begun to establish in the area since it was last tilled, including greasewood, silver sage

(*Artemisia cana*), and yellow rabbitbrush. Soils in this area of the BSA are fine, appearing to consist of clay materials, along with salt crusts on the surface.

3.2.5 Open Water

Open water was encountered during both spring and summer field surveys (see Appendix D: Photo D-4). Open water within the BSA is isolated to the area downstream of the Wendel Hot Spring. Channels associated with the spring have been modified and redirected along and under the raised railroad embankment with trenching, culverts, valves, and plastic lining. These channels eventually flow out of the BSA, running south toward Honey Lake. These open waters support a private recreational waterfowl club located on an adjacent property.

3.2.6 Developed

These areas are highly disturbed and within the BSA consist of roadways, road shoulders, and raised railroad beds and embankments. Within the BSA, developed areas include sections along Antola Road, Wendel Road, and the Union Pacific Railroad right-of-way. These areas are almost entirely void of vegetation but occasionally support weedy plant species and small shrubs. Wildlife species typically found in ruderal and scrub habitats may frequent these areas for forage or migration, but are not likely to inhabit them.

3.3 Regional Habitats and Natural Communities of Concern

The CNDDB (2018) documents regional habitats and natural communities of concern that are considered sensitive that occur within the search area. Based on the query of CNDDB (2018) and USFWS IPaC website (USFWS 2019) no federally designated critical habitat was reported within the BSA. During field surveys, it was discovered that one designated natural community of concern, saltgrass flats (Sawyer et al. 2009), was present within the BSA (see Appendices A and B).

Saltgrass flats are typically found within areas of coastal salt marshes and inland habitats, including playas, swales, and terraces along washes that are typically intermittently flooded. Soils are often deep, alkaline, or saline, and often have an impermeable layer making them poorly drained. When the soil is dry, the surface usually has salt accumulations (Sawyer et al. 2009). Within the BSA, approximately 1.9 acres of saltgrass flats are present along the transmission line area west of Wendel Road.

3.4 Special-Status Plant Species

For the purposes of this section, special-status plant species are defined as the following:

- Plants listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants and various notices in the *Federal Register* for proposed species).
- Plants that are candidates for possible future listing as threatened or endangered under the FESA.
- Plants that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380).
- Plants considered by the CNPS to be “rare, threatened, or endangered” in California (CNPS Ranks 1A, 1B, 2A, and 2B in CNPS 2018).

- Plants listed by the CNPS as plants about which we need more information and plants of limited distribution (Ranks 3 and 4 in CNPS 2018).
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] Section 670.5).
- Plants listed under the California Native Plant Protection Act (CFGC Section 1900 et seq.).
- Plants considered sensitive by other federal agencies (e.g., U.S. Forest Service, U.S. Bureau of Land Management), state and local agencies, or jurisdictions.

Based on a 5-mile radius query of the CNDDB, a query of the USFWS IPaC website, and surveys conducted within the BSA, 19 special-status plant species have been documented in the project vicinity (see Table 2; see Appendices A, B, and C). Because the list of special-status plant species is considered regional, an analysis of the range and habitat preferences of the listed species was conducted to identify which species have the potential to occur in or near the BSA. The evaluation considered the existing conditions, elevation, and soils within the BSA. Species outside of the 5-mile radius were not evaluated further because the BSA is located outside of their known geographic ranges and they are therefore considered unlikely to occur.

SWCA biologist Matt Villaneva conducted 100% visual coverage botanical surveys within the BSA with the purpose of mapping the sensitive plant species with potential to occur. Surveys were conducted within the appropriate blooming period for these species. Several of these species were identified in the project area, including Geyer's milkvetch, snake milkvetch (*Astragalus iodanthus* var. *diaphanoides*), winged dock (*Rumex venosus*), and western seablite (*Suaeda occidentalis*). Additional, sensitive species that had not been previously recorded within a 5-mile radius of the BSA were discovered during these surveys and mapped, including snake mild vetch (*Astragalus iodanthus* var. *diaphanoides*) and spiked larkspur (*Delphinium stachydeum*). The botanical survey report is included in Appendix E.

3.5 Special-Status Animal Species

For the purposes of this section, special-status animal species are defined as the following:

- Animals listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.11 for listed animals and various notices in the *Federal Register* for proposed species).
- Animals that are candidates for possible future listing as threatened or endangered under the FESA.
- Animals that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5).
- Animal species that are fully protected in California (CFGC Section 3511 [birds], Section 4700 [mammals], Section 5050 [reptiles and amphibians], and Section 5515 [fish]).
- Birds protected by the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and/or CFGC Section 3503.
- CDFW California Species of Special Concern (SSC) (Jennings and Hayes 1994 for amphibians and reptiles; Shuford and Gardali 2008 for birds; Williams 1986 for mammals).

- Other animal species considered USFWS Birds of Conservation Concern, on the CDFW Watch List, or otherwise included in the CDFW Special Animals List (CDFW 2009).

Based on the CNDDB and USFWS IPaC database searches and our surveys, 13 special-status animal species have been documented within the project vicinity (Table 3; see Appendices A, B, and C) (CNDDB 2018). Because the list of special-status animal species is considered regional, an analysis of the range and habitat preferences of those species was conducted to identify which sensitive animal species have the potential to occur in or near the BSA. As a result of the best information available and the analysis conducted by SWCA, it was determined that the following special-status animal taxa have the potential to occur within the BSA: nesting migratory birds, Carson wandering skipper, tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), prairie falcon (*Falco mexicanus*), greater sandhill crane (*Grus canadensis tabida*), and American badger (*Taxidea taxus*). One special-status species—the loggerheaded shrike—was observed within the BSA during surveys, and one active red-tailed hawk (*Buteo jamaicensis*) nest was discovered within the transmission line area of the BSA during survey (see Appendix D: Photo D-1).

Table 2. Special-Status Plant Species Evaluated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/ CNPS Rare Plant Rank	Rationale for Expecting Presence or Absence
Great Basin onion *Allium atrorubens* var. *atrorubens*	Perennial bulb that occurs on rocky or sandy soil in Great Basin scrub or pinyon and juniper woodland. 1,200–2,315 meters.	May–June	--/SCE/2B.3	**Species Absent**: Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
Geyer's milkvetch *Astragalus geyeri* var. *geyeri*	Annual herb that usually occurs in sandy soils in chenopod scrub or Great Basin scrub. 1,160–1,980 meters.	May–August	--/--/2B.2	**Species Present** Species observed and mapped within the substation area of the BSA with 100% visual coverage of the project area.
snake mild vetch *Astragalus iodanthus* var. *diaphanoides*	Perennial herb that occurs in chenopod scrub or Great Basin scrub. Associated with sandy or volcanic soils. 1,200–1,405 meters.	April–June	--/--/4.3	**Species Present** Species observed and mapped within the substation area of the BSA with 100% visual coverage of the project area.
cruciform evening-primrose *Chylismia claviformis* ssp. *cruciformis*	Annual her that occurs in clay soils and chenopod scrub or Great Basin scrub. 600–1,400 meters.	May–July	--/--/2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
spiked larkspur *Delphinium stachydeum*	Perennial herb that occurs in rocky areas of Great Basin scrub or on the edge of upper montane coniferous forest. 1,300–2,600 meters.	June–August	--/--/2B.3	**Species Present:** Species observed and mapped within the transmission line area of the BSA with 100% visual coverage of the project area.
Great Basin downingia *Downingia laeta*	Annual herb that occurs in mesic Great Basin scrub, mesic pinyon and juniper woodland, meadows, seeps, marshes, swamps or vernal pools. 1,220–2,200 meters.	May–July	--/--/2B.2	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
Nelson's evening-primrose *Eremothera minor*	Annual herb that usually occurs on sandy soils in chenopod and Great Basin scrub. 1,200–13,80 meters.	April–July	--/--/2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
Dugway wild buckwheat *Eriogonum nutans* var. *nutans*	Annual herb that occurs in sandy or gravelly soils in chenopod scrub or Great Basin scrub. 1,220–3,000 meters.	May–September	--/--/2B.3	**Species Absent** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
Bailey's ivesia *Ivesia baileyi* var. *baileyi*	Perennial herb that occurs in Great Bain scrub or lower montane coniferous forest. Usually associated with volcanic or rocky soils. 1,340–2,600 meters.	May–Aug	--/--2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
intermontane lupine *Lupinus pusillus* var. *intermontanus*	Annual herb that occurs in Great Basin scrub. Often associated with sandy soils. 1,220–2,060 meters.	May–June	--/--/2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
Susanville beardtongue *Penstemon sudans*	Perennial herb that occurs in Great Basin scrub, lower montane coniferous forest, or pinyon and juniper woodland. Known in California only in the vicinity of Susanville. 1,200–2,425 meters.	June–July	--/--/1B.2	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/ CNPS Rare Plant Rank	Rationale for Expecting Presence or Absence
naked-stemmed phacelia *Phacelia gymnoclada*	Annual herb that occurs in chenopod scrub, Great Basin scrub, or pinyon and juniper woodland. 1,220–2,500 meters.	April–June	--/--/2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
spiny milkwort *Polygala subspinosa*	Perennial herb that occurs in Great Basin scrub or pinyon and juniper woodland. Associated with gravelly or rocky soil. 1,330–1,705 meters.	May–August	--/--/2B.2	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
eel-grass pondweed *Potamogeton zosteriformis*	Aquatic herb that occurs in freshwater marshes and swamps. 0–1,860 meters.	June–July	--/--/2B.2	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
winged dock *Rumex venosus*	Perennial herb that occurs in Great Basin scrub. Associated with sandy soils. 1,200–1,800 meters.	May–June	--/--/2B.3	**Species Present:** Species observed and mapped within the substation area of the BSA with 100% visual coverage of the project area.
cut-leafed checkerbloom *Sidalcea multifida*	Perennial herb that occurs in Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland, meadows, or seeps. 1,750–2,800 meters.	May–September	--/--/2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
currant-leaveddesert mallow *Sphaeralcea grossulariifolia*	Perennial herb that occurs in chenopod scrub or Great Basin scrub. Associated with volcanic soils. 1,200–2,100 meters.	May–June	--/--/2B.3	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.
western seablite *Suaeda occidentalis*	Annual herb that occurs in Great Basin scrub. Associated with alkaline mesic soils. 1,200–1,500 meters.	July–September	--/--/2B.3	**Species Present:** Species observed and mapped within the transmission line area of the BSA primarily along the shoulder of Wendel Road with 100% visual coverage of the project area.
many-flowered thelypodium *Thelypodium milleflorum*	Perennial herb that occurs in chenopod scrub or Great Basin scrub. Associated with sandy soils. 1,220–2,500 meters.	April–June	--/--/2B.2	**Species Absent:** Species not observed during surveys conducted in appropriate blooming period with 100% visual coverage of the project area.

General references: Baldwin et al. (2nd ed.) 2012. All plant descriptions paraphrased from CNPS 2018.

Status Codes:

-- = No status

Federal: **FE** = Federally Endangered; **FT** = Federally Threatened
State: **SE** = State Endangered; **ST** = State Threatened; **SR** = State Rare

California Native Plant Society (CNPS):

Rank 1B = rare, threatened, or endangered in California and elsewhere.
Rank 2 = rare, threatened, or endangered in California, but more common elsewhere.

Threat Code:

.1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 = Fairly endangered in California (20-80% occurrences threatened)
.3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)

Table 3. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/ Other Status	Rationale for Expecting Presence or Absence
Insects			
Carson wandering skipper *Pseudocopaeodes eunus obscurus*	Occurs in areas adjacent to (within 30 meters) saturated soils with both saltgrass and nectar resources, including but not limited to *Cressa spp., Astragalus spp.*, and any species of Asteraceae that may be in flower during the flight period (USFWS 2007, per. comm. D. Murphy). Saltgrass is the larval food plant and is commonly found in the salt bush scrub or greasewood scrub. Below 5,000 feet in California and Nevada.	FE/--/--	**Suitable Conditions Present / Potential to Occur:** Areas with saltgrass and nectar resources adjacent to open water occur within the PIA west of the intersection of Antola Rd and the Union Pacific right-of-way. **CNDDB records of species within or near BSA from 2005.** Species not observed during surveys.
Birds			
tricolored blackbird *Agelaius tricolor*	(Nesting colony) Requires open water, protected nesting substrate such as cattails or tall rushes, and foraging area with insect prey.	MBTA/--/SSC	**Suitable Conditions Present / Potential to Occur:** Suitable open water habitat observed within the BSA. Species not observed during surveys.
golden eagle *Aquila chrysaetos*	(Nesting and nonbreeding/wintering) Occurs in rolling foothills, mountain areas, sage-juniper flats, and desert areas. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	MBTA/FP/--	**Suitable Conditions Absent / No Potential to Occur:** Nesting habitat absent in BSA. Potential for species to use BSA for foraging. Species not observed during surveys.
long-eared owl *Asio otus*	Occurs in desert oasis, riparian thickets, and coniferous forests.	MBTA/--/CSC	**Suitable Conditions Absent / No Potential to Occur:** Nesting habitat absent in BSA. Potential for species to use BSA for foraging. Species not observed during surveys.
burrowing owl *Athene cunicularia*	Occurs in open, dry grasslands, deserts, and scrublands. Subterranean nester, dependent upon burrowing mammals.	MBTA/-- /CSC	**Suitable Conditions Present / Potential to Occur:** Saltgrass flats and scrublands found throughout the BSA. Rodent burrows suitable for nesting found within the BSA during reconnaissance surveys. Species not observed during surveys
prairie falcon *Falco mexicanus*	Occurs in dry, open terrain that is level or hilly and breeds on cliffs.	MBTA/--/WL	**Suitable Conditions Present / Potential to Occur:** Dry, open terrain found throughout the BSA. Species not observed during surveys.
greater sandhill crane *Grus canadensis tabida*	Forages in shortgrass plains, grain fields, and open wetlands. Nests in open habitats with shallow lakes and fresh emergent wetlands.	--/ST/FP	**Suitable Conditions Present / Potential to Occur:** Suitable nesting habitat within the proposed transmission line area of the BSA, including shortgrass plains and open wetlands. Species not observed during surveys
loggerheaded shrike *Lanius ludovicianua*	Predatory passerine that frequents open areas with scattered shrubs. Commonly observed foraging in grassland, desert scrubs, and waste places. Builds nests in isolated trees or shrubs in the vicinity of foraging areas.	--/--/CSC	**Species Present:** Species observed within the proposed substation footprint of the BSA during reconnaissance survey.

Species Name	Habitat and Distribution	Legal Status Federal/State/ Other Status	Rationale for Expecting Presence or Absence
bank swallow *Riparia riparia*	Nests in colonies in vertical banks along streams and reservoirs or sea bluffs. Forages over meadows and water near nesting territory	--/ST/--	**Suitable Conditions Absent / No potential to Occur:** Suitable nesting habitat absent from BSA.
other nesting birds Class Aves	Various habitats (nesting).	MBTA/--/CDFW Code Section 3503	**Suitable Conditions Present:** Suitable foraging and nesting habitat for migratory birds is present within the BSA. One active red-tailed hawk nest was discovered within the BSA in 2017.
Mammals			
Gray wolf *Canis lupus*	Occurs in variety of habitats including forests, tundra, grasslands, and deserts.	FE/SE/--	**Suitable Conditions Present / Species Absent:** As of July 2018, only one pack was known in California. The pack utilizes western Lassen and northernmost Plumas Counties and is not known in the Honey Lake area (CDFW 2018b).
Townsends big-eared bat *Corynorhinus townsendii*	Occurs in a wide variety of habitats; most common in mesic (wet) sites. May use trees for day and night roosts; however, requires caves, mines, rock faces, bridges or buildings for maternity roosts. Maternity roosts are in relatively warm sites.	--/--/SSC	**Suitable Conditions Absent / No potential to Occur:** No roosting suitable roosting habitat within the BSA.
North American wolverine *Gulo gulo luscus*	Found in the North Coast Mountains and Sierra Nevada in a wide variety of high elevation habitats. Needs water source; uses caves, logs, and burrows for cover and den area. Hunts in more open areas; capable of traveling long distances.	PFT/ST/FP	**Suitable Conditions Absent / No potential to Occur:** The BSA does not contain high elevation mountain habitat.
American badger *Taxidea taxus*	Occurs in drier, open stages of shrub, forest, and herbaceous habitats, with friable soils; needs sufficient food and open, uncultivated ground; digs burrows.	--/--/SSC	**Suitable Conditions Present / Potential to Occur:** Open shrub and herbaceous habitat present in the BSA. Species not observed during surveys.

General references: Unless otherwise noted all habitat and distribution data provided by the CNDDB.

Status Codes

--= No status

Federal: FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; CH = Federal Critical Habitat; PCH = Proposed Federal Critical Habitat; MBTA = Protected by Federal Migratory Bird Treaty Act

State: SE = State Endangered; ST = State Threatened;

CDFW: SSC = California Special Concern Species; FP = Fully Protected Species; SA = Not formally listed but included in CDFW "Special Animal" List; WL =Watch List

4 REGULATORY SETTING

4.1 Federal Policies and Regulations

The following federal, state, and local regulations pertain to the project. Depending on the resources impacted, projects may require various authorizations from federal, state, and/or local agencies. These authorizations may be issued in the form of legal permits, agreements, or other forms of environmental review. Any required authorizations would likely include requirements for environmental compliance, which may be enforced through construction monitoring, habitat conservation, environmental documentation, and reporting.

4.1.1 Federal Endangered Species Act of 1973

The FESA provides legislation to protect federally listed plant and animal species. Impacts to listed species resulting from the implementation of a project would require the responsible agency or the applicant to formally consult with the USFWS or National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) to determine the extent of impact to a particular species. If the USFWS or NOAA Fisheries determines that impacts to a federally listed species would likely occur, alternatives and measures to avoid or reduce impacts must be identified. The USFWS and NOAA Fisheries also regulate activities conducted in federal critical habitat, which are geographic units designated as areas that support primary habitat constituent elements for listed species.

4.1.2 Migratory Bird Treaty Act of 1918

The MBTA protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies. On April 11, 2018, the USFWS issued guidance on the recent M-Opinion affecting MBTA implementation. The M-Opinion concludes that the take of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds. The USFWS interprets the M-Opinion to mean the MBTA prohibitions on take apply when the purpose of the action is to take migratory birds, their eggs, or their nests. Working with other federal agencies on migratory bird conservation is an integral mission of the USFWS; therefore, the USFWS maintains that potential impacts to migratory birds resulting from federal actions should be addressed under the National Environmental Policy Act (NEPA). The parcel supports habitat for nesting birds. If proposed ground-disturbing activities were implemented during the nesting bird season, pre-disturbance nesting bird surveys should be conducted to avoid impacts to nesting migratory birds.

4.1.3 Clean Water Act Section 404

The USACE regulatory jurisdiction under Section 404 of the Clean Water Act (CWA) extends to all work in, over, and under waters of the United States that results in a discharge of dredged or fill material within USACE regulatory jurisdiction. Under Section 404, the USACE regulates traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that typically flow year-round or have a continuous flow at least seasonally (typically 3 months), and wetlands that directly abut relatively permanent tributaries. The USACE will determine jurisdiction over waters that are non-navigable tributaries that do not typically flow year-round or have continuous flow at least

seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary, only after making a significant nexus finding.

USACE jurisdiction over non-tidal waters of the United States extends laterally to the ordinary high water mark (OHWM) or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). USACE jurisdiction over non-tidal waters typically extends upstream to the point where the OHWM is no longer perceptible. The OHWM is defined in 33 CFR 328.3 as:

> *that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.*

4.1.4 Clean Water Act Section 401

Section 401 of the CWA functions to ensure that federally permitted activities comply with the federal CWA and other state-mandated water quality laws. Section 401 is implemented through a review process that is conducted by the RWQCB and is typically triggered by the Section 404 permitting process. RWQCB issues a Water Quality Certification via the Section 401 process that a proposed project complies with applicable effluent limitations, water quality standards, and other conditions of state law. Evaluating the effects of the proposed Project on both water quality and quantity (runoff) falls under the jurisdiction of RWQCB. Any activities within the Project area that have the potential to result in a need for a CWA Section 404 permit from USACE would also require a RWQCB Section 401 Water Quality Certification.

4.2 State Policies and Regulations

4.2.1 California Environmental Quality Act

Guidance for determining CEQA significance thresholds is based on the Lead Agency's CEQA Implementation Document and Environmental Checklist, which states that a project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by CWA Section 404 (including marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

4.2.2 Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, "waters of the State" fall under the jurisdiction of the State Water Resource Control Board (SWRCB) and the nine RWQCBs. RWQCBs must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. In most cases, RWQCBs seek to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. Projects that affect wetlands or waters of the State must meet the RWQCB Waste Discharge Requirements (WDRs), which may be issued in addition to, or in lieu of, a water quality certification under Section 401 of the CWA. This jurisdiction includes waters (including wetlands and isolated wetlands) USACE deems to be isolated or non-jurisdictional (see discussion above under Sections 404 and 401 of the CWA). For waters of the State not subject to federal jurisdiction, SWRCB and RWQCB may authorize impacts by issuing a WDR or in some cases, a waiver of WDR.

4.2.3 California Endangered Species Act of 1984

California has a parallel mandate to the FESA, which is embodied in the CESA. CESA ensures legal protection for plants, listed as rare or endangered, and wildlife, listed as threatened or endangered. CDFW regulates activities that may result in the "take" of such species. CESA has a much less inclusive definition of "take" (limited to direct takes such as hunting, shooting, capturing, etc.) that does not include the broad "harm" and "harassment" definitions in federal law.

Any project activities that could result in take of state-listed plant or animal species would require a Section 2081(b) Incidental Take Permit (ITP) from CDFW. This process requires submittal of a sensitive species study and permit application package, and is similar to the FESA Section 10 process, except that CDFW is the regulatory and decision-making agency. Alternatively, the Section 2080.1 Consistency Determination process allows an applicant who has obtained a federal incidental take statement pursuant to a federal Section 7 consultation or a federal Section 10(a) ITP to notify CDFW in writing that the applicant has been issued an incidental take statement or an ITP pursuant to the FESA. The applicant must submit the federal incidental take statement or permit to CDFW for a determination as to whether the federal document is "consistent" with CESA. In most situations, CDFW cannot issue a 2081 ITP for Fully Protected species; therefore, impacts to Fully Protected species must be completely avoided. However, recent legislation (Senate Bill [SB] 618, Amended September 8, 2011) may empower CDFW to authorize incidental take for particular species covered under a state-approved conservation plan. Issuance of ITPs under SB 618 would be evaluated by CDFW on a project basis.

CDFW also maintains a list of California SSC based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, CDFW is empowered to review projects for their potential to affect CESA-listed species and SSC species, and their habitats. In addition, certain plants are listed as rare or endangered by the California Native Plant Protection Act (CNPPA), but have no designated status. CDFW has authority during the CEQA process to review potential constraints on rare plant species and require mitigation to reduce the impact level of significance. Unlisted plant species on the CNPS Rank 1A, 1B, and 2 are typically considered under CEQA.

4.2.4 California Native Plant Protection Act of 1977

The CNPPA was enacted to preserve, protect, and enhance endangered and rare plants in California. It specifically prohibits the importation, take, possession, or sale of any native plant designated by the California Fish and Wildlife Commission as rare or endangered, except under specific circumstances.

Various activities are exempt from CNPPA, although take as a result of these activities may require other authorization from CDFW under the CFGC.

4.2.5 California Fish and Game Code

4.2.5.1 SECTION 1602

Pursuant to CFGC Sections 1600 to 1616, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake. This jurisdiction includes dry washes that carry water ephemerally during storm events. The California Code of Regulations (14 CCR 1.72) defines a stream as:

> *a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.*

The limits of CDFW jurisdiction are defined in the CFGC as:

> *the bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.*

In practice, CDFW usually extends its jurisdictional limit to the top of a stream or lake bank, or outer edge of the riparian vegetation, whichever is wider. CDFW can be expected to take jurisdiction over all areas that have evidence of a cut bank and channel, or evidence of historical flows, to the point where no confining feature is present.

4.2.5.2 OTHER CALIFORNIA FISH AND GAME CODE SECTIONS

CFGC Section 3503 include provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species, such as: (1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to 'take' the species;" and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. CDFW is unable to authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species.

4.3 Regional and Local Policies and Regulations

4.3.1 Lassen County General Plan

The Lassen County General Plan 2000 (County of Lassen 1999) includes the federal, state, and local statutes, ordinances, and policies that govern the conservation of biological resources that must be considered by the County of Lassen during the environmental review process.

5 IMPACT ASSESSMENT AND MITIGATION

5.1 Sufficiency of Biological Data

The biological surveys conducted in support of this BRA were sufficient to inventory the biological resources in the BSA. No additional field surveys or specialized investigation are needed to determine which resources may be impacted by the proposed project and the appropriate avoidance/mitigation measures.

5.2 Thresholds of Significance

Implementation of the proposed project will result in a significant impact on biological resources if it will:

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 CDFW or USFWS;

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

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 resident or migratory species of wildlife or with established native resident or migratory wildlife corridors;

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f. Conflict with the provisions of an adopted federal HCP, NCCP, or other approved local, regional, or state HCP.

5.3 Impacts

The emphasis of this analysis is to identify sensitive biological resources that could be impacted by the proposed project, assuming that impacts would be limited to the Project Impact Area (PIA). The PIA is inclusive of all areas within the BSA with potential permanent and temporary impacts due to project activities, which includes the substation footprint (both the Skedaddle Substation and Shaffer Substation), switch station footprint, transmission line power pole footprint, access roads, and staging areas (see Appendix A).

5.3.1 Project Effect on Candidate, Sensitive, or Special-Status Species or Their Habitats

5.3.1.1 SPECIAL-STATUS PLANT SPECIES

Botanical surveys were conducted throughout the project area using 10-meter parallel transects to ensure even coverage and 100% visibility of the project area during the appropriate blooming period and all special-status plants observed were mapped using a GPS unit capable of submeter accuracy. Special-status plants observed and mapped within the BSA included Geyer's milkvetch, snake milkvetch, spiked

larkspur, winged dock, and western seablite. Geyer's milkvetch was mapped within the PIA within the substation area, snake milkvetch and spiked larkspur were mapped adjacent to the PIA of the proposed paved road, and western seablite was mapped adjacent to the PIA adjacent to the transmission line along Wendel Road. If the occurrences were not properly mapped and identified for avoidance prior to grading activities, the grading could inadvertently extend into the occurrence locations and remove the special-status plant species individuals. In some instances, avoidance of the occurrences may not be feasible, and the development activities will remove the occurrences and the habitat that supports the occurrences. The Avoidance and Mitigation Measures BIO 1, BIO-2, and BIO-5 (see Section 5.4) will ensure that impacts to special-status plant species are less than significant.

5.3.1.2 SPECIAL-STATUS WILDLIFE SPECIES

5.3.1.2.1 Insects

Carson Wandering Skipper

The Carson wandering skipper (CWS) is a small butterfly in the subfamily Hesperiinae (grass skippers) and is federally listed as endangered by the USFWS. During June and July, females lay their eggs on saltgrass, its larval host plant within CWS habitat. As described by USFWS and CWS Biologist Dr. Dennis Murphy, CWS habitat are areas within 30 meters of open water, standing water in the spring, or saturated soils during the skipper flight period, with both saltgrass, the larval hostplant, and nectar resources, including but not limited to *Cressa spp.*, *Astragalus spp.*, and any species of Asteraceae that may be in flower during the CWS flight period (USFWS 2007; per. comm. D. Murphy). The larvae feed on and pupae are located within or directly adjacent to saltgrass until metamorphosizing into adult butterflies. The adult flight season occurs from June through mid-July; during that period CWS feeds on the nectar of a variety of flowering plants at nectar sites (USFWS 2007). Critical habitat has not been designated for this listed subspecies (USFWS 2007). There are four known extant populations, one of which is located near Honey Lake, specifically in the area near Wendel Hot Springs, which is in the vicinity of the PIA, specifically the area of the transmission line just west of Antola Road (USFWS 2007; CNDDB 2018).

Due to the presence of CWS habitat and the documented occurrences of this species in the project vicinity, CWS has the potential to occur within the PIA. CWS habitat areas within the PIA are limited to the area west of the intersection of Antola Road and the Union Pacific right-of-way. This area is within the vicinity of Wendel Hot Springs. Refer to Appendix A for a map of the extent of CWS habitat within the BSA. If CWS larvae, pupae, or adults are present within CWS habitat during the transmission line pole installation and CWS habitat is not avoided during ground-disturbing activities, there is potential for CWS individuals to be injured or killed. The proposed project will avoid impacts to CWS with the implementation of Avoidance and Mitigation Measures BIO-1, BIO-2, and BIO-7.

5.3.1.2.2 Mammals

American Badger

Although evidence of American badger was not identified within the BSA, the presence of this species cannot be ruled out as the species has been documented within 5 miles of the BSA (CNDDB 2018), the species is highly mobile, and suitable habitat is present within the BSA. If American badger individuals are present during ground-disturbing activities, there is potential for an unknown number of American badger individuals to be injured or killed. Impacts to this species would be avoided and minimized through the implementation of Avoidance and Mitigation Measures BIO-1, BIO-2, and BIO-4.

5.3.1.2.3 BIRDS

Burrowing Owl

Protocol surveys for burrowing owl were not conducted as part of this study; however, there are records of this species within 5 miles of the proposed project area (CNDDB 2018), and suitable habitat is present within the project area. Burrowing owl could potentially utilize habitat within the PIA or the surrounding area for burrow nesting and foraging. No sign of this species was observed within the BSA during the various field surveys that were conducted. Due to the migratory nature of this species, there is potential for this species to occur within the PIA, or surrounding habitat, prior to construction. The proposed project may result in impacts to this species, depending upon the proximity of the species to the Project activities. If burrowing owl individuals are present during ground-disturbing activities, there is potential for an unknown number of burrowing owl individuals to be injured or killed or nests to be destroyed. The proposed project will avoid impacts to burrowing owl with the implementation of Avoidance and Mitigation Measures BIO-1, BIO-2, and BIO-3.

Tricolored Blackbird, Loggerhead Shrike, Greater Sandhill Crane, and Prairie Falcon

Protocol surveys for tricolored blackbird, loggerhead shrike, greater sandhill crane, and prairie falcon were not conducted as part of this study. Suitable habitat occurs within the BSA for these species and loggerhead shrike was observed during field surveys. Furthermore, tricolored blackbird, greater sandhill crane, and prairie flacon have been recorded within 5 miles of the BSA. However, no evidence of these species, except for loggerhead shrike, was observed during the various field surveys conducted in support of this study. These species are migratory and may occur in subsequent years prior to construction. If these species are present during project activities, there is potential for an unknown number of individuals to be injured or killed or nests to be destroyed. The proposed project will avoid impacts to tricolored blackbird, loggerhead shrike, greater sandhill crane, and prairie falcon and other migratory nesting birds with the implementation of Avoidance and Mitigation Measures BIO-1, BIO-2, and BIO-3.

5.3.2 Riparian Habitat or Other Sensitive Natural Communities

Based on a query of the CNDDB, no sensitive vegetative communities had been recorded within 5 miles of the proposed project prior to surveys. However, during surveys it was discovered that one sensitive vegetative community, saltgrass flats, is present within the PIA. As currently proposed, the project would have permanent impacts on 13.9 square feet (0.0003 acres) of saltgrass flats and 51.1 square feet (0.0012 acres) of temporary impact of saltgrass flats. Permanent impacts would result from the removal of the habitat for the installation of new power poles. The small amount of habitat to be permanently removed is considered less than significant because the removal will not jeopardize the habitat's existence in the project area. This BRA proposes the implementation of Avoidance and Mitigation Measures BIO-1 through BIO-2 and BIO-5 to minimize the potential impacts to saltgrass flats.

5.3.3 Wetlands or other Jurisdictional Waters

An ARD was conducted on July 15, 2018, for the proposed project, and potential federal and state jurisdictional areas were identified and mapped within the BSA (see Appendices A and D). The ARD determined the following waters of the United States are present within the BSA and are confined to the area of the Union Pacific Railroad right-of-way: three drainage features, totaling 0.15 acre; five wetland features, totaling 0.57 acre; and two non-wetland features, totaling 0.82 acre. Each of the drainage features are considered potentially jurisdictional due to a significant nexus with Honey Lake. Four of the five wetland features also maintain a significant nexus, while one appears to be an isolated intrastate water. The proposed project has been designed to avoid all waters of the United States; therefore, no

waters of the United States will be impacted by project activities. A No Permit Required Letter from the USACE is anticipated for the project (pers. comm. with Matthew Roberts, USACE Sacramento District).

The majority of the survey area between Wendel Road and Fish and Game Road consists of state jurisdictional areas, with the exception of roadways and the former railway embankment (see Appendices A and D). Impacts to waters of the state would be limited to 1). the areas of new pole placement and 2). areas where poles will be removed, either by being cut at ground level and/or being pulled and backfilled with engineering fill. These impacts to waters of the state would consist of approximately 248.1 square feet (0.0057 acres) of permanent impacts and approximately 145 square feet (0.0033 acres) of temporary impacts. Pre-existing access roads will be used to access project disturbance areas that are in potentially jurisdictional areas. Staging areas have been sited to avoid jurisdictional features. Vegetation that is removed as a result of impacts is expected to be re-established naturally.

All work located within the state jurisdictional areas will require permits from RWQCB, including a General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction permit. For general construction activities, the proposed project would be required to comply with a National Pollutant Discharge Elimination System General Construction Permit to discharge stormwater associated with construction activities. Additionally, the project would be required to prepare a stormwater pollution prevention plan (SWPPP) that addresses the quality and quantity of stormwater runoff generated on-site during construction and operation of the project, and incorporates temporary Best Management Practices into the project. Through compliance with existing regulations, the project would result in a less-than-significant impact; no further measures are necessary.

5.3.4 Resident or Migratory Species Corridors

The California Essential Habitat Connectivity Project was queried for Essential Habitat Connectivity, which is the best available data describing important areas for maintaining connectivity between large blocks of land for wildlife corridor purposes (CDFW 2018a). These important areas are referred to as Essential Connectivity Areas (ECA). ECAs are only intended to be a broad-scale representation of areas that provide essential connectivity. The BSA does not fall within an Essential Connectivity Area.

The project area is bordered by undeveloped lands and it is assumed that common wildlife species, such as mule deer (*Odocoileus hemionus*) and coyote (*Canis latrans*), could potentially bed down in the big sagebrush scrub habitat near the substation area and traverse through it to access the wetlands within the transmission line area and the Honey Lake Wildlife Area to the south. The proposed project would construct an 8-foot chain link fence around both the Skedaddle Substation (approximately 2 acres) and the Schaffer Substation (approximately 9 acres), which would preclude the movement of these common wildlife species into the project area. However, the fence would enclose the substations and would not prohibit wildlife species from traveling through the remainder of the project area or from accessing the areas surrounding it. In addition, there are no known migratory fish species in the open water channels of the BSA corridors and the proposed project would not have any impact on the movement of resident fish species. Since the project would preclude wildlife access to the substations but would not prohibit wildlife from traversing through the remainder of the project area, the project would result in a less-than-significant impact to wildlife. No further measures are necessary.

5.3.5 Local Policies or Ordinances

The Lassen County General Plan 2000 (County of Lassen 1999) includes the federal, state, and local statutes, ordinances, and policies that govern the conservation of biological resources that must be

considered by the County of Lassen during the environmental review process. As currently proposed, the Project would not be in conflict with any of these General Provisions. No further measures are necessary.

5.3.6 Adopted Conservation Plans

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approval local, regional, or state habitat conservation plans that would apply to the Project site. No impact would occur.

5.4 Avoidance and Mitigation Measures

BIO-1: Prior to ground-disturbing activities, a qualified biologist, approved by LMUD, shall be retained to act as an environmental monitor for all measures requiring environmental mitigation to ensure compliance with the Project's required mitigation measures. The qualified biologist shall be responsible for: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) establishing lines of communication with LMUD and their contractors; (3) conducting biological surveys prior to disturbance of vegetation; (4) coordinating with LMUD and their contractors to avoid potential CWS habitat areas, as determined by the qualified biologist; (5) conducting weekly compliance monitoring; (6) conducting construction crew training regarding environmentally sensitive areas; (7) maintaining authority to stop work if a sensitive resource could be impacted by the work; and (8) outlining actions to be taken in the event of non-compliance.

BIO-2: Prior to ground-disturbing activities, the qualified biologist shall conduct an environmental awareness training for all construction personnel. The environmental awareness training shall include discussions of special-status plant species, CWS, American badger, and nesting birds. Topics of discussion shall include: description of the species' habitats; general provisions and protections afforded by FESA, CESA and CEQA; measures implemented to protect special-status species; review of the project boundaries and conditions; the qualified biologist's role in Project activities; lines of communication; and procedures to be implemented in the event a special-status species is observed in the work area.

BIO-3: Prior to any vegetation removal for the Project that occurs during the nesting season (February 15 to September 15), the qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction to determine presence/absence of nesting birds within the disturbance area. If active nests are observed, work activities will be avoided within 100 feet of active passerine nests and 300 feet of active raptor nests until young birds have fledged and left the nest. The nests shall be monitored weekly by a qualified biologist with expertise on nesting birds. The buffer may be reduced if deemed appropriate by the qualified biologist. If any federally or state-listed bird species or California fully protected bird species are observed nesting in or near the BSA, the qualified biologist shall coordinate with LMUD, the USFWS and/or CDFW before any disturbances occur within 500 feet of the nest. Readily visible exclusion zones will be established in areas where nests must be avoided. The LMUD will be contacted if any federally or state-listed bird species are observed during surveys. Bird nests, eggs, or young covered by the MBTA and CFGC will not be moved or disturbed until the end of the nesting season or until young fledge, nor will adult birds be killed, injured, or harassed at any time. Pursuant to CFGC Section 3503.5, nests of raptors (e.g., owls, hawks, falcons, eagles) shall not be removed prior to coordination with and approval from the CDFW.

If a nest of any special-status avian species, such as loggerhead shrike, greater sandhill crane, tricolored blackbird, or burrowing owl (wintering or nesting burrow), is identified, all Project-related activities will cease within 500 feet of the active nest/burrow until LMUD and the qualified biologist have coordinated

with the USFWS and CDFW to determine an appropriate monitoring plan for working in the vicinity of the nest/burrow.

BIO-4: Prior to ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for American badger dens. The badger survey should be conducted no more than 2 weeks prior to construction. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three days and three nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

BIO-5: All grading plans shall clearly show the location of sensitive vegetative communities (saltgrass flats). To the extent possible, project activities shall avoid impacts to saltgrass flats. Project site access and vehicle staging shall be limited to the existing roads, to the greatest extent possible.

BIO-6: All grading plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are removed and establish the final impact quantities.

If the special-status plant species cannot be avoided, the following measures shall be implemented:

a. If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program.
b. If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion.
c. If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. LMUD shall ensure that supplemental irrigation is applied to the salvaged plantings as needed for two years following installation of the plantings.
d. All special-status plant species seed collection, salvage, planting, and maintenance shall be conducted by a qualified biologist with documented experience conducting special-status plant species mitigation activities. The qualified biologist shall monitor the success of the salvaged plantings and/or seeded areas for two years following distribution of the seed and/or planting of the salvaged plants. To be determined successful, germination, flowering, and seeding of the applied seed shall be observed in at least one of the two monitoring years. For the perennial plant salvage efforts to be considered successful, at least 75 percent of the salvaged plantings must be

surviving at the end of the two-year monitoring program. If the seeding and/or salvage efforts are determined to be unsuccessful, LMUD shall coordinate with the qualified biologist to plan and implement supplemental mitigation activities, which may include, but not be limited to, propagating and out-planting one-gallon container plants of the effected species and maintaining and monitoring the plantings for an additional two years, as described above.

BIO-7: The project shall be implemented while avoiding impacts to the CWS. The following measures shall be implemented to avoid any impacts to the CWS:

a. The LMUD shall retain a qualified CWS biologist with documented experience surveying for and identifying CWS in all life stages. Preferably, the qualified CWS biologist will be in possession of a valid FESA 10(a)(1)(A) permit for CWS. The qualified CWS biologist shall conduct full-time survey and monitoring efforts during all Project activities that will occur in areas that support CWS habitat. Appendix 3.4-1 – the BRA – includes a map of the extent of CWS habitat within the BSA. The goal of the qualified CWS biologist is to facilitate the avoidance and minimization of impacts to potential CWS habitat.
b. Project plans shall clearly identify all areas that support potential CWS habitat and shall include notes alerting the contractors that biological monitoring is required in these areas. Work in these areas may not proceed until the qualified CWS biologist has surveyed the area and verified the absence of CWS in the disturbance area.
c. From June 1 through July 15, during the CWS adult flight season and nectaring period, no ground disturbing activities shall occur within potential CWS habitat areas to avoid impacts to CWS individuals.
d. To the extent possible, Project activities shall avoid impacts to CWS habitat, as directed by the qualified CWS biologist. Project site access and vehicle staging shall be limited to the existing roads within CWS habitat areas, unless the qualified CWS biologist determines that the Project activities would not impact CWS.
e. If disturbances to areas with CWS habitat cannot be avoided, the qualified CWS biologist shall survey those CWS habitat areas prior to any physical disturbances. The intent of the survey effort is to determine if CWS are present in the disturbance area(s). If adult CWS are observed in the work areas, the occurrence(s) shall be marked with pin flags and a minimum 30-meter no-disturbance buffer around occurrences shall be implemented. The buffer area shall be clearly flagged in the field. If the qualified CWS biologist determines it necessary, the buffer area may be delineated in the field with temporary fencing. In coordination with LMUD and their contractors, the qualified CWS biologist may survey alternate access routes and staging areas to identify work areas that do not support CWS or CWS habitat. Disturbances to the ground surface within established CWS buffer areas shall be prohibited.
f. If the qualified CWS biologist determines that take of CWS has occurred or that Project goals cannot be achieved without take of CWS, all activities in CWS habitat shall be delayed until coordination with the USFWS can be completed and additional measures to avoid CWS are identified or an ITP for the CWS is obtained.
g. Within 30 days of Project completion, the qualified CWS biologist shall submit a report that documents how each of these measures was implemented and if take of CWS occurred.

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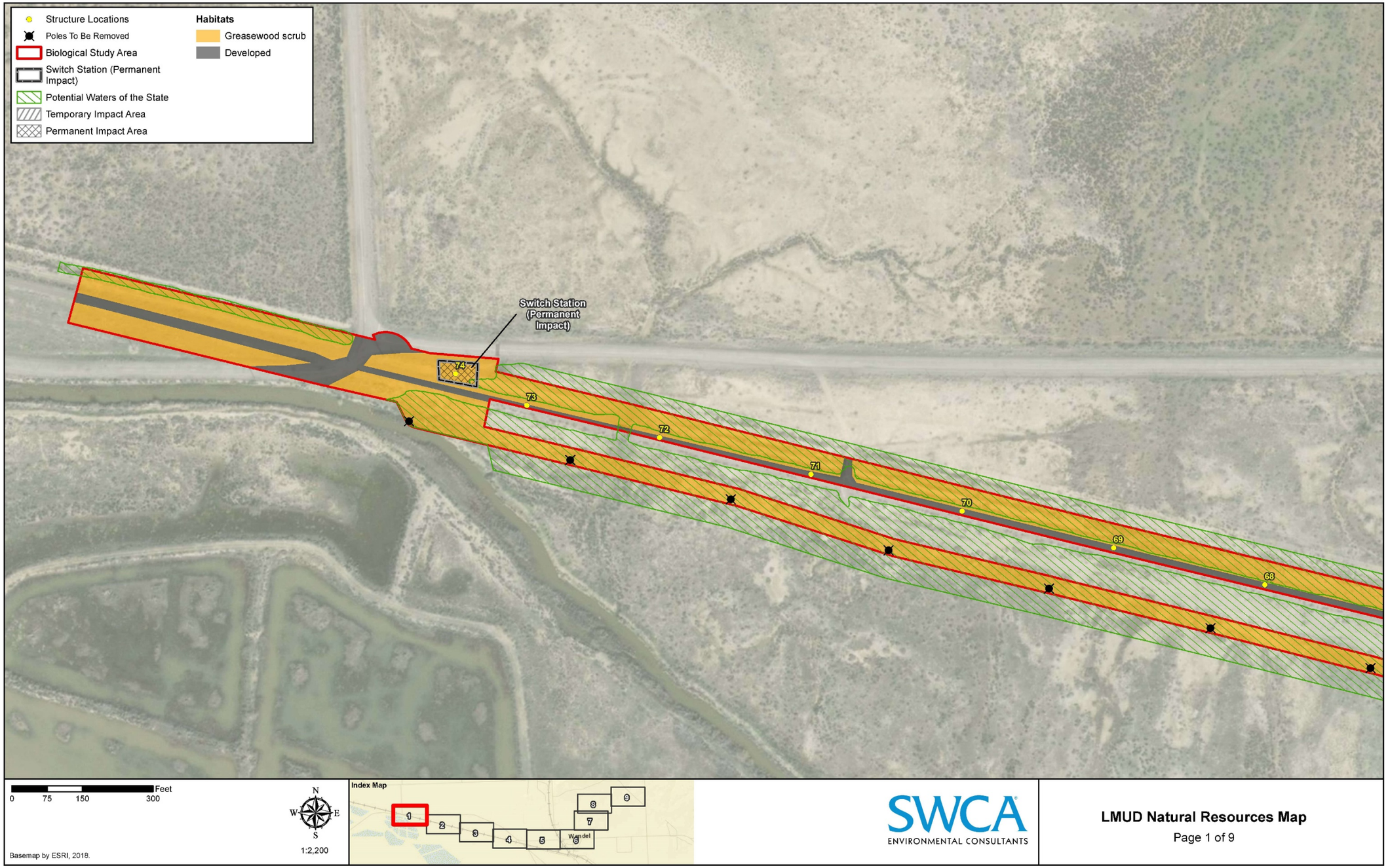
APPENDIX A

Maps of Project Elements, Habitats, Special-Status Species, and Jurisdictional Features



SWCA ENVIRONMENTAL CONSULTANTS

LMUD Natural Resources Map

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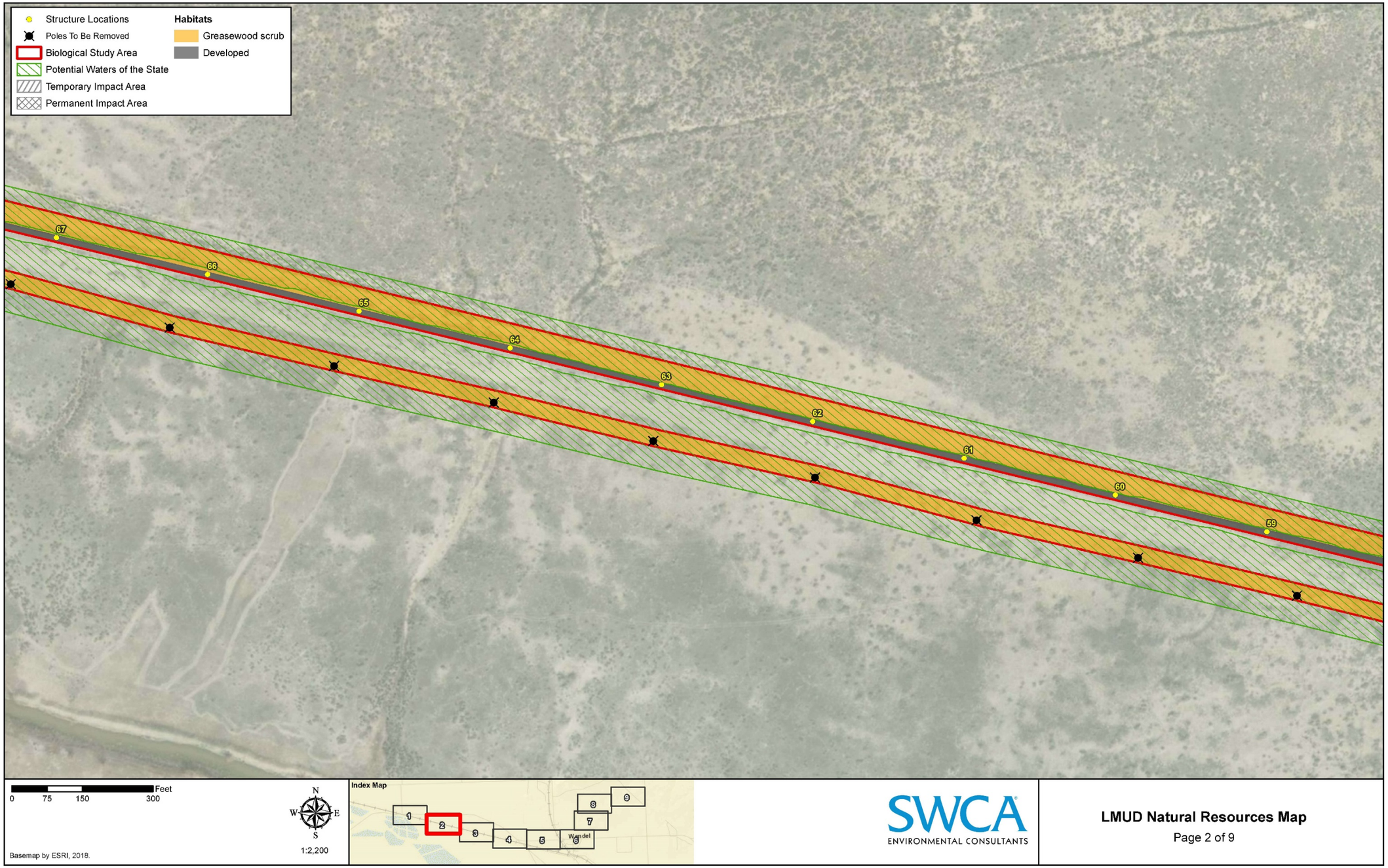
Structure Locations
Poles To Be Removed
Biological Study Area
Potential Waters of the State
Temporary Impact Area
Permanent Impact Area
Habitats
Greasewood scrub
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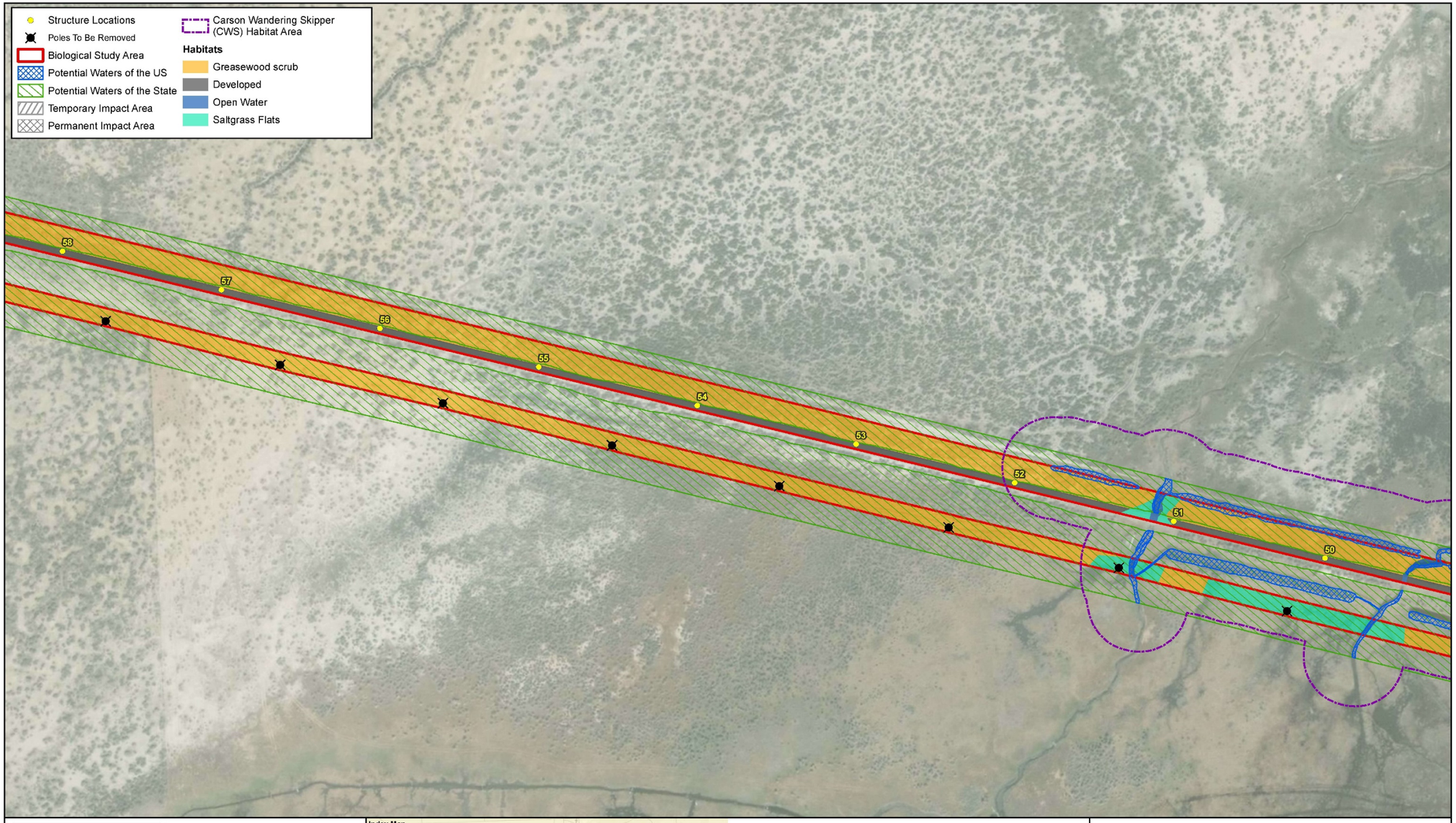
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Temporary Impact Area
Permanent Impact Area
Carson Wandering Skipper (CWS) Habitat Area
Habitats
Greasewood scrub
Developed
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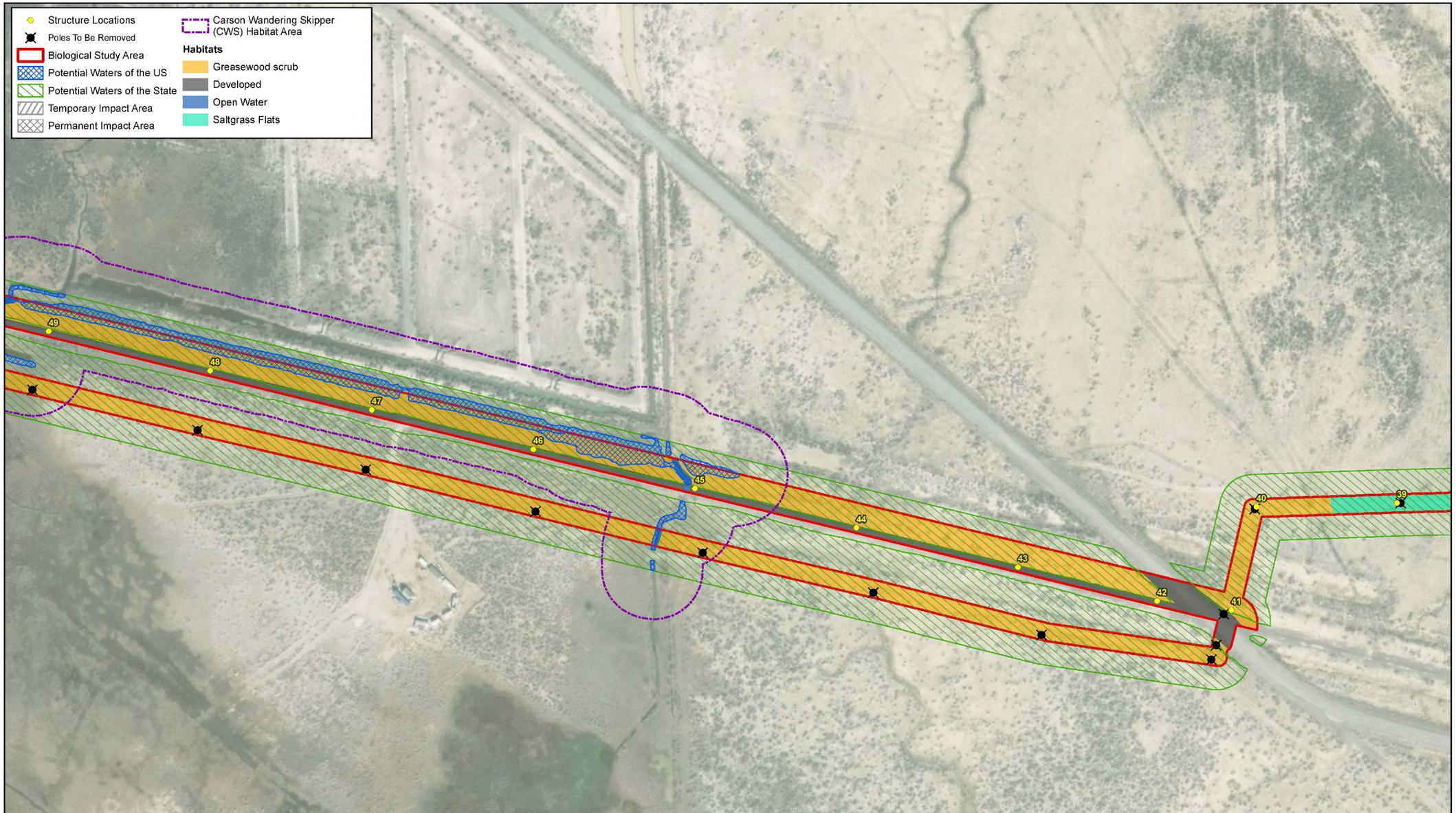
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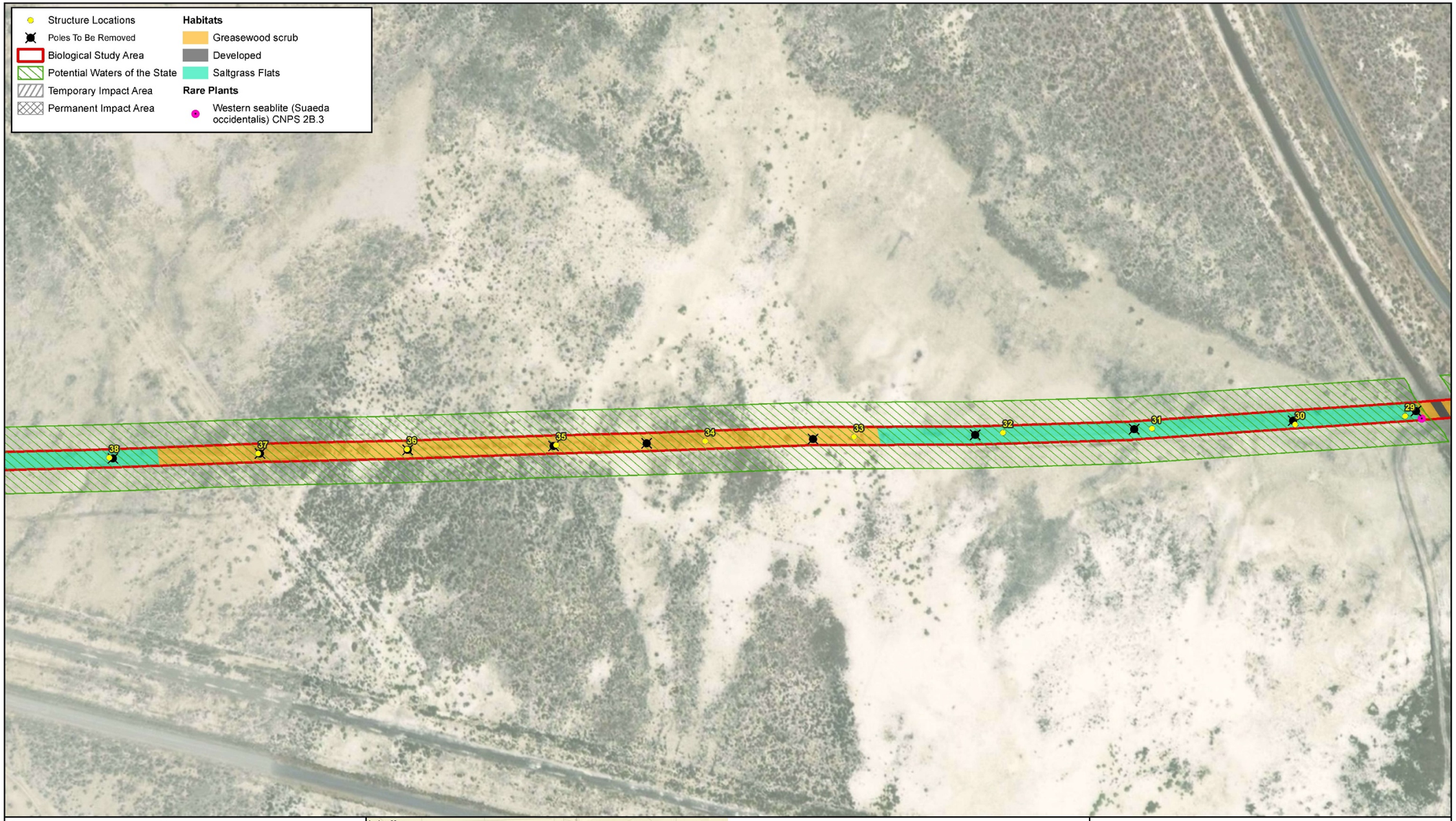

SWCA ENVIRONMENTAL CONSULTANTS

LMUD Natural Resources Map

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SWCA ENVIRONMENTAL CONSULTANTS

LMUD Natural Resources Map

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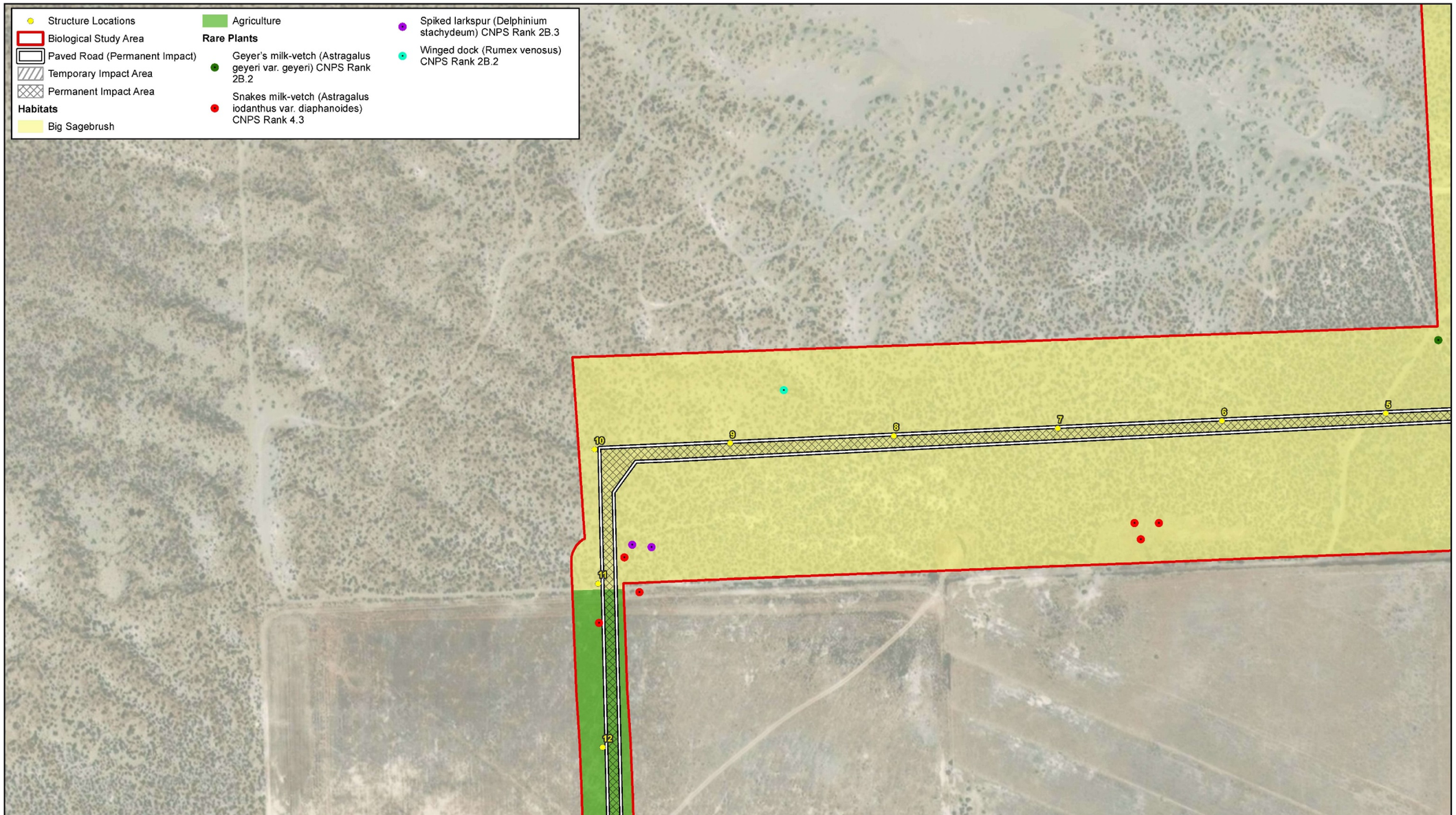

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LMUD Natural Resources Map

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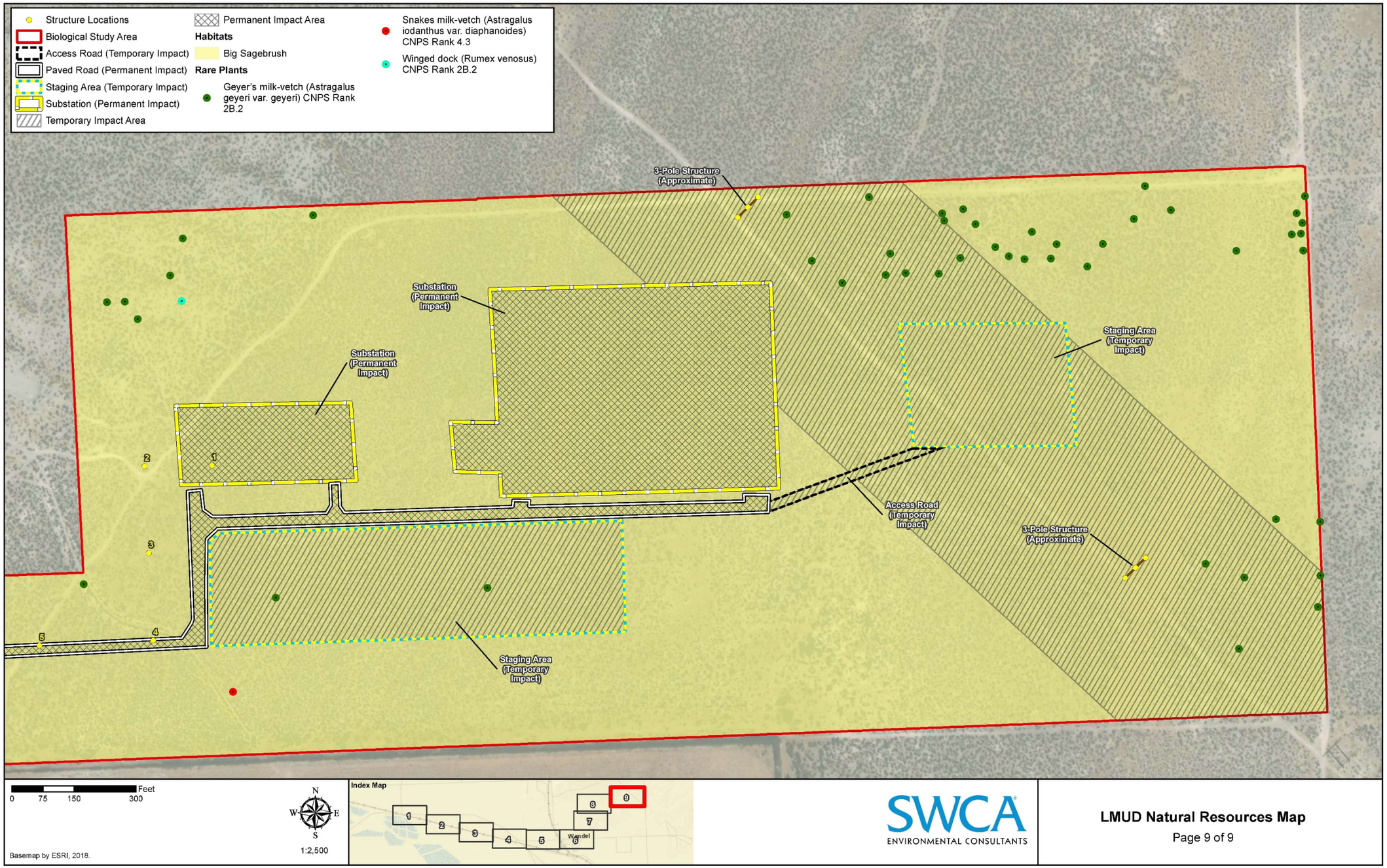

SWCA ENVIRONMENTAL CONSULTANTS

LMUD Natural Resources Map

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APPENDIX B

CNDDB Special-Status Species Lists and Occurrences Maps

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Shaffer Mtn. (4012043) OR Little Mud Flat (4012042) OR Wendel (4012032) OR Wendel Hot Springs (4012033))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Allium atrorubens var. atrorubens Great Basin onion	PMLIL02061	None	None	G4T4	S2	2B.3
Antigone canadensis tabida greater sandhill crane	ABNMK01014	None	Threatened	G5T4	S2	FP
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Asio otus long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
Astragalus geyeri var. geyeri Geyer's milk-vetch	PDFAB0F3M1	None	None	G4T4	S2	2B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex gardneri var. falcata falcate saltbush	PDCHE040J0	None	None	G4T4Q	S2S3	2B.2
Bombus morrisoni Morrison bumble bee	IIHYM24460	None	None	G4G5	S1S2	
Canis lupus gray wolf	AMAJA01030	Endangered	Endangered	G4	S1	
Chylismia claviformis ssp. cruciformis cruciform evening-primrose	PDONA030D4	None	None	G5T4	S2	2B.3
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Downingia laeta Great Basin downingia	PDCAM06080	None	None	G5	S3	2B.2
Eremothera minor Nelson's evening-primrose	PDONA03110	None	None	G4	S1S2	2B.3
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eriogonum nutans var. nutans Dugway wild buckwheat	PDPGN084B2	None	None	G5T3T4	S2?	2B.3
Eriogonum ochrocephalum var. ochrocephalum ochre-flowered buckwheat	PDPGN084C6	None	None	G5T2T3	S2	2B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Ivesia baileyi var. baileyi Bailey's ivesia	PDROS0X031	None	None	G5T4	S2	2B.3

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Report Printed on Thursday, April 18, 2019

Information Expires 9/30/2019

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Larus californicus California gull	ABNNM03110	None	None	G5	S4	WL
Lomatium ravenii var. paiutense Paiute lomatium	PDAPI1B1L1	None	None	G4T4	S2?	2B.3
Lupinus pusillus var. intermontanus intermontane lupine	PDFAB2B3B1	None	None	G5T5?	S2	2B.3
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Orobanche ludoviciana var. arenosa Suksdorf's broom-rape	PDORO04073	None	None	G5T5	S2	2B.3
Penstemon sudans Susanville beardtongue	PDSCR1L620	None	None	G3	S3	1B.2
Phacelia gymnoclada naked-stemmed phacelia	PDHYD0C1X0	None	None	G4	S2	2B.3
Phacelia inundata playa phacelia	PDHYD0C2E0	None	None	G2	S2	1B.3
Polyctenium williamsiae Williams' combleaf	PDBRA23030	None	None	G2Q	S1	1B.2
Polygala subspinosa spiny milkwort	PDPGL021Q0	None	None	G4?	S3	2B.2
Potamogeton zosteriformis eel-grass pondweed	PMPOT03160	None	None	G5	S3	2B.2
Pseudocopaeodes eunus obscurus Carson wandering skipper	IILEP63014	Endangered	None	G3G4T1	S1	
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Rumex venosus winged dock	PDPGN0P1K0	None	None	G5?	S3	2B.3
Sidalcea multifida cut-leaf checkerbloom	PDMAL110G0	None	None	G3	S2	2B.3
Sphaeralcea grossulariifolia currant-leaved desert mallow	PDMAL14090	None	None	G4G5	S2	2B.3
Stanleya viridiflora green-flowered prince's plume	PDBRA2E060	None	None	G4	S2	2B.3
Suaeda occidentalis western seablite	PDCHE0P080	None	None	G5	S2	2B.3
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thelypodium milleflorum many-flowered thelypodium	PDBRA2N0A0	None	None	G5	S3?	2B.2

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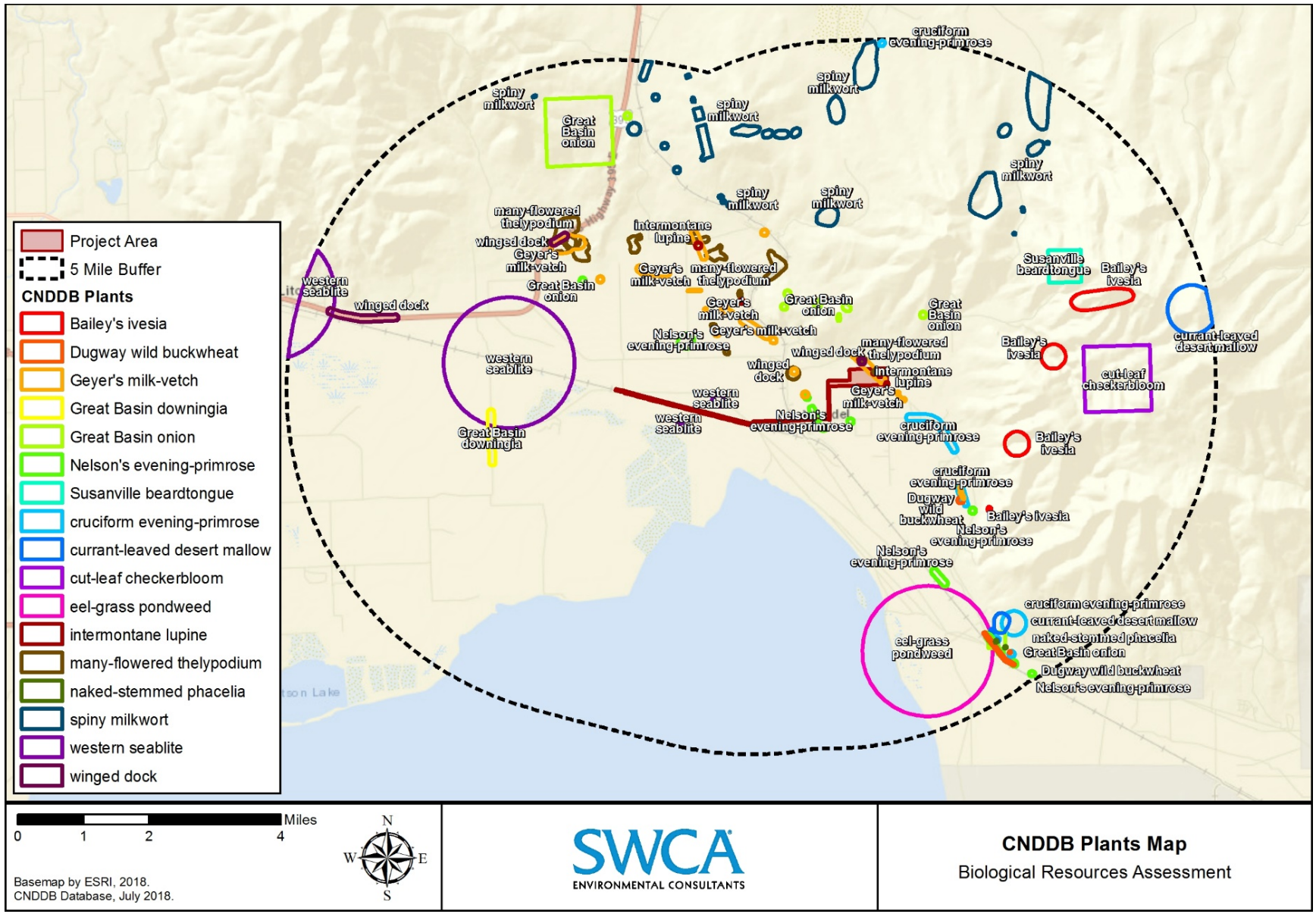

Figure B-1. CNDDB plant occurrences map.

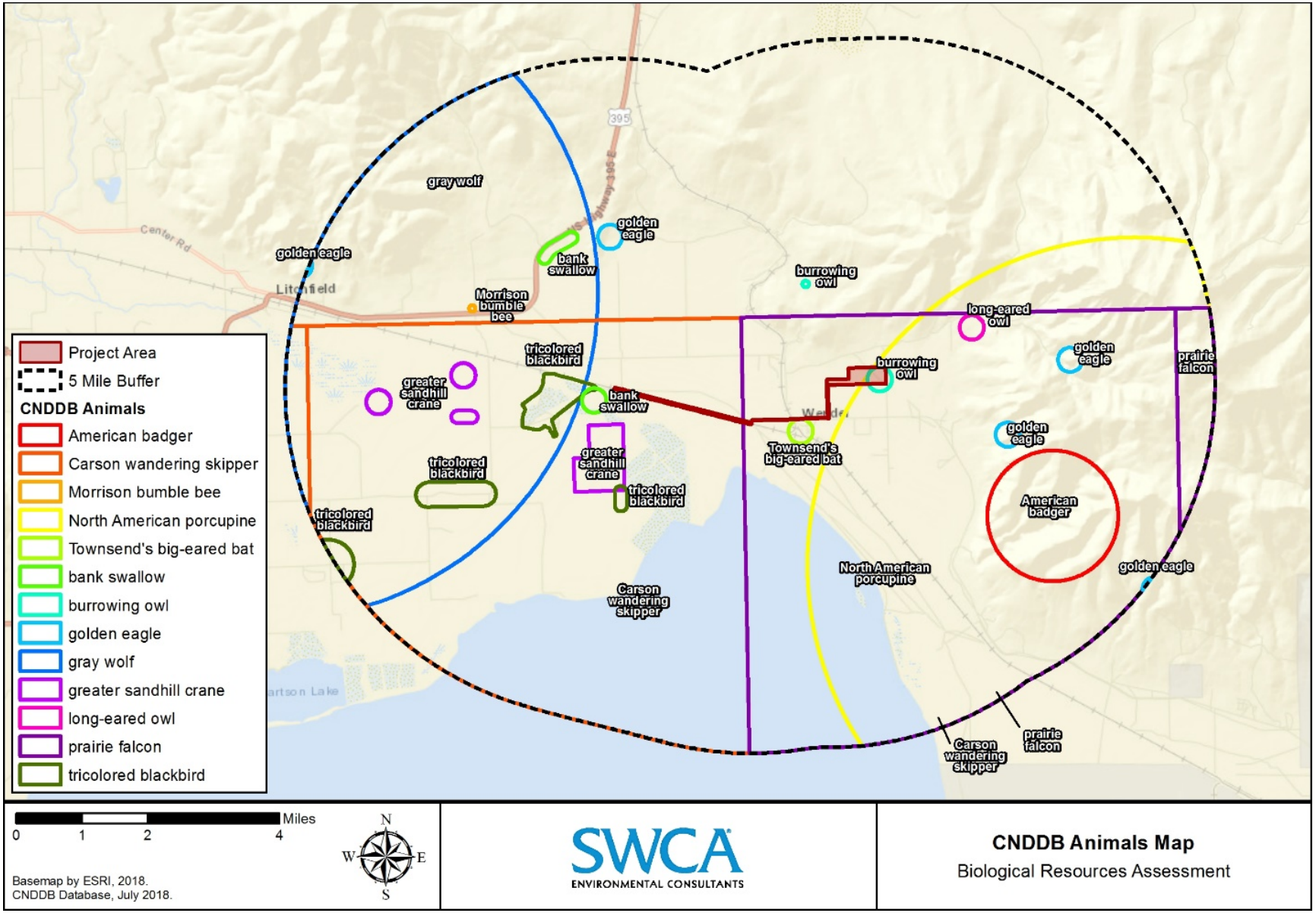

Figure B-2. CNDDB animal occurrences map.

APPENDIX C

Plant and Animal Species Observed On-Site

Table C-1. Plant Species Observed On-Site

Scientific Name	Common Name	CNPS Status
Achnatherum hymenoides	Indian ricegrass	
Agropyron cristatum	crested wheatgrass	
Amsinckia tessellata	bristly fiddleneck	
Artemisia cana	silver sagebrush	
Artemisia tridentata	big sagebrush	
Astragalus iodanthus var. *diaphanoides*	snake milkvetch	4.3
Astragalus lentiginosus	freckled milkvetch	
Astragalus geyeri var. *geyeri*	milkvetch	2B.2
Atriplex canescens	four-winged saltbush	
Atriplex sp. (annual)	goosefoot	
Bassia hyssopifolia	fivehorn smotherweed	
Bassia scoparia	burningbush	
Bromus tectorum	cheatgrass	
Chrysothamnus viscidiflorus	yellow rabbitbrush	
Commandra umbellatum	bastard toadflax	
Delphinium stachydeum	spiked larkspur	2B.3
Descurainia pinnata	western tansymustard	
Distichlis spicata	saltgrass	
Elaeagnus angustifolia	Russian olive	
Elymus elymoides	squirreltail	
Ericameria nauseosus	rubber rabbitbrush	
Erodium cicutarium	redstem stork's bill	
Grayia spinosa	spiny hopsage	
Lepidium latifolium	tall whitetop	
Lepidium perfoliatum	clasping pepperweed	
Melilotus sp.	sweet ckiver	
Oenothera deltoides	birdcage evening primrose	
Picrothamnus desertorum	bud sagebrush	
Polygonum sp.	knotweed	
Polypogon monspeliensis	annual rabbitsfoot grass	
Ranunculus testiculatus	curveseed butterwort	
Rumex venosus	veiny dock	2B.2
Salsola tragus	prickly Russian thistle	
Sarcobatus vermiculatus	Greasewood	
Sisymbrium altissimum	tall tumblemustard	
Stephanomeria exigua	small wirelettuce	
Suaeda nigra	Mojave seablite	
Suaeda occidentalis	western seablite	2B.3

Scientific Name	Common Name	CNPS Status
Tetradymia spinosa	shortspine horsebrush	
Tetradymia tetrameres	fourpart horsebrush	
Tiquilia nuttallii	Nuttall's crinklemat	

Table B- 1. Wildlife Species Observed On-Site

Common Name	Scientific Name	Status
Birds		
Agelaius phoeniceus	red-winged blackbird	
Artemisiospiza nevadensis	sagebrush sparrow	
Buteo jamaicensis	red-tailed hawk (nesting)	
Charadrius vociferus	killdeer	
Lanius ludovicianus	loggerhead shrike	CDFW bird species of special concern
Oreoscoptes montanus	sage thrasher	
Sturnella neglecta	western meadowlark	
Tyrannus verticalis	western kingbird	
Reptiles		
Aspidoscelis uniparens	desert whiptail	
Gambelia wislizenii	long-nosed leopard lizard	
Phrynosoma platyrhinos platyrhinos	northern desert horned lizard	
Mammals		
Lepus californicus	black-tailed jackrabbit	
Dipodomys sp.	kangaroo rat	

APPENDIX D

Photo Documentation

Photo D-1. View of the red-tailed hawk nest found within the transmission line section of the BSA. Note the nest was built on a pre-existing power pole. Photo taken August 16, 2017.

Photo D-2. View of saltgrass flats habitat within the transmission line area of the BSA. Note the pre-existing dirt road and pre-existing transmission line. Photo taken August 16, 2017.

Photo D-3. View of big sagebrush scrub habitat within the substation area of the BSA. Photo taken August 16, 2017.

Photo D-4. View of actively managed open water channels within the transmission line section of the BSA facing northeast. Note the photo is taken from the old railroad embankment visible in the foreground. Photo taken May 15, 2018.

Photo D-5. View of greasewood scrub vegetation and developed old raised railroad embankment (left side of photo) within the transmission line section of the BSA. Note the pre-existing transmission line (right side of photo). Photo taken May 15, 2018.

Photo D-6. View of fallow agricultural field within the transmission line section of the BSA facing north. Note the highly disturbed bare ground (foreground) and weedy vegetation (background). Photo taken from the shoulder of Wendel Road on May 15, 2018.

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APPENDIX E

Botanical Survey and Aquatic Resources Delineation Reports