PROPONENT'S ENVIRONMENTAL ASSESSMENT
SUNCREST DYNAMIC REACTIVE POWER SUPPORT PROJECT

Application No. 15-xx-xxx

Prepared for

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ABBREVIATIONS

3D	three-dimensional
A70	Agricultural Use – Limited Agricultural Use Regulations
A72	Agricultural Use – General Agricultural Use Regulations
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
AMR	American Medical Response
AOU	American Ornithologists' Union
APM	Applicant Proposed Measure
APN	Assessor's Parcel Number
ASCR	Aluminum Conductor Steel Reinforced
ASTM	American Society for Testing and Materials
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
bgs	below ground surface
BLM	Bureau of Land Management
BMO	Biological Mitigation Ordinance
BMP	best management practice
B.P.	Before Present
Caltrans	California Department of Transportation
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CAISO	California Independent System Operator
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CDOC	California Department of Conservation
CEC	California Energy Commission
CEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act

CFR	Code of Federal Regulations
CGC	California Government Code
CGP	General Permit for Stormwater Discharge Associated with Construction Activities
CGS	California Geologic Survey
CH_4	methane
CHRIS	California Historical Resources Information System
CIAP	California Indian Assistance Program
cm	centimeter
CMM	Corte Madera Monzogranite
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNF	Cleveland National Forest
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
COSE	Conservation and Open Space Element
County Fire Authority	San Diego County Fire Authority
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Ranking
CWA	Clean Water Act
cy(s)	cubic yard(s)
DAI	Developed Area Interface
dBA	A-weighted decibels
DEH	Department of Environmental Health
DSEIR	Draft Supplemental Environment Impact Report
DEM	Digital Elevation Model
DOT	U.S. Department of Transportation
DPR	California Department of Parks and Recreation
DSEIR	Draft Supplemental EIR
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EDR	Environmental Data Resources, Inc.
EMS	Energy Management System
ESA	Endangered Species Act
ESA	Environmental Site Assessment
EPA	Environmental Protection Agency

°F	Fahrenheit
FAA	Federal Aviation Administration
FCI	Forest Conservation Initiative
FEMA	Federal Emergency Management Act
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gas
GIS	Geographic Information System
gpd	gallons per day
GPS	Global Positioning System
H_2S	hydrogen sulfide
HAP	hazardous air pollutants
HMBP	Hazardous Material Business Plan
HMMP	Habitat Mitigation and Monitoring Plan
HMWMP	Hazardous Materials and Waste Management Plan
HUD	U.S. Department of Housing and Urban Development
HWCL	Hazardous Waste Control Law
I-8	Interstate 8
ICCP	Inter-Control Center Communications Protocol
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
KOP	Key Observation Points
kV	kilovolt
LCFS	Low Carbon Fuel Standard
Ldn	Day-night average sound level
Leq	energy equivalent sound level
Lmax	maximum noise level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MHPA	Multi-Habitat Planning Areas
MLD	most likely descendant
MM	Modified Mercalli
mph	miles per hour
MT	metric ton(s)
Mvar	megavar = megavolt amperes-reactive

MS4	municipal separate storm drain systems
MSCP	Multiple Species Conservation Program
MSL	mean sea level
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NED	National Elevation Dataset
NEET West	NextEra Energy Transmission, West LLC
NEHRPA	National Earthquake Hazards Reduction Program Act
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NIFC	National Interagency Fire Center
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	National Park Service
NSLU	Noise Sensitive Land Use
O_3	ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OHWM	ordinary high water mark
OPGW	optical ground wire
OPR	California Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PDMWD	Padre Dam Municipal Water District
PEA	Proponent's Environmental Assessment
PHSA	Probabilistic Seismic Hazard Assessment
PM	particulate matter

$PM_{2.5}$	particulate matter 2.5 microns in diameter
PM_{10}	particulate matter equal to or less than 10 microns in diameter
PRB	Peninsular Ranges Batholith
PRC	(California) Public Resources Code
Proposed Project	Proposed Suncrest Dynamic Reactive Power (Static VAr Compensator) Support Project
PVC	polyvinyl chloride
PVM	Pine Valley Monzogranite
RAQS	Regional Air Quality Strategy
RCA	Resource Conservation Area
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
REM	recognized environmental conditions
RHNA	Regional Housing Needs Assessment
ROW	right-of-way
RPD	San Diego County Rural Fire Protection District
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SDAPCD	San Diego Air Pollution Control District
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
SDNHM	San Diego Natural History Museum
SDRWQCB	San Diego Regional Water Quality Control Board
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLT	screening-level threshold
SMARA	Surface Mining and Reclamation Act of 1975
SMS	Scenery Management System
SO_2	sulfur dioxide
SONGS	San Onofre Nuclear Generating Station
SSC	Species of Special Concern
STATCOM	Static Synchronous Compensator
Sunrise Powerlink	Sunrise Powerlink Transmission Project
SVC	Static Var Compensator
SVP	Society of Vertebrate Paleontology
SWRCB	State Water Resources Control Board

SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminants
TDS	total dissolved solids
TMDL	Total Maximum Daily Load
TPP	Transmission Planning Process
TSP	tubular steel mono-pole structure
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Var	volt amperes-reactive
VOC	volatile organic compound
WEAP	Worker Environmental Awareness Program
WECC	Western Electricity Coordinating Council
WLA	Wilson Laydown Area
WPO	Watershed Protection, Storm Water Management, and Discharge Control Ordinance
WQIP	Water Quality Improvement Plans
WRCC	Western Regional Climate Center

1.0. PEA SUMMARY

1.1. INTRODUCTION

In its 2013–2014 planning cycle, the California Independent System Operator (CAISO) evaluated upgrades needed to successfully meet California's policy goals, in addition to examining conventional grid reliability requirements and projects that can bring economic benefits to consumers. The primary policy goal evaluated by the CAISO was California's Renewable Portfolio Standard (RPS) that calls for 33 percent of the electric retail sales in the state by 2020 to be provided from eligible renewable resources. The CAISO's analysis, conducted through an open and stakeholder-inclusive planning process, led to the identification of the need for the Proposed Project as part of a comprehensive solution (relying in part on other upgrades already identified to meet reliability needs notwithstanding state policy objectives) to mitigate post-contingency voltage control issues in the Suncrest area.

Beyond the need for the Proposed Project to support the development of renewable generation in keeping with state policy, NEET West also understands that the Proposed Project has additional reliability benefits. The 2013-2014 Transmission Plan identified a number of upgrades to the transmission system necessary to accommodate future retirement of coastal gas fired generation utilizing once-through cooling and the early retirement of the San Onofre Nuclear Generating Station (SONGS). These upgrades included, in addition to other transmission facilities, additional dynamic reactive support in the vicinity of SONGS (now being split between SONGS and Southern California Edison Company's Santiago substation) and at San Luis Rey as well as additional dynamic reactive support approved in the 2012-2013 plan for SDG&E's Talega substation. The Proposed Project provides this additional reactive support beyond meeting those localized needs. However, the Proposed Project additionally provides some level of backstop reliability benefit in the event those other projects do not proceed on schedule.

In response to the CAISO's identified policy-driven need for additional voltage support in the San Diego and Los Angeles areas, and to improve overall system reliability, in April of 2014, the CAISO solicited bids to provide +300/-100 megavars (Mvar) of reactive support at the SDG&E Suncrest Substation. NextEra Energy Transmission West, LLC (NEET West) submitted a Project Sponsor Application to the CAISO in June 2014, and, in January 2015, the CAISO selected NEET West as the approved Project Sponsor to finance, own, construct, operate, and maintain the project. NEET West is therefore proposing to construct the Suncrest Dynamic Reactive Power Support Project (Proposed Project), which will consist of a Static Var Compensator (SVC) facility and an approximately 1-mile, 230 kilovolt (kV) single-circuit underground transmission line. This Proponent's Environmental Assessment (PEA) has been prepared by NEET West as required by the California Public Utilities Commission's (CPUC) General Order 131-D. The intent of the PEA is to provide information on the environmental impact of the Proposed Project in accordance with the provisions of the California Environmental Quality Act (CEQA) and the CPUC's Rules of Practice and Procedure. This document is intended to support NEET West's application for a Certificate of Public Convenience and Necessity (CPCN) for the Proposed Project.

1.2. PROJECT COMPONENTS

The Proposed Project involves two primary components: the SVC facility and the 230 kV single circuit underground transmission line (underground transmission line). The proposed SVC is an approximately 112,000-square-foot facility that would produce and consume reactive power and interconnect with the 230 kV bus of the existing San Diego Gas and Electric Company (SDG&E) Suncrest Substation through the proposed underground transmission line, which is approximately 1 mile in length. The proposed transmission line will be installed underground within PVC conduits in a concrete-encased duct bank system beneath an existing paved, private road known as Bell Bluff Truck Trail. At the western terminus of the approximately 1-mile-long underground transmission line, the conductors would surface at a riser pole structure where they would transition to a 300-foot-long overhead transmission line span and terminate into the existing Suncrest Substation's 230 kV bus.

1.3. PROJECT LOCATION

The Proposed Project would connect to the existing electric transmission network at the Suncrest Substation 230 kV bus, which SDG&E built as part of the Sunrise Powerlink Transmission Project (Sunrise Powerlink) in 2012. The Proposed Project is located in the south central portion of San Diego County, approximately 33 miles east of the Pacific Coast, in an unincorporated area approximately 3.78 miles southwest of the community of Descanso, and approximately 3.36 miles southeast of the community of Alpine. The city of El Cajon is situated approximately 13.36 miles to the west. Interstate 8 (I-8) is located approximately 1.75 miles to the north, and Japatul Valley Road (State Highway 79) is located approximately 1.66 miles to the east. The Proposed Project is proposed to be located on privately owned land in close proximity to the U.S. Forest Service (USFS) Cleveland National Forest (CNF). The location of the Proposed Project is depicted in Figure 3-1, Project Vicinity Map.

The Proposed Project area currently consists of a mixture of developed lands, historically disturbed or previously cleared lands in various states of revegetation/restoration, and predominantly undeveloped-undisturbed chaparral scrub and oak woodlands. Topography in the vicinity is undulating with steep hills interspersed by narrow valleys and deep canyons. Elevations in the area range between approximately 3,000 and 3,200 feet above mean sea level (MSL). Surface waters in the vicinity are typified by narrow, ephemeral washes.

1.4. PROJECT NEED AND ALTERNATIVES

The CAISO is responsible for planning and managing the high-voltage transmission network (transmission grid) for approximately 80% of California, including the service territory of SDG&E, where the Proposed Project is located. The CAISO undertakes an annual Transmission Planning Process (TPP) to identify potential transmission system problems, such as thermal overloading and voltage and frequency variations outside acceptable limits, over a 10-year planning horizon. The CAISO considers additional transmission facilities and/or changes in operation that would solve the problems, allowing the transmission grid to meet reliability objectives and criteria. In addition, the CAISO evaluates the transmission grid's ability to help meet certain State of California government policy objectives, including the 33 percent RPS. Finally, the CAISO transmission planners and economists also examine whether transmission

upgrades could save ratepayers money by reducing electric grid transmission congestion and allowing the use of lower-cost generation.

As an outcome of the 2013-2014 Transmission Planning process, the CAISO determined that, due to transmission overloading and voltage support issues,[1] cost-effective dynamic reactive power support is needed at the Suncrest Substation to: (a) facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals; (b) provide voltage control and other electric transmission grid benefits; and (c) support the provision of safe, reliable, and adequate electricity service in the greater San Diego and Los Angeles metropolitan areas.

The CAISO issued an invitation for bidders to propose to build the Suncrest dynamic reactive power support device. In response, NEET West submitted a Project Sponsor Application to the CAISO in June 2014. In January 2015, the CAISO determined that NEET West's Proposed Project would best serve the above needs and selected NEET West as the approved project sponsor.

NEET West considered the Proposed Project's objectives (specified in Chapter 2 of this PEA) in developing a reasonable range of alternatives to the Proposed Project and to its location. NEET West considered a variety of technological solutions, and selected equipment that would meet the CAISO's performance specifications. NEET West carefully considered several commercially available transmission technologies that would meet the CAISO's description and functional specification for the Suncrest 230 kV, +300/-100 Mvar dynamic reactive power support system. Based on the review of the acceptable technologies and following an internal evaluation, NEET West developed 11 potential transmission voltage support solutions,[2] any of which would meet the CAISO's requirements for the Suncrest dynamic reactive power support system. NEET West recommends a plan that consists of a SVC facility and underground transmission line, which meets CAISO's functional specifications for the Suncrest 230 kV, +300/-100 Mvar reactive power support system.[3]

[1] The transmission overloading and voltage related issues were mainly caused by renewable generation along the borders of California and Arizona and Nevada, and the import through the West of Colorado River transmission path. The most critical contingency that requires the highest amount of resource needs in the San Diego and Los Angeles Basin study area is the Category C overlapping outage of the ECO – Miguel 500 kV line, system readjusted, followed by the next contingency of Ocotillo – Suncrest 500 kV line (i.e., Category C.3, or N-1-1) under post-transient conditions. This contingency causes post-transient voltage instability that affects the San Diego and Los Angeles Basin study area. The power flow, stability, and deliverability assessment for the SDG&E area identified the need for a flow control device on the Imperial Valley-ROA 230 kV line along with a 300 Mvar SVC at the Suncrest 230 kV bus.

[2] NEET West's engineering evaluation boiled down to four technology combinations: (1) SVC: +300/-100 Mvar SVC with one 150 Mvar thyristor-controlled reactor, two thyristor-switched capacitors (250 Mvar total), and three harmonic filters (50 Mvar total); (2) Hybrid SVC with Mechanically-Switched Capacitors: +100/-100 Mvar SVC with one 150 Mvar thyristor-controlled reactor, one 50 Mvar thyristor-switched capacitors, three harmonic filters (50 Mvar total), and two 100 Mvar, 230 kV mechanically-switched capacitors; (3) Hybrid STATCOM with Mechanically-Switched Capacitor: +100/-100 Mvar STATCOM at Suncrest 230 kV with two 100 Mvar, 230 kV mechanically-switched capacitors; and (4) Synchronous Condensers: +375/-150 Mvar at Suncrest 230 kV consisting of two 200 Mvar Synchronous Condensers. NEET West's detailed comparative technical evaluation of all 11 potential transmission voltage support solutions was based on IEEE Std 1031-2011, *IEEE Guide for the Functional Specification of Transmission Static Var Compensators*, including key technical indicators that would be significant to the CAISO.

[3] NEET West's recommendation is based on detailed technical evaluation, which indicated clearly that an SVC:

- would meet the CAISO's identified need for reactive power support;

This PEA also discusses system alternatives, such as traditional generator reactive power support and the CAISO's new initiative for reactive power support from asynchronous generators (such as wind and solar). These alternatives either have more environmental impacts than the Proposed Project (traditional generation), or are too speculative and too far in the future (the CAISO's initiative for requiring and financially compensating reactive power support from asynchronous generators).

NEET West considered various SVC and transmission line siting options during the planning of the Proposed Project. NEET West selected a location on a privately owned parcel of land that consists of a former equipment storage ("laydown") area that was used by SDG&E during construction of Sunrise Powerlink. NEET West selected the proposed location primarily because this land had been previously disturbed and environmental resource issues at this location had been previously evaluated as part of the Sunrise Powerlink's Environmental Impact Report/Environmental Impact Statement.

NEET West considered both overhead and underground transmission lines to connect the SVC to the existing Suncrest Substation. In general terms not specific to the Proposed Project, an overhead transmission line may involve less ground disturbance than an underground transmission line and fewer environmental effects to resources that would be impacted by excavation such as biological and cultural resources. However, an overhead transmission line can also introduce a new and permanent visual element to the landscape and additional fire hazard risk.

NEET West chose an underground transmission line beneath the existing, paved Bell Bluff Truck Trail road to minimize aesthetic impacts, reduce fire hazard, and minimize new ground disturbance. NEET West also selected the underground transmission line option because SDG&E would not agree to grant easements or access for NEET West's overhead design alternatives along the Bell Bluff Truck Trail. NEET West selected its transmission route under the Bell Bluff Truck Trail because it had already been thoroughly studied as part of the Sunrise Powerlink CEQA process. Placing the proposed underground transmission line beneath an existing road has the advantage of effectively eliminating the visual effects of an overhead transmission line and minimizing ground disturbance.

NEET West developed a reasonable range of technically feasible alternatives that meet the project objectives and allow a comparative analysis of potential environmental effects. The Proposed Project was ultimately selected because it best meets all of the project objectives and minimizes environmental impacts.

- is a proven transmission system reactive compensation solution using technologies that have been applied for transmission system voltage support for more than 40 years;
- provides continuous reactive power and voltage control capability;
- has significantly lower no-load and operational losses and faster response time than a synchronous condenser;
- has high availability and reliability; and
- is the least capital cost solution (as compared to the other two conventional solutions: STATCOM and synchronous condenser).

1.5. PEA CONTENTS

In accordance with the PEA Checklist for Transmission Line and Substation Projects prepared by the CPUC on November 24, 2008, the Suncrest Dynamic Reactive Power Support Project PEA is divided into six sections as follows:

- **Chapter 1.0, PEA Summary.** This chapter provides a summary of the Proposed Project components, agency coordination, PEA contents, major conclusions, issues to be resolved, and public outreach efforts.
- **Chapter 2.0, Project Purpose and Need and Objectives.** This chapter presents the need and primary objectives of the Proposed Project.
- **Chapter 3.0, Project Description.** This chapter provides a detailed description of the Proposed Project components, specific construction methods, anticipated construction schedule, operations and maintenance activities, and a summary of the Applicant Proposed Measures (APMs) that NEET West would implement to help minimize environmental impacts.
- **Chapter 4.0, Environmental Setting and Impact Assessment Summary.** This chapter begins with an environmental impact assessment summary followed by a detailed discussion of the existing environmental conditions and potential impacts of the Proposed Project. APMs are provided to further reduce already less than significant impacts. This chapter also includes a Cumulative Analysis, which discusses past, present, and reasonably foreseeable future projects within the Proposed Project area and the potential for the Proposed Project's impacts to be "cumulatively considerable." The following resource areas are discussed in Chapter 4.0:
    - Aesthetics
    - Agriculture and Forest Resources
    - Air Quality and Greenhouse Gas Emissions
    - Biological Resources
    - Cultural Resources
    - Geology and Soils
    - Hazards and Hazardous Materials
    - Hydrology and Water Quality
    - Land Use and Planning
    - Noise
    - Population and Housing
    - Public Services
    - Recreation
    - Transportation and Traffic
    - Utilities and Service Systems
    - Cumulative Analysis

- **Chapter 5.0, Detailed Discussion of Significant Impacts.** With the implementation of APMs, there will be no significant environmental impacts associated with the construction, operation, and maintenance of the Proposed Project. Although CEQA does not require an alternatives analysis for projects that would not have a significant environmental impact, this section nevertheless provides the CPUC and interested stakeholders with information on a reasonable range of alternatives that NEET West considered before arriving at the Proposed Project, including technological, system, and siting alternatives.
- **Chapter 6.0, Other Process-Related Data Needs.** This chapter provides a list of property owners near the Proposed Project and briefly discusses public participation.

In compliance with the CPUC PEA Checklist, NEET West has compiled Table 1-1, PEA Checklist Key, which identifies the appropriate section of the PEA where each item in the CPUC Checklist has been addressed. If an item was not addressed or not included in the PEA, justification is provided. The PEA list of preparers is provided in Appendix K.

1.6. PEA CONCLUSIONS

As discussed throughout the PEA, the Proposed Project involves the addition of a new SVC facility and a 230 kV underground transmission line between the existing SDG&E Suncrest Substation and the SVC. The new transmission line would be located almost entirely underground, within the existing, paved Bell Bluff Truck Trail right-of-way except for one riser pole and one 300-foot overhead span into the Suncrest Substation, along with a minimal amount of temporary work area to install the riser pole and up to five underground vault structures. The existing electric transmission and substation facilities constitute the existing setting and baseline against which the Proposed Project's potential impacts were analyzed.

According to Section 15002(g) of the State CEQA Guidelines, "a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." The State CEQA Guidelines further define three types of environmental effects (or impacts): direct or primary effects that are caused by a project and occur at the same time and place, indirect or secondary effects that are reasonably foreseeable and caused by a project but occur at a different time or place, and cumulative effects. If it is determined that a project will cause a significant direct, indirect, or cumulative impact (or contribute considerably to an existing cumulative impact), CEQA requires that the analysis disclose such impacts and identify feasible mitigation measures for each significant environmental effect identified.

The PEA analyzes the potential environmental impacts associated with the construction, operation, and maintenance of the Proposed Project. Through preparation of the PEA, it was determined that each of the following 15 resource areas will not be impacted by the Proposed Project or that impacts will be less than significant. The resource areas are:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality and Greenhouse Gas Emissions

- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

The analysis determined that impacts will be less than significant. Implementation of APMs (see Table 3-6, Applicant Proposed Measures) will ensure that impacts will remain less than significant. These impacts are discussed below by resource area.

1.6.1. Aesthetics

The Proposed Project would involve the construction of a new SVC facility, an approximately 1-mile underground transmission line that ultimately connects to a riser pole structure, and a 300-foot-long overhead span to interconnect into the existing Suncrest Substation 230 kV bus. As discussed in Section 4.1, Aesthetics, potential impacts to the existing visual character of the landscape and any adverse light or glare will be minimized through project design features and less than significant. Implementation of APM AES-1 through AES-3 will ensure impacts will remain less than significant.

1.6.2. Agricultural and Forest Resources

The Proposed Project components will not cross any land that is under a Williamson Act contract or that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No agricultural uses currently exist on or adjacent to the Proposed Project area. No impact to agriculture and/or forest resources will occur from the implementation of the Proposed Project.

1.6.3. Air Quality and Greenhouse Gas Emissions

The Proposed Project involves excavating and exposing soils, the use of heavy construction equipment, and truck travel during construction and operation. As discussed in Section 4.3, Air Quality and Greenhouse Gas Emissions, greenhouse gas emissions and potential impacts to air quality will be less than significant. Implementation of the APMs AIR-1 through AIR-5 will ensure that impacts will remain less than significant.

1.6.4. Biological Resources

The Proposed Project involves construction activities and permanent facilities within previously disturbed areas. As discussed in Section 4.4, Biological Resources, potential impacts to designated sensitive species or wildlife migration will less than significant. Implementation of APM GEN-1 and APMs BIO-1 through BIO-15 will ensure that impacts will remain less than significant. There will be no impacts to migratory fish.

1.6.5. Cultural Resources

The Proposed Project involves construction of facilities in proximity to certain prehistoric and historic archaeological sites. As discussed in Section 4.5, Cultural Resources, potential impacts to existing cultural resources or unanticipated discoveries will be less than significant. Implementation of APM GEN-1 and APM CUL-1 through CUL-4 will ensure that impacts will remain less than significant.

1.6.6. Geology and Soils

The Proposed Project involves construction of a permanent underground transmission line and SVC facility that will temporarily expose soils, potentially involve minor blasting, and be potentially affected by slope instability or seismic events. As discussed in Section 4.6, Geology and Soils, potential impacts to geologic or soil instability, and to paleontological resources, will be less than significant. Implementation of APM GEO-1 through GEO-3 and APM PR-1 will ensure that impacts will remain less than significant.

1.6.7. Hazards and Hazardous Materials

The Proposed Project involves construction and operation activities associated with the use of potentially hazardous materials and equipment. As discussed in Section 4.7, Hazards and Hazardous Materials, potential impacts related to the possible release of hazardous materials or the creation of public hazards will be less than significant. Implementation of APM HAZ-1 through HAZ-8 will ensure that impacts will remain less than significant.

1.6.8. Hydrology and Water Quality

The Proposed Project involves the use of water on-site during construction as well as the crossing of stormwater conveyances within Bell Bluff Truck Trail. As discussed in Section 4.8, Hydrology and Water Quality, potential impacts related to stormwater runoff, water quality, sensitive aquatic features, and groundwater use will be less than significant. Implementation of APM WQ-1 through WQ-6 will ensure that impacts will remain less than significant.

1.6.9. Land Use and Planning

The Proposed Project would occur in San Diego County on land zoned for agricultural purposes, where minor utilities are an allowable use. The Proposed Project will also be consistent with local goals and policies and existing mitigation and restoration obligations associated with the existing Sunrise Powerlink. Upon receiving public utility status, NEET West will seek

exemption to the Subdivision Map Act to acquire ownership of the approximately 6-acre SVC site. No other land use impacts will occur.

1.6.10. Noise

The Proposed Project will generate noise from construction activities as well as operational equipment at the SVC. As discussed in Section 4.10, Noise, potential noise-related impacts associated with construction and operation of the Proposed Project and any ground-borne vibration will be less than significant. Implementation of standard construction restrictions, as well as via the implementation of APM NOI-1 through NOI-2, will ensure that impacts will remain less than significant.

1.6.11. Recreation

While there are existing parks and other recreational facilities in the vicinity, the Proposed Project will introduce only a temporary population of workers during project construction. Accordingly, impacts to recreation-related resources will be less than significant.

1.6.12. Population and Housing

The Proposed Project will involve the use of workers on-site for the duration of construction, but will not involve the construction of new permanent housing or the creation of new permanent jobs, nor will it result in population growth. As a result, impacts to population and housing will be less than significant.

1.6.13. Transportation and Traffic

The Proposed Project will involve the transportation of equipment to the project site during the construction period and construction crew vehicles traveling to and from the project site in a manner that will have only minor effects on existing traffic conditions and will not violate any San Diego County traffic standard. Accordingly, transportation and traffic impacts will be less than significant. Implementation of TRA-1 will ensure impacts will remain less than significant.

1.6.14. Utilities and Service Systems

The Proposed Project involves consumption of water during construction for dust suppression and other activities. As discussed in Section 4.15, Utilities and Service Systems, potential impacts associated with construction of the Proposed Project related to water supplies or wastewater will be less than significant. Implementation of standard construction/operating restrictions, as well as APM UTL-1 through UTL-3, will ensure that impacts will remain less than significant.

1.7. AREAS OF CONTROVERSY

The CPUC's PEA Checklist for Transmission and Substation Projects calls for a discussion of "any areas of controversy" and "any major issues that must be resolved including the choice among reasonably feasible alternatives and mitigation measures, if any." NEET West has

attempted to minimize potential controversy early in the planning and design stages of the Proposed Project by proposing to underground the transmission line and locate the SVC in a previously and historically disturbed area. As discussed below, NEET West has conducted meetings with multiple government agencies and with the public, and these meetings have allowed NEET West to obtain feedback over the potential environmental impacts associated with the Proposed Project. In general, the comments received involved foreseeable areas of interest, such as traffic and aesthetic values, that are not unexpected or substantially controversial relative to similar utility projects with insignificant impacts that have occurred in San Diego County.

1.8. AGENCY COORDINATION AND PUBLIC OUTREACH EFFORTS

1.8.1. Agency Coordination

NEET West met with several regulatory agencies in the early planning stages of the Proposed Project to solicit input on project design and potential resource and land use issues in the vicinity of the Proposed Project. Table 1-2 summarizes the agency meetings and correspondence that took place in development of this PEA and the CPCN application. Coordination with these agencies will continue through the Proposed Project's planning process and discretionary permits will be applied for where necessary.

No local discretionary (e.g., use) permits are required, because the CPUC has preemptive jurisdiction over the construction, maintenance, and operation of NEET West facilities in California. The CPUC's authority does not preempt special districts, such as Air Quality Management Districts (AQMDs), other state agencies, or the federal government. NEET West would have to obtain all ministerial building and encroachment permits from local jurisdictions, and the CPUC's General Order 131-D requires NEET West to comply with local building, design, and safety standards to the greatest degree feasible to minimize project conflicts with local conditions. NEET West will obtain permits, approvals, and licenses, and would participate in reviews and consultations as needed with federal, state, and local agencies.

1.8.2. Native American Heritage Commission and Tribal Outreach

NEET West requested a search of the Sacred Lands Files from the Native American Heritage Commission (NAHC). The results of the Sacred Lands File search indicated that no Native American cultural resources were known in the immediate vicinity of the Proposed Project area. The NAHC also provided a list of nine Native American groups and individuals who may have knowledge of cultural resources in the vicinity of the Proposed Project. NEET West prepared letters identifying the Proposed Project location and requesting input from the NAHC-identified Native American groups. At the time of this filing, the Viejas Tribe and Kwaaymii Laguna Band of Indians responded requesting a copy of the Cultural Resources Technical Report and a site visit to learn more about the Proposed Project. NEET West conducted a site visit with both tribes on August 4, 2015 and will be providing them a copy of the non-confidential Cultural Resources Technical Report once the application is filed with the CPUC.

1.8.3. Public and Community Outreach

Public outreach and communications are critical elements of NEET West's planning process. NEET West identified and reached out to key stakeholders in the vicinity of the Proposed Project to solicit input and provide information about the Proposed Project.

On June 25, 2015, NEET West presented the Proposed Project at an Alpine Community Planning Group meeting at the Alpine Community Center to describe the project, solicit feedback from members of the public, and identify potential next steps for outreach. The community raised concerns over potential environmental impacts, such as road traffic in downtown Alpine, visual impacts from private residences, and potential for future expansion of the Proposed Project. The community also expressed interest in the Proposed Project's future cost to ratepayers, its relationship to the Sunrise Powerlink and the reason why the SVC was not built as part of that project, the CAISO planning and competitive bid process, the jurisdiction and authority of San Diego County, and the Proposed Project's final operating function.

As a result of that meeting, NEET West developed a list of recommended tasks moving forward to answer and address public concerns, hosted an informational open house in Alpine on August 4, 2015, to obtain further community feedback, and conducted ongoing communication with the Alpine Community Planning Group and other local entities. See Appendix J, Public Participation and Outreach Effort Materials.

Throughout the approval process, NEET West will keep area residents and property owners, government officials, Native American tribes, and interested parties informed about the scope of the Proposed Project through printed materials, one-on-one meetings, and presentations to local organizations. Table 1-3 summarizes the community outreach and meetings with local officials and groups conducted to date.

During construction, NEET West will work to minimize disruptions from construction traffic and limit dust and noise. NEET West will continually communicate with government agencies, including the CPUC, County of San Diego, local Native American tribes, U.S. Forest Service, and other government officials, regarding construction plans.

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
Cover Sheet	
Chapter 1: PEA Summary	
1. The major conclusions of the PEA.	1.6
2. Any areas of controversy.	1.7
3. Any major issues that must be resolved including the choice among reasonably feasible alternatives and mitigation measures, if any.	Not applicable.
4. Description of inter-agency coordination, if any.	1.8.1
5. Description of public outreach efforts, if any.	1.8.3
Chapter 2: Project Purpose and Need and Objectives	
2.1 Overview	
Explanation of the objective(s) and/or Purpose and Need for implementing the Proposed Project.	2.1
2.2 Project Objectives	
Analysis of the reason why attainment of these objectives is necessary or desirable. Such analysis must be sufficiently detailed to inform the Commission in its independent formulation of project objectives which will aid any appropriate CEQA alternatives screening process.	2.2 and 3.3
Chapter 3: Project Description	
3.1 Project Location	
1. Geographical Location: County, City (provide project location map(s)).	3.1 Figure 3-1
2. General Description of Land Uses within the project site (e.g., residential, commercial, agricultural, recreation, traverses vineyards, farms, open space, number of stream crossings, etc.).	3.1
3. Describe if the Proposed Project is located within an existing property owned by the Applicant, traverses existing rights of way (ROW) or requires new ROW. Give the approximate area of the property or the length of the project that is in an existing ROW or which requires new ROWs.	3.1

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
3.2 Existing Transmission System		
1.	Describe the local system to which the Proposed Project relates; include all relevant information about substations, transmission lines, and distribution circuits. ***Note: regional system maps would remain confidential for security reasons.***	3.2
2.	Provide a schematic diagram and map of the existing system.	Figure 3-2 and Figure 3-3 Due to the sensitivity of the information, the existing transmission system map will be submitted under seal with a Motion for Leave to File Under Seal. See Appendix A: Confidential Submittals, A-1: Confidential Existing Transmission Facilities.
3.	Provide a schematic diagram that illustrates the system as it would be configured with implementation of the Proposed Project.	Figures 3-2 and 3-3
3.3 Project Objectives		
	(Can refer to Chapter 2, Project Purpose and Need, if already described there.)	2.2 and 3.3
3.4 Proposed Project		
1.	Describe whole of the Proposed Project. Is it an upgrade, a new line, new substations, etc.?	3.4 and 3.6
2.	Describe how the Proposed Project fits into the Regional system. Does it create a loop for reliability, etc.?	3.2 and 3.3
3.	Describe all reasonably foreseeable future phases, or other reasonably foreseeable consequences of the Proposed Project.	3.5
4.	Provide capacity increase in MW. If the project does not increase capacity, state it.	The Proposed Project will not result in a MW capacity increase.
5.	Provide GIS (or equivalent) data layers for the Proposed Project preliminary engineering including estimated locations of all physical components of the Proposed Project as well as those related to construction. For physical components, this could include but is not limited to the existing components (e.g., ROW, substation locations, poles, etc.) as well as the proposed pole locations, transmission lines, substations, etc. For elements related to construction include: proposed or likely lay-down areas, work areas at the pole sites, pull and tension sites, access roads (e.g., temporary, permanent, existing, etc.), areas where special construction methods may need to be employed, areas where vegetation removal may occur, areas to be heavily graded, etc. More details about this type of information are	Volume IV: GIS Data Files-Public Volume V: GIS Data Files-Confidential

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
	provided below.	
3.5 Project Components		
3.5.1 Transmission Line		
1.	What type of line exists and what type of line is proposed (e.g., single-circuit, double-circuit, upgrade 69 kV to 115 kV).	3.6.2
2.	Identify the length of the upgraded alignment, the new alignment, etc.	3.6.2
3.	Would construction require one-for-one pole replacement, new poles, steel poles, etc.?	3.6.2
4.	Describe what would occur to other lines and utilities that may be collocated on the poles to be replaced (e.g., distribution, communication, etc.).	The Proposed Project does not involve colocation of other utility poles as part of the project.
3.5.2 Poles/Towers		
Provide the following information for each pole/tower that would be installed and for each pole/tower that would be removed:		The Proposed Project will primarily be underground and will only include one above-ground riser pole structure.
1.	Unique ID number to match GIS database information.	Volume IV: GIS Data Files-Public
2.	Structure diagram and, if available, photos of existing structure. Preliminary diagram or "typical" drawings and, if possible, photos of proposed structure. Also provide a written description of the most common types of structures and their use (e.g., Tangent poles would be used when the run of poles continues in a straight line, etc.). Describe if the pole/tower design meets raptor safety requirements.	3.6.2 and 4.4.4.2 Figure 3-9
3.	Type of pole (e.g., wood, steel, etc.) or tower (e.g., self- supporting lattice).	3.6.2
4.	For poles, provide "typical" drawings with approximate diameter at the base and the tip; for towers, estimate the width at base and top.	Figure 3-9
5.	Identify typical total pole lengths, the approximate length to be embedded, and the approximate length that would be above ground surface; for towers, identify the approximate height above ground surface and approximate base footprint area.	3.6.2
6.	Describe any specialty poles or towers; note where they would be used (e.g., angle structures, heavy angle lattice towers, stub guys); make sure to note if any guying would likely be required across a road.	3.6.2

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
7.	If the project includes pole-for-pole replacement, describe the approximate location of where the new poles would be installed relative to the existing alignment.	Not applicable.
8.	Describe any special pole types (e.g., poles that require foundations, transition towers, switch towers, microwave towers, etc.) and any special features.	Not applicable.
3.5.3 Conductor Cable		
3.5.3.1 Above-Ground Installation		
1.	Describe the type of line to be installed on the poles/tower (e.g., single circuit with distribution, double circuit, etc.).	3.6.2
2.	Describe the number of conductors required to be installed on the poles or tower and how many on each side including applicable engineering design standards.	3.6.2
3.	Provide the size and type of conductor (e.g., ACSR, non-specular, etc.) and insulator configuration.	3.6.2
4.	Provide the approximate distance from the ground to the lowest conductor and the approximate distance between the conductors (i.e., both horizontally and vertically) Provide specific information at highways, rivers, or special crossings.	3.6.2
5.	Provide the approximate span lengths between poles or towers, note where different if distribution is present or not if relevant.	3.6.2
6.	Describe if other infrastructure would likely be collocated with the conductor (e.g., fiber optics, etc); if so, provide conduit diameter of other infrastructure.	3.6.2
3.5.3.2 Below-Ground Installation		
1.	Describe the type of line to be installed (e.g., single circuit cross- linked polyethylene-insulated solid-dielectric, copper-conductor cables	3.6.2
2.	Describe the type of casing the cable would be installed in (e.g., concrete-encased duct bank system); provide the dimensions of the casing.	3.6.2
3.	Provide an engineering 'typical' drawing of the duct bank and describe what types of infrastructure would likely be installed within the duct bank (e.g., transmission, fiber optics, etc.).	3.6.2 Figures 3-7 and 3-8
3.5.4 Substations		
1.	Provide "typical" Plan and Profile views of the proposed substation and the existing substation if applicable.	Figures 3-4 and 3-5
2.	Describe the types of equipment that would be temporarily or permanently installed and provide details as to what the function/use of said	3.6.1

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
	equipment would be. Include information such as, but not limited to: mobile substations, transformers, capacitors, and new lighting.	
3.	Provide the approximate or "typical" dimensions (width and height) of new structures including engineering and design standards that apply.	Figure 3-4
4.	Describe the extent of the Proposed Project. Would it occur within the existing fence line, existing property line or would either need to be expanded?	3.7
5.	Describe the electrical need area served by the distribution substation.	2.1.1
3.6 Right-of-Way Requirements		
1.	Describe the ROW location, ownership, and width. Would existing ROW be used or would new ROW be required?	3.7
2.	If new ROW is required, describe how it would be acquired and approximately how much would be required (length and width).	3.7.1
3.	List properties likely to require acquisition.	3.7.1
3.7 Construction		
3.7.1 For All Projects		
3.7.1.1 Staging Areas		
1.	Where would the main staging area(s) likely be located?	3.8.2
2.	Approximately how large would the main staging area(s) be?	3.8.2
3.	Describe any site preparation required, if known, or generally describe what might be required (i.e., vegetation removal, new access road, installation of rock base, etc.).	3.8.2
4.	Describe what the staging area would be used for (i.e., material and equipment storage, field office, reporting location for workers, parking area for vehicles and equipment, etc.).	3.8.2
5.	Describe how the staging area would be secured, would a fence be installed? If so, describe the type and extent of the fencing.	3.8.2
6.	Describe how power to the site would be provided if required (i.e., tap into existing distribution, use of diesel generators, etc.).	3.8.3
7.	Describe any grading activities and/or slope stabilization issues.	3.8.3.2

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
3.7.1.2 Work Areas	
1. Describe known work areas that may be required for specific construction activities (i.e., pole assembly, hill side construction, etc.).	3.8.2.2 Figure 3-10
2. For each known work areas, provide the area required (include length and width) and describe the types of activities that would be performed.	3.8.2
3. Identify the approximate location of known work areas in the GIS database.	Volume IV: GIS Data Files-Public
4. How would the work areas likely be accessed (e.g., construction vehicles, walk in, helicopter, etc.)?	3.8.1
5. If any site preparation is likely required, generally describe what and how it would be accomplished.	3.8.3.1
6. Describe any grading activities and/or slope stabilization issues.	3.8.3.2
7. Based on the information provided, describe how the site would be restored.	3.8.3.4
3.7.1.3 Access Roads and/or Spur Roads	
1. Describe the types of roads that would be used and or would need to be created to implement the Proposed Project. See table below as an example of information required. Road types may include, but are not limited to: new permanent road; new temporary road; existing road that would have permanent improvements; existing road that would have temporary improvements, existing paved road; existing dirt/gravel road, and overland access.	3.8.1
2. For road types that require preparation, describe the methods and equipment that would be used.	3.8.1.1
3. Identify approximate location of all access roads (by type) in the GIS database.	Volume IV: GIS Data Files-Public
4. Describe any grading activities and/or slope stabilization issues. See table in PEA Checklist as an example of information required. Road types may include, but are not limited to: new permanent road; new temporary road; existing road that would have permanent improvements; existing road that would have temporary improvements, existing paved road; existing dirt/gravel road, and overland access	Not applicable. No new access roads will be created. Information related to the two access driveways is included in 3.8.1.1.
3.7.1.4 Helicopter Access	
1. Identify which proposed poles/towers would be removed and/or installed using a helicopter.	Not applicable.
2. If different types of helicopters are to be used, describe each type (e.g., light, heavy or sky crane) and what activities they will be used for.	Not applicable.

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
3.	Provide information as to where the helicopters would be staged, where they would refuel, where they would land within the Project site.	Not applicable.
4.	Describe any BMPs that would be employed to avoid impacts caused by use of helicopters, for example: air quality and noise considerations.	Not applicable.
5.	Describe flight paths, payloads, hours of operations for known locations and work types.	Not applicable.
3.7.1.5 Vegetation Clearance		
1.	Describe what types of vegetation clearing may be required (e.g., tree removal, brush removal, flammable fuels removal) and why (e.g., to provide access, etc.).	3.8.3.1
2.	Identify the preliminary location and provide an approximate area of disturbance in the GIS database for each type of vegetation removal.	Volume IV: GIS Data Files-Public
3.	Describe how each type of vegetation removal would be accomplished.	3.8.3.1
4.	For removal of trees, distinguish between tree trimming as required under GO-95D and tree removal.	Not applicable, no tree removal is anticipated.
5.	Describe the types and approximate number and size of trees that may need to be removed.	Not applicable, no tree removal is anticipated.
6.	Describe the type of equipment typically used.	Table 3-4
3.7.1.6 Erosion and Sediment Control and Pollution Prevention during Construction		
1.	Describe the areas of soil disturbance including estimated total areas, and associated terrain type and slope. List all known permits required. For project sites of less than one acre, outline the best management practices (BMPs) that would be implemented to manage surface runoff. Things to consider include, but are not limited to, the following: • Erosion and Sedimentation BMP's; • Vegetation Removal and Restoration; and/or, • Hazardous Waste and Spill Prevention Plans.	3.8.3.3 CPCN Application, Appendix H
2.	Describe any grading activities and/or slope stabilization issues.	3.8.3.2
3.	Describe how construction waste (i.e., refuse, spoils, trash, oil, fuels, poles, pole structures, etc.) would be disposed.	3.8.3.4 and 3.8.4.7

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
3.7.1.7 Cleanup and Post-Construction Restoration	
1. Describe how cleanup and post-construction restoration would be performed (i.e., personnel, equipment, and methods). Things to consider include, but are not limited to, restoration of the following: Natural drainage patterns; wetlands; vegetation, and other disturbed areas (i.e. staging areas, access roads, etc).	3.8.3.4 and 3.8.4.7
3.7.2 Transmission Line Construction (Above Ground)	
3.7.2.1 Pull and Tension Sites	
1. Provide the general or average distance between pull and tension sites.	3.8.4.5
2. Provide the area of pull and tension sites, include the estimated length and width.	3.8.4.5
3. According to the preliminary plan, how many pull and tension sites would be required, and where would they be located? Please provide the location information in GIS.	3.8.4.5 Volume IV: GIS Data Files-Public
4. What type of equipment would be required at these sites?	3.8.4.5
5. If conductor is being replaced, how would it be removed from the site?	Not applicable.
3.7.2.2 Pole Installation Removal	
1. Describe how the construction crews and their equipment would be transported to and from the pole site location. Provide vehicle type, number of vehicles, and estimated number of trips and hours of operations.	Table 3-4
Pole and Foundation Removal	
1. Describe the process of how the poles and foundations would be removed.	Not applicable.
2. Describe what happens to the hole that the pole was in (i.e., reused or backfilled)?	Not applicable.
3. If the hole is to be filled, what type of fill would be used, where would it come from?	Not applicable.
4. Describe any surface restoration that would occur at the pole site?	Not applicable.
5. Describe how the poles would be removed from the site?	Not applicable.
Top Removal	

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
If topping is required to remove a portion of an existing transmission pole that would now only carry distribution lines, please provide the following:	Not applicable.
1. Describe the methodology to access and remove the tops of these poles	Not applicable.
2. Describe any special methods that would be required to top poles that may be difficult to access, etc.	Not applicable.
Pole/Tower Installation	
1. Describe the process of how the new poles/towers would be installed; specifically call out any special construction methods (e.g., helicopter installation) for specific locations or for different types of poles/towers.	3.8.4.5
2. Describe the types of equipment and their use as related to pole/tower installation.	3.8.4.5 Table 3-4
3. Describe actions taken to maintain a safe work environment during construction (e.g., covering of holes/excavation pits, etc.).	3.8.4.2
4. Describe what would be done with soil removed from a hole/foundation site.	3.8.3.2
5. For any foundations required, provide description of construction method(s), approximate average depth and diameter of excavation, approximate volume of soil to be excavated, approximate volume of concrete or other backfill required, etc.	Tables 3-3 and 3-4
6. Describe briefly how poles/towers and associated hardware are assembled.	3.8.2.2
7. Describe how the poles/towers and associated hardware would be delivered to the site; would they be assembled off-site and brought in or assembled on site?	3.8.2.1
8. Provide a table of pole/tower installation metrics and associated disturbance area estimates as in PEA Checklist 3.7.2.2	Not applicable.
3.7.2.3 Conductor/Cable Installation	
1. Provide a process-based description of how new conductor/cable would be installed and how old conductor/cable would be removed, if applicable. Note, graphical representation of the general sequencing is helpful for the reader here.	3.8.4.5
2. Generally describe the conductor/cable splicing process.	3.8.4.5
3. If vaults are required, provide their dimensions and approximate location/spacing along the alignment.	3.8.4.4
4. Describe in what areas conductor/cable stringing/installation activities would occur.	3.8.4.5

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
5.	Describe any safety precautions or areas where special methodology would be required (e.g., crossing roadways, stream crossing).	Not applicable.
3.7.3 Transmission Line Construction (Below Ground)		
3.7.3.1 Trenching		
1.	Describe the approximate dimensions of the trench (e.g., depth, width).	3.8.4.2
2.	Describe the methodology of making the trench (e.g., saw cutter to cut the pavement, back hoe to remove, etc.).	3.8.4.2
3.	Provide the total approximate cubic yardage of material to be removed from the trench, the amount to be used as backfill and the amount to subsequently be removed/disposed of off-site.	3.8.4.2
4.	Provide off-site disposal location, if known, or describe possible option(s).	3.8.4.2
5.	If engineered fill would be used as backfill, provide information as to the type of engineered backfill and the amount that would be typically used (e.g., the top two feet would be filled with thermal- select backfill).	3.8.4.2
6.	Describe if dewatering would be anticipated, if so, how the trench would be dewatered, what are the anticipated flows of the water, would there be treatment, and how would the water be disposed.	3.8.4.6
7.	Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants that could be exposed as a result of trenching operations.	3.8.4.6
8.	If a pre-existing hazardous waste were encountered, describe the process of removal and disposal.	3.8.3.3, 4.6, and 4.7
9.	Describe any standard BMPs that would be implemented.	3.8.3.3, 4.6, and 4.8
3.7.3.2 Trenchless Techniques: Microtunnel, Bore and Jack, Horizontal Directional Drilling		
1.	Provide the approximate location of the sending and receiving pits.	Not applicable.
2.	Provide the length, width, and depth of the sending and receiving pits.	Not applicable.
3.	Describe the methodology of excavating and shoring the pits.	Not applicable.
4.	Describe the methodology of the trenchless technique.	Not applicable.
5.	Provide the total cubic yardage of material to be removed from the pits, the amount to be used as backfill and the amount to subsequently	Not applicable.

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
	be removed/disposed of off-site.	
6.	Describe process for safe handling of drilling mud and bore lubricants.	Not applicable.
7.	Describe process for detecting and avoiding "fracturing-out" during HDD operations.	Not applicable.
8.	Describe process for avoiding contact between drilling mud/lubricants and stream beds.	Not applicable.
9.	If engineered fill would be used as backfill, provide information as to the type of engineered backfill and the amount that would be typically used (e.g., the top two feet would be filled with thermal- select backfill).	Not applicable.
10.	Describe if dewatering would be anticipated, if so, how the pit would be dewatered, what are the anticipated flows of the water, would there be treatment, and how would the water be disposed.	Not applicable.
11.	Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants.	Not applicable.
12.	If a pre-existing hazardous waste were encountered, describe the process of removal and disposal.	Not applicable.
13.	Describe any grading activities and/or slope stabilization issues.	Not applicable.
14.	Describe any standard BMPs that would be implemented.	Not applicable.
3.7.4 Substation Construction		
1.	Describe any earth moving activities that would be required; what type of activity and, if applicable, estimate cubic yards of materials to be reused and/or removed from the site for both site grading and foundation excavation.	3.8.3.2
2.	Provide a conceptual landscape plan in consultation with the municipality in which the substation is located.	Not applicable, temporary work areas will be restored to preconstruction conditions but no landscaping is proposed.
3.	Describe any grading activities and/or slope stabilization issues.	3.8.3.2
4.	Describe possible relocation of commercial or residential property, if any.	Not applicable.
3.7.5 Construction Workforce and Equipment		
1.	Provide the estimated number of construction crew members.	3.8.7 Table 3-4

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
2.	Describe the crew deployment, would crews work concurrently (i.e., multiple crews at different sites); would they be phased, etc.	3.8.7 Table 3-4
3.	Describe the different types of activities to be undertaken during construction; the number of crew members for each activity i.e. trenching, grading, etc.; and number and types of equipment expected to be used for said activity. Include a written description of the activity. See example in PEA Checklist 3.7.5.	3.8.7 Table 3-4
4.	Provide a list of the types of equipment expected to be used during construction of the Proposed Project as well as a brief description of the use of the equipment. See example in PEA Checklist 3.7.5.	Table 3-4
3.7.6 Construction Schedule		
1.	Provide a Preliminary Project Construction Schedule; include contingencies for weather, wildlife closure periods, etc. Include Month Year, or Month Year to Month Year for each. See example in PEA Checklist 3.7.6.	Table 3-4 and Table 3-5
3.8 Operation and Maintenance		
1.	Describe the general system monitoring and control (i.e., use of standard monitoring and protection equipment, use of circuit breakers and other line relay protection equipment, etc.).	3.9
2.	Describe the general maintenance program of the Proposed Project, include items such as: • Timing of the inspections (i.e., monthly, every July, as needed); • Type of inspection (i.e., aerial inspection, ground inspection); and • Description of how the inspection would be implemented. Things to consider, who/how many crew members; how would they access the site (walk to site, vehicle, ATV); would new access be required; would restoration be required, etc.	3.9
3.	If additional full time staff would be required for operation and/or maintenance, provide the number and for what purpose.	Not applicable.
3.9 Applicant Proposed Measures		
1.	If there are measures that the Applicant would propose to be part of the Proposed Project, please include those measures and reference plans or implementation descriptions.	3.10
Chapter 4: Environmental Setting and Impact Assessment Summary		
4.1 Aesthetics		
1.	A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	4.1.3
	• Local environment (site-specific)	4.1.3

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
• Regional environment	4.1.3
2. A description of the regulatory environment/context	
• Federal	4.1.2.1
• State	4.1.2.1
• Local	4.1.2.1
3. Provide visual simulations of prominent public view locations, including scenic highways to demonstrate the before and after project implementation. Additional simulations of affected private view locations are highly recommended.	Figures 4.1-4, 4.1-6, and 4.1-8 Appendix B: Photographs of Key Observation Points
4.2 Agriculture and Forest Resources	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.2.3
• Regional environment	4.2.3
2. A description of the regulatory environment/context	
• Federal	4.2.2.1
• State	4.2.2.1
• Local	4.2.2.1
3. Identify the types of agricultural resources affected.	4.2.4.3
4.3 Air Quality	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.3.3

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
	• Regional environment	4.3.3
2.	A description of the regulatory environment/context	
	• Federal	4.3.2.1
	• State	4.3.2.1
	• Local	4.3.2.1
3.	Provide supporting calculations / spreadsheets / technical reports that support emission estimates in the PEA.	4.3.4.3 Appendix C: Air Quality Calculations
4.	Provide documentation of the location and types of sensitive receptors that could be impacted by the project (e.g., schools, hospitals, houses, etc.). Critical distances to receptors is dependent on type of construction activity.	4.3.4.3
5.	Identify Project Green House Gas (GHG) emissions as follows:	
	• Quantify GHG emissions from a business as usual snapshot. That is, what the GHG emissions will be from the proposed project if no mitigations were used	4.3.4.3
	• Quantify GHG emission reductions from every Applicant Proposed Measure that is implemented. Itemize quantifications and place in a table format	4.3.4.3
	• Identify the net emissions of a project after mitigations have been applied.	4.3.4.3
	• Calculate and quantify GHG emissions (CO2equivalent) for the project including construction & operation.	4.3.4.3
	• Calculate and quantify the GHG reduction based on reduction measures proposed for the project.	4.3.4.3
	• Proposed APMs to implement and follow to maximize GHG reductions. If sufficient, CPUC will accept them without adding further mitigation measures.	4.3.4.3
	• Discuss programs already in place to reduce GHG emissions on a system wide level. This includes Applicant's voluntary compliance with USEPA SF6 reduction program, reductions from energy efficiency, demand response, LTPP, et al.	4.3.4.3
4.4 Biological Resources		
1.	A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
• Local environment (site-specific)	4.4.3
• Regional environment	4.4.3
2. A description of the regulatory environment/context	
• Federal	4.4.2.1
• State	4.4.2.1
• Local	4.4.2.1
In addition to an Impact Analysis: 3. Provide a copy of the Wetland Delineation and supporting documentation (i.e., data sheets). If verified, provide supporting documentation. Additionally, GIS data of the wetland features should be provided as well.	Appendix D: Biological Resources Technical Report Volume IV: GIS Data Files-Public
4. Provide a copy of special status surveys for wildlife, botanical and aquatic species, as applicable. Any GIS data documenting locations of special-status species should be provided.	Appendix D: Biological Volume IV: GIS Data Files-Public
4.5 Cultural Resources	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.5.3
• Regional environment	4.5.3
2. A description of the regulatory environment/context	
• Federal	4.5.2.1
• State	4.5.2.1
• Local	4.5.2.1
In addition to an Impact Analysis: 3. Cultural Resources Report documenting a cultural resources investigation of the Proposed Project. This report should include a literature	Appendix E: Cultural Resources Technical Report. Portions of this report will be submitted

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
search, pedestrian survey, and Native American consultation.	under seal with a Motion for Leave to File Under Seal. See Appendix A: Confidential Submittals, A-2: Confidential Cultural Resources Survey Results Location Maps and Site Records.
4. Provide a copy of the records found in the literature search.	Due to the sensitivity of the information, the report will be submitted under seal with a Motion for Leave to File Under Seal. See Appendix A: Confidential Submittals, A-2: Cultural Resources Survey Results Location Maps and Site Records.
5. Provide a copy of all letters and documentation of Native American consultation.	Appendix E: Cultural Resources Technical Report, NAHC Correspondence.
4.6 Geology, Soils, Minerals, and Paleontological Resources and Seismic Potential	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.6.3
• Regional environment	4.6.3
2. A description of the regulatory environment/context	
• Federal	4.6.2.1
• State	4.6.2.1
• Local	4.6.2.1
In addition to an Impact Analysis: 3. Provide a copy of geotechnical investigation if completed, including known and potential geologic hazards such as ground shaking,	In progress. A copy of the Geotechnical Investigation

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
subsidence, liquefaction, etc.	Report will be provided once completed (anticipated September 2015). Appendix I: Geophysical Survey. Appendix F: Paleontological Resources Technical Report.
4.7 Hazards and Hazardous Materials	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.7.3
• Regional environment	4.7.3
2. A description of the regulatory environment/context	
• Federal	4.7.2.1 Appendix L: FAA Notice Criteria Tool.
• State	4.7.2.1
• Local	4.7.2.1
In addition to an Impact Analysis, provide: 3. Environmental Data Resources Report.	Appendix G: Phase 1 Environmental Site Assessment.
4. Hazardous Substance Control and Emergency Response Plan.	Equivalent to be provided to the CPUC prior to construction.
5. Health and Safety Plan.	Equivalent to be provided to the CPUC prior to construction.
6. Worker Environmental Awareness Program (WEAP).	Refer to APM GEN-1 in Table 3-6, Chapter 3.0, Project Description.

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
7. Describe what chemicals would be used during construction and operation of the Proposed Project. For example: fuels, etc. for construction, naphthalene to treat wood poles before installation.	4.7.4.3
4.8 Hydrology and Water Quality	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.8.3
• Regional environment	4.8.3
2. A description of the regulatory environment/context	
• Federal	4.8.2.1
• State	4.8.2.1
• Local	4.8.2.1
4.9 Land Use and Planning	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.9.3
• Regional environment	4.9.3
2. A description of the regulatory environment/context	
• Federal	4.9.2.1
• State	4.9.2.1
• Local	4.9.2.1
In addition to an Impact Analysis: 3. Provide GIS data of all parcels within 300' of the Proposed Project with the following data: APN number, mailing address, and parcel's	Volume IV: GIS Data Files-Public

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
physical address.	
4.10 Noise	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.10.3 Appendix H: Noise Modeling and Baseline Noise Survey.
• Regional environment	4.10.3
2. A description of the regulatory environment/context	
• Federal	4.10.2.1
• State	4.10.2.1
• Local	4.10.2.1
In addition to an Impact Analysis: 3. Provide long term noise estimates for operational noise (e.g., corona discharge noise, and station sources such as substations, etc.).	4.10.4.3 Table 4.10-9 Appendix H: Noise Modeling and Baseline Noise Survey.
4.11 Population and Housing	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.11.3
• Regional environment	4.11.3
2. A description of the regulatory environment/context	
• Federal	4.11.2.1

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
• State	4.11.2.1
• Local	4.11.2.1
4.12 Public Services	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.12.3
• Regional environment	4.12.3
2. A description of the regulatory environment/context	
• Federal	4.12.2.1
• State	4.12.2.1
• Local	4.12.2.1
4.13 Recreation	
1. A description of the physical environment in the vicinity of the project 2. (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.13.3
• Regional environment	4.13.3
3. A description of the regulatory environment/context	
• Federal	4.13.2.1
• State	4.13.2.1
• Local	4.13.2.1

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
4.14 Transportation and Traffic	
1. A description of the physical environment in the vicinity of the project 2. (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.14.3
• Regional environment	4.14.3
3. A description of the regulatory environment/context	
• Federal	4.14.2.1 Appendix L: FAA Notice Criteria Tool.
• State	4.14.2.1
• Local	4.14.2.1
4. Describe the likely probable routes that are the subject of the traffic analysis.	
• Discuss traffic impacts resulting from construction of the Proposed Project including ongoing maintenance operations.	4.14.4.3
• Provide a preliminary description of the traffic management plan that would be implemented during construction of the Proposed Project.	4.14.4.3
4.15 Utilities and Public Services	
1. A description of the physical environment in the vicinity of the project (e.g., topography, land use patterns, biological environment, etc.)	
• Local environment (site-specific)	4.15.3
• Regional environment	4.15.3
2. A description of the regulatory environment/context	
• Federal	4.15.2.1

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
• State	4.15.2.1
• Local	4.15.2.1
3. Describe how treated wood poles would be disposed of after removal, if applicable.	Not applicable.
4.16 Cumulative Analysis	
1. Provide a list of projects (i.e., past, present and reasonably foreseeable future projects) within the Project Area that the applicant is involved in.	4.16.6 and 4.16.7
2. Provide a list of projects that have the potential to be proximate in space and time to the Proposed Project. Agencies to be contacted include but are not limited to: the local planning agency, Caltrans, etc.	Not applicable.
4.17 Growth-Inducing Impacts, If Significant	
1. Provide information on the Proposed Project's growth inducing impacts, if any. The information should include, but is not necessarily limited, to the following:	
• Any economic or population growth, in the surrounding environment that will directly or indirectly, result from the Proposed Project	Not applicable. See discussion in Section 5.3.
• Any increase in population that could further tax existing community service facilities (i.e., schools, hospitals, fire, police etc.) that will directly or indirectly result from the Proposed Project.	Not applicable. See discussion in Section 5.3.
• Any obstacles to population growth that the Proposed Project would remove	Not applicable. See discussion in Section 5.3.
• Any other activities, directly or indirectly encouraged or facilitated by the Proposed Project that would cause population growth that could significantly affect the environment, either individually or cumulatively.	Not applicable. See discussion in Section 5.3.
Chapter 5: Detailed Discussion of Significant Impacts	
[Note: With implementation of NEET's APMs, all impacts will be less than significant. Therefore, the first two sections (5.1, Mitigation Measures Proposed to Minimize Significant Effects, and 5.2, Description of Project Alternatives and Impact Analysis) are not required. NEET has provided an alternatives analysis to inform the CPUC of the site and route alternatives considered before arriving at the Proposed Project.]	
5.2 Description of Project Alternatives and Impact Analysis	
1. Provide a summary of the alternatives considered that would meet most of the objectives of the Proposed Project and an explanation as to	5.2.4, 5.2.5, 5.2.6, and 5.2.7

Table 1-1. PEA Checklist Key

	CPUC Requirement	PEA Section, Figure, or Table Number
	why they were not chosen as the Proposed Project.	
2.	Alternatives considered and described by the Applicant should include, as appropriate:	
	a. System or facility alternatives	5.2.5
	b. Route alternatives	5.2.6
	c. Route variations	Not applicable.
	d. Alternative locations.	5.2.6
3.	A description of a "No Project Alternative" should be included.	5.2.3
4.	If significant environment effects are assessed, the discussion of alternatives shall include alternatives capable of substantially reducing or eliminating any said significant environmental effects, even if the alternative(s) substantially impede the attainment of the project objectives, and are more costly.	Not applicable.
5.3 Growth-Inducing Impacts		
Information required to analyze the Proposed Project's effects on growth would vary depending on the type of project proposed. Generally, for transmission line projects the discussion would be fairly succinct and focus on the following:		
1.	Would the Proposed Project foster economic or population growth, either directly or indirectly, in the surrounding environment?	5.3
2.	Would the Proposed Project cause an increase in population that could further tax existing community service facilities (i.e., schools, hospitals, fire, police, etc.)?	5.3
3.	Would the Proposed Project remove obstacles to population growth?	5.3
4.	Would the Proposed Project encourage and facilitate other activities that would cause population growth that could significantly affect the environment, either individually or cumulatively?	5.3
5.4 Applicant Proposed Measures to address GHG Emissions		
See the menu of suggested APM's in PEA Checklist Section 6.4 that applicants can consider. Applicants can and are encouraged to propose other GHG reducing mitigations. Priority is given to on-site and/or nearby mitigation measures. Off-site mitigation measures within California will be considered.		4.3.4.2 Table 3-5

Table 1-1. PEA Checklist Key

CPUC Requirement	PEA Section, Figure, or Table Number
Chapter 6: Other Process-Related Data Needs	
1. Excel spreadsheet that includes all parcels within 300 feet of any project component with the following data: APN number, owner mailing address, and parcels physical address. [Note: notice of all property owners within 300 feet is required under GO 131-D.]	Table 6-1 Appendix J: Public Participation and Outreach Effort Materials.

Table 1-2. Summary of Agency Meetings Conducted to Date

Date of Consultation/Meetings	Agency
February 25, 2015	U.S. Forest Service, Cleveland National Forest
April 2, 2015	U.S. Army Corps of Engineers
April 2, 2015	San Diego Regional Water Quality Control Board
April 2, 2015	California Department of Fish and Wildlife
April 3 and 7, 2015	California State Water Resources Control Board and San Diego Regional Water Quality Control Board
May 20, July 30, and August 18, 2015	County of San Diego
Notification sent June 22, 2015	Native American Heritage Commission
August 4, 2015	Kwaaymii Laguna Band of Mission Indians and Viejas Band of Kumeyaay Indians
August 19, 2015	San Diego County Air Pollution Control District

Table 1-3. Summary of Community Outreach and Meetings Conducted to Date

Date of Consultation/ Meetings	Meeting Attendee/Organization
June 2015	State Assemblyman Brian Jones's Office
June 2015	State Senator Joel Anderson's Office
June 2015	San Diego County Supervisor Dianne Jacob's Office
June 25, 2015	Alpine Community Planning Group Meeting
July 2015	State Senator Joel Anderson's Office
July 13, 2015	San Diego County Planning and Development Services
August 4, 2015	Public Informational Workshop - Alpine Community
August 10, 2015	San Diego County Chief Administrative Office

2.0. PROJECT PURPOSE AND NEED AND OBJECTIVES

2.1. OVERVIEW

This chapter explains the purpose, need, and objectives of NextEra Energy Transmission West, LLC's (NEET West) proposed Suncrest Dynamic Reactive Power Support Project (Proposed Project), which will consist of a Static Var Compensator (SVC) and an approximately 1-mile, 230 kilovolt (kV) single-circuit underground transmission line. Sections IV.B. and V.B of NEET West's Application for a Certificate of Public Convenience and Necessity (CPCN) to the California Public Utilities Commission (CPUC) also discuss the objectives of, and need for, the Proposed Project.

2.1.1. Project Purpose

The Proposed Project's purpose is to provide dynamic reactive power support at the Suncrest Substation, a 500 kV and 230 kV-level regional substation near Alpine, San Diego County, California. The Proposed Project will: (a) facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals; (b) provide cost-effective voltage control and other electric transmission grid benefits; and (c) support the provision of safe, reliable, and adequate electricity service in the greater San Diego and Los Angeles metropolitan areas.

Traditional generating plants with spinning turbines, such as nuclear and fossil fuel combustion plants, produce two kinds of power: real power and reactive power. Real power accomplishes useful work and is measured in watts. Reactive power supports the voltage levels needed to maintain system reliability and is measured in volt-amperes reactive, or "var." Reactive power is typically measured in the unit megavars (Mvar), meaning million vars.

As a general matter, certain types of renewable power sources, such as solar photovoltaic, do not provide reactive power at the same level as traditional generation sources, unless augmented by special equipment. Also, reactive power does not "travel" well along transmission lines; therefore, the loss of traditional, generation plants and their ability to provide localized reactive power is not effectively offset by new, local, solar-photovoltaic generation. Another related concern is the importing of power from generation sources east of the Proposed Project. Renewable generation in the Imperial Valley and further eastward is expected to increase. Additional reactive power is needed for voltage support that will allow existing transmission lines to import more power from these areas.

The 500 kV transmission lines that bring power from the east (Imperial Valley Substation and beyond) to the west (San Diego and Los Angeles combined basin) are shown in Figure 2-1. The Suncrest Substation was constructed as part of SDG&E's Sunrise Powerlink Transmission Project (Sunrise Powerlink). For additional context, Figure 2-2 provides a schematic diagram of the Suncrest Substation in relation to several other high-voltage transmission substations.

Figure 2-1. General Location of Sunrise Powerlink, Southwest Powerlink, and Suncrest Substation.

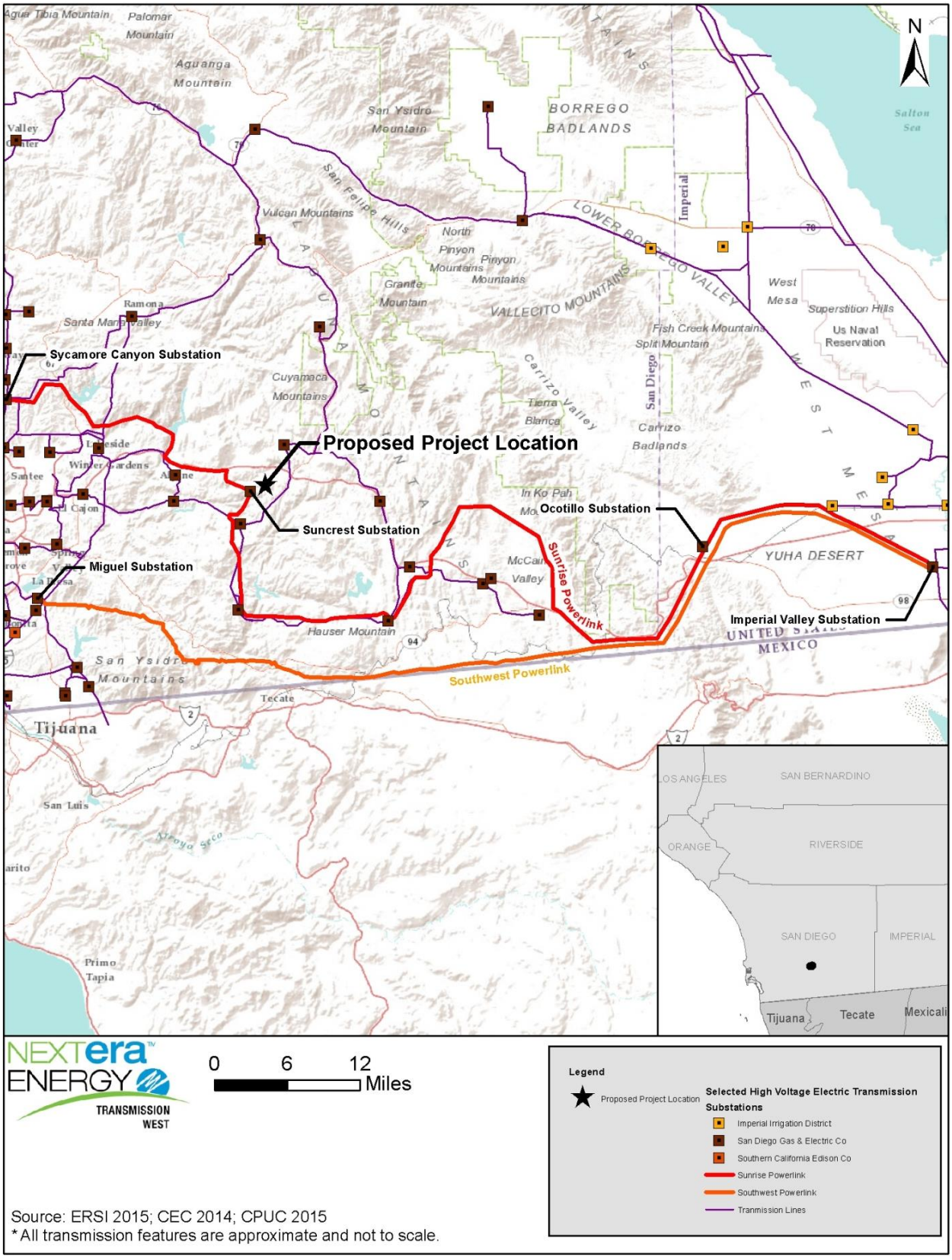
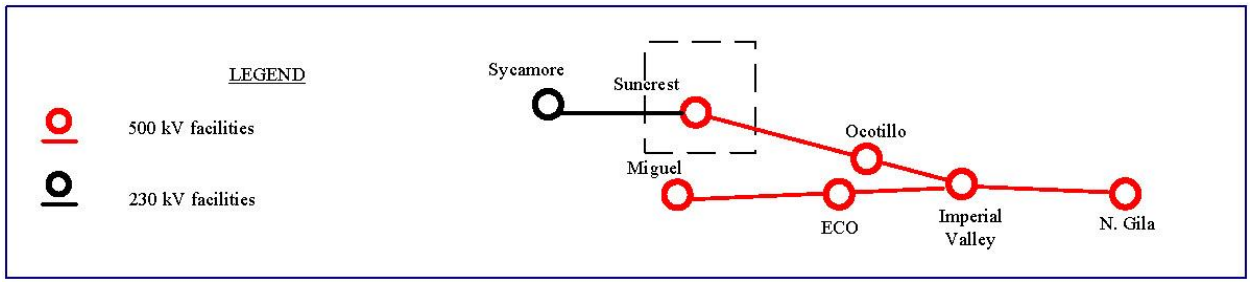


Figure 2-2. Schematic Diagram of Key Substations



Source: CAISO 2014b. Suncrest 230 kV 300 MVAr Dynamic Reactive Power Support Description and Functional Specifications for Competitive Solicitation, April 15, 2014, p. 1.

2.1.2. Project Need

The Proposed Project was identified (Casey 2014) as a needed policy-driven transmission addition in the California Independent System Operator's (CAISO) 2013–2014 annual transmission planning cycle and approved by the CAISO's Board of Governors on March 20, 2014.

Each year, the CAISO provides a comprehensive evaluation of its transmission grid to identify upgrades needed to successfully meet California's policy goals, in addition to examining conventional grid reliability requirements and projects that can bring economic benefits to consumers. This plan is updated annually and is prepared in the larger context of supporting importation of energy and environmental policies, while maintaining reliability through a resilient electric system.

Public policy requirements and directives are an element of transmission planning that was added to the CAISO's planning process in 2010. Planning transmission to meet public policy directives is a national requirement in accordance with FERC Order No. 1000. It enables the CAISO to identify and approve transmission facilities that system users will need to comply with State and federal requirements or directives. The primary policy directive since 2010 has been California's Renewable Portfolio Standard (RPS) that calls for 33% of the electric retail sales in the state by 2020 to be provided from eligible renewable resources.

Commencing in the 2010–2011 timeframe, the CAISO has utilized renewable generation portfolios developed by the CPUC with input from the California Energy Commission (CEC), the CAISO, and other stakeholders through various CPUC-led processes. The CAISO's evaluation of policy-driven transmission needs in the 2013–2014 Transmission Plan, including the specific identification of the need for the Suncrest dynamic reactive support project, was conducted on this basis and consistent with the original Memorandum of Understanding (CPUC and CAISO 2010) developed by the CPUC and the CAISO coordinating the use of these CPUC-developed renewable generation portfolios (CPUC and CEC 2013).

The CAISO's analysis, conducted through an open and stakeholder-inclusive planning process, led to the identification of the need for the Proposed Project as part of a comprehensive solution (relying in part on other upgrades already identified to meet reliability needs notwithstanding state policy objectives) to mitigate post-contingency voltage control issues in the Suncrest area:

> *Based on the study results and analysis above, the following mitigations are needed.*
>
> - *Category 1 policy-driven upgrades*
>
> 1. *rely on the flow control device on Imperial Valley–ROA 230 kV line already identified as a reliability solution and install a 300 Mvar dynamic reactive device at the Suncrest 230 kV bus. Estimated cost for the dynamic reactive device is $65 million based on similar proposed projects.*[1]

In addition to the need for the Proposed Project to support the development of renewable generation in keeping with state policy, NEET West also understands that the Proposed Project has additional reliability benefits. The same 2013–2014 Transmission Plan identified a number of upgrades to the transmission system necessary to accommodate future retirement of coastal gas-fired generation utilizing once-through cooling, and the early retirement of the San Onofre Nuclear Generating Station (SONGS). These upgrades included, in addition to other transmission facilities, additional dynamic reactive support in the vicinity of SONGS (now being split between SONGS and Southern California Edison Company's Santiago substation) and at San Luis Rey, as well as additional dynamic reactive support approved in the 2012–2013 Transmission Plan for SDG&E's Talega substation. The Proposed Project provides this additional reactive support beyond meeting those localized needs. However, the Proposed Project additionally provides some level of backstop reliability benefit in the event those other projects do not proceed on schedule.

Recognizing the passage of time since the CAISO's initial identification of the need for the Proposed Project, NEET West understands and expects that the CAISO will be providing updated analysis in this proceeding reinforcing the continued need for the Proposed Project.

Under the CAISO's tariff, the Proposed Project was subject to competitive solicitation (CAISO, Infrastructure Development 2014a, p. 293). On April 15, 2014, the CAISO issued its Functional Specifications for the Suncrest Dynamic Reactive Power Support Project (Suncrest Functional Specifications), requesting competitive bids for the project and opened the bid window on April 16, 2014[2] (CAISO 2014b). In the Suncrest Functional Specifications, the CAISO reiterated the need for a 300 Mvar dynamic reactive power support connecting to the Suncrest 230 kV bus, based upon the need for dynamic reactive power support to provide continuous or quasi-continuous reactive power response following system disturbances.[3] The CAISO requested that applicants submit a bid for one of the following types of devices: SVC, Static Synchronous Compensator (STATCOM), or Synchronous Condenser.[4] As described above, NEET West submitted a project sponsor application to the CAISO for a +300/-100 Mvar SVC facility, which the CAISO ultimately selected.

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1 CAISO 2014a, pp. 190-191, 291 (Table 7.2-2); Annex A to Testimony (2013–2014 TPP) at 190-191, 291.

2 The Suncrest Functional Specifications are provided as Annex D to Testimony.

3 Annex D to Testimony (Suncrest Functional Specifications) at § 1.

4 *Id.*

NEET West's Proposed Project consists of a +300/-100 Mvar SVC, which meets the CAISO's Functional Specifications for the Suncrest reactive power support system and, therefore, the CAISO's identified public policy need for dynamic reactive power support at the Suncrest Substation 230 kV bus. In particular, the Proposed Project will provide continuous or quasi-continuous reactive power response following system disturbances. The Proposed Project will meet the CAISO's technical requirements for reactive power at the Point of Interconnection to the 230 kV bus at the Suncrest Substation, including connecting the NEET West transmission line. The requirements are met by applying sufficient SVC reactive power range and through the SVC voltage control abilities.

In preparing its bid package for the CAISO, NEET West carefully considered several commercially available transmission technologies from different vendors that would meet the CAISO's description and functional specification for the 230 kV, +300/-100 Mvar dynamic reactive power support system. NEET West reviewed different vendor technologies and evaluated the solution based on key technical indicators that would be significant to CAISO. The proposed solution:

- Would meet CAISO's identified need for reactive power support;
- Is a proven transmission system reactive compensation solution using technologies that have been applied for transmission system voltage support for more than 40 years;
- Provides continuous reactive power and voltage control capability;
- Has significantly lower no-load and operational losses and faster response time than a synchronous condenser;
- Has high availability and reliability; and,
- Is the least capital cost solution (as compared to the other two conventional solutions: STATCOM and synchronous condenser).

NEET West's proposed site is shown in Figure 2-3.

2.2. PROJECT OBJECTIVES

The objectives of the Proposed Project are to:

1. Meet the CAISO's policy-driven need for reactive support at the Suncrest Substation's 230 kV bus identified in CAISO's powerflow, stability, and deliverability assessment for the SDG&E area in a manner consistent with the requirements of the Approved Project Sponsor Agreement.

2. Meet the technical specifications set forth by the CAISO for a 230 kV, +300/-100 Mvar dynamic reactive power support system near the Suncrest Substation.

3. Achieve commercial operation by May 31, 2017, to meet the CAISO's required in-service date of June 1, 2017.

4. Improve and maintain the reliability of the transmission grid by providing dynamic reactive power support, and increase deliverability of renewable power, by building and

operating a facility that will help keep transmission voltages within specified parameters, reduce transmission losses, increase reactive margin for the system bus, increase transmission capacity, provide a higher transient stability limit, increase damping of minor disturbances, provide greater voltage control and stability, and provide power oscillation damping.

5. Facilitate deliverability to load of renewable generation from the Imperial Valley area and corresponding progress toward achieving California's RPS goals in a timely and cost-effective manner by California utilities.

6. Meet the policy-driven project need while minimizing environmental impacts.

7. To the extent practicable, locate the dynamic reactive support equipment and transmission tie-line on land that is, or has previously been, disturbed or in an existing right-of-way, or which would otherwise minimize environmental impacts in a manner consistent with prudent transmission planning.

8. Construct and operate the facility with safety as a top priority.

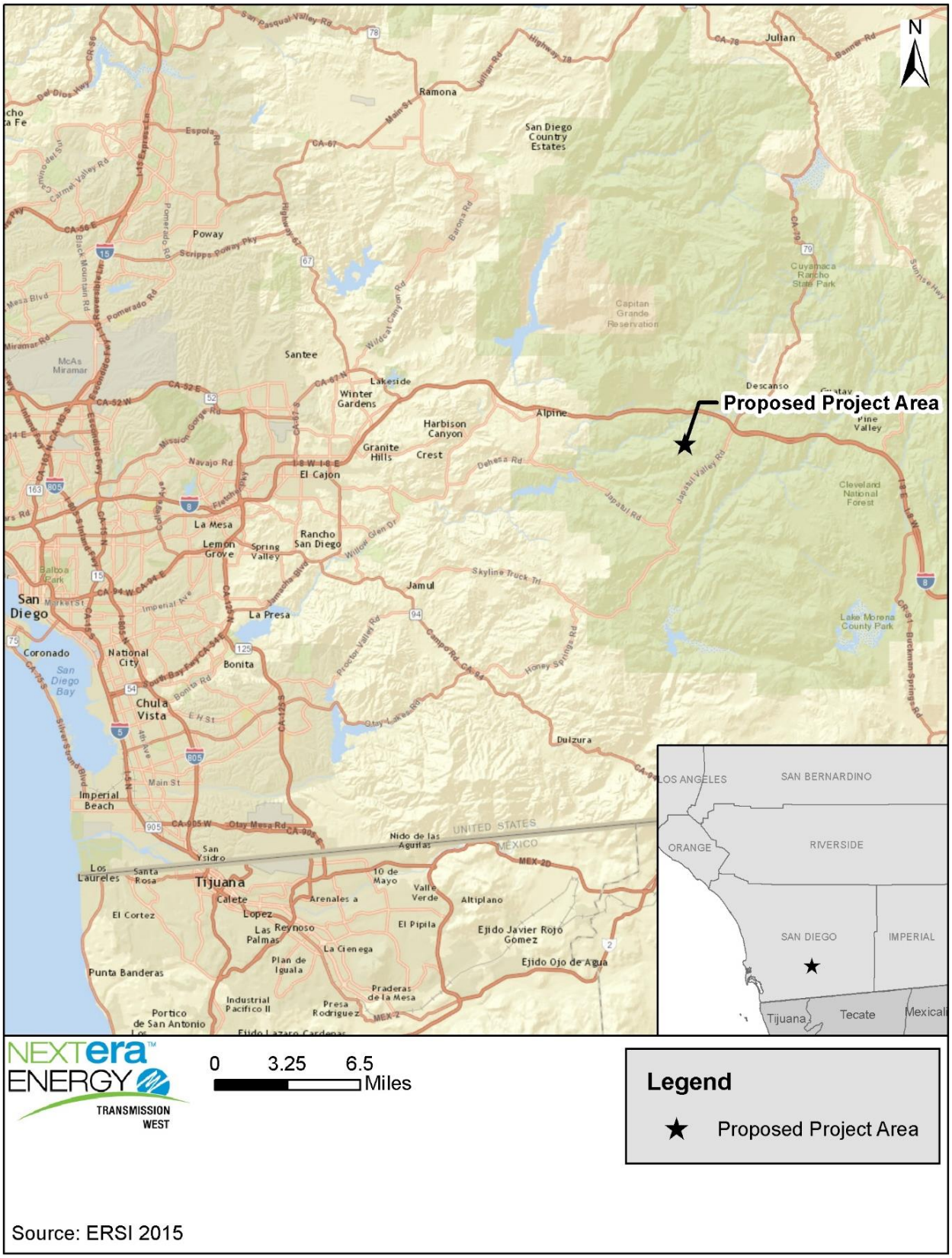
9. Meet the project need in a safe, cost-effective manner and consistent with NEET West's cost containment agreement in the Approved Project Sponsor Agreement.

10. Comply with and assist the CAISO in meeting applicable Reliability Standards and Regional Business Practices developed by NERC, WECC, and the CAISO.

11. Design and construct the Proposed Project in conformance with NEET West's standards, the National Electrical Safety Code, and other applicable national and state codes and regulations.

NEET West considered these objectives in developing a reasonable range of alternatives to the Proposed Project. Chapter 5 describes the development process and the selection of alternatives for analysis in this Proponent's Environmental Assessment (PEA).

Figure 2-3. Project Vicinity Map



2.3. REFERENCES

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California Independent System Operator (CAISO), Infrastructure Development. 2014a. *California Independent System Operator, Infrastructure Development, 2013-2014 Transmission Plan*. Board Approved July 16, 2014 (as amended to include the Delaney-Colorado River project). Available at: www.caiso.com/planning/Pages/TransmissionPlanning/2013-2014 TransmissionPlanningProcess.aspx. Accessed March 17, 2015.[5]

_____. 2014b. *Suncrest 230 kV 300 MVAr Dynamic Reactive Power Support Description and Functional Specifications for Competitive Solicitation (the "Suncrest Functional Specifications")*. April 15, 2014. Available at: http://www.caiso.com/Documents/Description-FunctionalSpecificationsSuncrest230ReactivePowerSupport.pdf. The Suncrest Functional Specifications are provided as Annex D to the Testimony.

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California Public Utilities Commission (CPUC). 2015a. San Diego Gas & Electric Company's Sunrise Powerlink Project (Applications A.05-12-014 and A.06-08-010), Requests for Technical Information Related to the Draft EIR/EIS, GIS Data (This citation pertains to figures in this section.). Available at: http://www.cpuc.ca.gov/environment/info/aspen/sunrise/reqs_tech_info.htm. Accessed April 20, 2015.

_____. 2015b. RPS Program Overview. Available at: http://www.cpuc.ca.gov/PUC/energy/Renewables/overview.htm. Accessed March 11, 2015.

[5] Note: The March 2014 version of the Transmission Plan, available at www.caiso.com/Documents/Transmission%20planning/%20process%20-%20board-approved%20plan%20and%20appendices. is not the most current version.

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3.0. PROJECT DESCRIPTION

3.1. PROJECT LOCATION

The Proposed Project is located in the south central portion of San Diego County, approximately 33 miles east of the Pacific Coast. The Proposed Project has two primary components—the SVC facility and an approximately 1-mile 230 kV single-circuit, underground transmission line connecting the SVC to the existing Suncrest Substation owned and operated by SDG&E. The Proposed Project is located in an unincorporated portion of San Diego County, 3.78 miles southwest of the community of Descanso and 3.36 miles southeast of the community of Alpine. The city of El Cajon is situated 13.36 miles to the west.

The lands surrounding the Proposed Project currently consist of a mixture of developed lands, historically-disturbed or previously-cleared lands in various states of revegetation/restoration, and predominantly undeveloped-undisturbed chaparral scrub and oak woodlands. Topography in the vicinity of the Proposed Project is undulating with steep hills interspersed by narrow valleys and deep canyons. Elevations in the vicinity of the Proposed Project range between approximately 3,000 and 3,200 feet above mean sea level. Surface waters in the vicinity of the Proposed Project are typified by narrow, ephemeral washes. The Proposed Project's location is illustrated in Figure 3-1, Project Vicinity Map.

While the Proposed Project is bordered in nearly all directions by undeveloped vegetated lands, several features of the built environment are present in the immediate vicinity. Approximately 87.5% of the Proposed Project's footprint lies within the area that was recently and thoroughly evaluated as part of the Sunrise Powerlink California Environmental Quality Act (CEQA) process. The Suncrest Substation, constructed as part of the Sunrise Powerlink (circa 2012), is located at the western terminus of the proposed transmission line, approximately 1 mile west of the location of the proposed SVC. Several localized development improvements were made within the area during construction of the Suncrest Substation and the larger SDG&E Sunrise Powerlink. Bell Bluff Truck Trail, historically a dirt road, was widened and paved by SDG&E in order to provide access to the Suncrest Substation. Bell Bluff Truck Trail is owned individually by SDG&E and a private landowner on parcels Assessor's Parcel Numbers (APN) 523-030-130 and 523-040-080, respectively. Several drainage improvements were made during the widening and paving of Bell Bluff Truck Trail to provide stormwater drainage and conveyance along the roadway. Culverts present along the roadway convey waters from roadside ditches and natural drainage features in the area toward localized basins or the local surface water network. With the exception of a riser pole structure and some temporary work areas to install up to five splice vaults, the majority of the proposed underground transmission line will be located under the existing paved roadbed of Bell Bluff Truck Trail.

Low-density rural residential developments are present approximately 1.15 miles to the northeast and 0.81 mile to the southeast of the Proposed Project. Interstate 8 (I-8) is located approximately 1.75 miles to the north and Japatul Valley Road (State Highway 79) is located approximately 1.66 miles to the east.

Figure 3-1. Project Vicinity Map

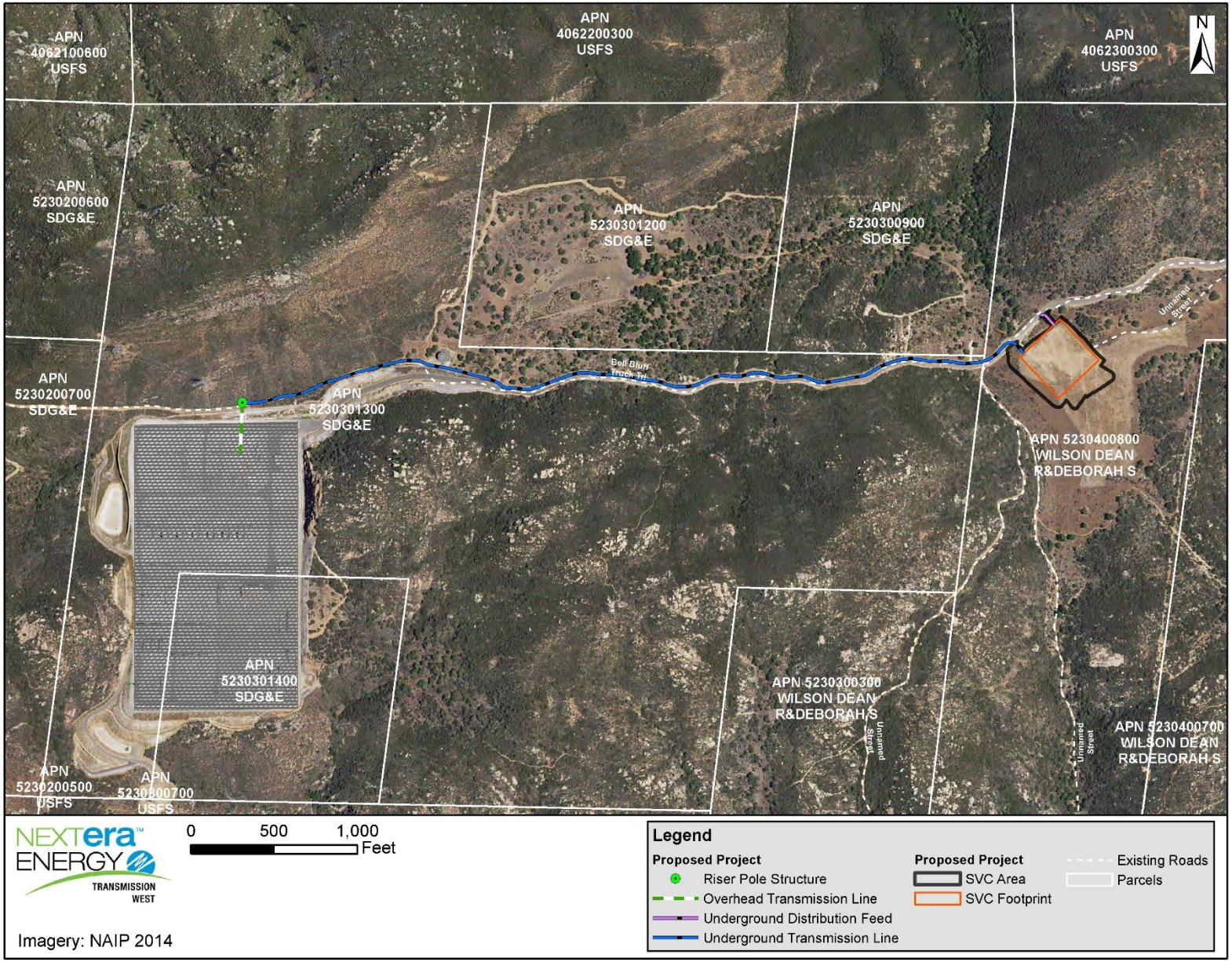
The Proposed Project is located within the administrative boundary[1] of the United States Forest Service (USFS) Cleveland National Forest (CNF) on privately-owned lands over which the USFS has no jurisdiction. The SVC will be constructed within an approximately 6-acre portion of APN 523-040-080 (Figure 3-2). Based on a review of topographic maps and aerial photography, as early as 1953, a large portion of this parcel, including the proposed SVC area, appears to have been historically-cleared, presumably for livestock grazing purposes. From 1953 onward, the land where the SVC will be constructed remained largely cleared of dense or woody vegetation and now consists of predominantly grasses and forbs. During the construction of the Sunrise Powerlink, the proposed SVC area was used as a materials staging area and was completely cleared of vegetation. Following completion of construction, the area has been undergoing revegetation, including active planting and restoration activities by SDG&E, and has largely been undisturbed. NEET West has an Option Agreement to obtain a 6-acre portion of this parcel and, prior to construction, will obtain fee ownership of the 6 acres which will contain the SVC. Access to the proposed SVC will be immediately off of Bell Bluff Truck Trail via two new approximately 20-foot-wide by 95-foot-long access drives. The roadway aprons of these access drives will be paved while the remainder of the access drives will be graveled. These access drives will also be entirely within the area NEET West will obtain in fee.

The proposed transmission line, which will connect the SVC to the California electric transmission grid, will be approximately 1 mile in length (0.95-mile straight line distance) and will be installed underground within Bell Bluff Truck Trail or the road shoulder between the SVC and a new riser structure that would be located on the hillside just north of the Suncrest Substation. An approximately 300-foot-long overhead span will connect into the existing Suncrest Substation's 230 kV bus.

The transmission line alignment will traverse two privately owned parcels: APNs 523-030-130 and 523-040-080. One of these parcels (APN 523-030-130) is currently owned by SDG&E; the other is owned by the same private landowner with whom NEET West has signed the Option Agreement. Approximately 12-foot-wide permanent easements will be obtained from SDG&E and the private landowner in order for NEET West to operate and maintain the underground transmission line on their respective properties. An approximately 20-foot-diameter easement will be obtained around the riser structure used to transition the underground transmission line into the overhead span entering the Suncrest Substation. Construction activities would for the most part occur within the curbs of Bell Bluff Truck Trail, which is approximately 30 feet curb-to-curb near the SVC site and 12 feet curb-to-curb closer to the Suncrest Substation. There will be minimal disturbance outside the road bed to install the riser structure where the underground line transitions to overhead and to facilitate installation of the vault structures. Duct bank installation and equipment and material staging will be limited to either the north or south side of the road centerline, depending on the location of other utility facilities in the roadway, to maintain an unobstructed single lane of travel on the 30-foot-wide road section, so as not to impede access to Suncrest Substation. Between SDG&E's substation access road and the riser structure, Bell Bluff Truck Trail is approximately 12 feet wide and would be closed to traffic during underground construction in this segment. However, because SDG&E has its own access driveway, SDG&E and emergency access to Suncrest Substation will not be impeded.

[1] An area encompassing all the National Forest System lands administered by an administrative unit. The area encompasses private lands (over which the USFS has no jurisdiction), other governmental agency lands, and may contain National Forest System lands within the proclaimed boundaries of another administrative unit. All National Forest System lands fall within one and only one Administrative Forest Area.

Figure 3-2. Project Overview Map



Up to five splice vaults will be installed underground along the transmission line alignment approximately every 900 feet to facilitate installation of the underground cable and operation and maintenance of the transmission line following construction. During detailed engineering design, it is possible that the number of vaults could be reduced. Refer to Section 3.7 for further discussion of land acquisition and land rights

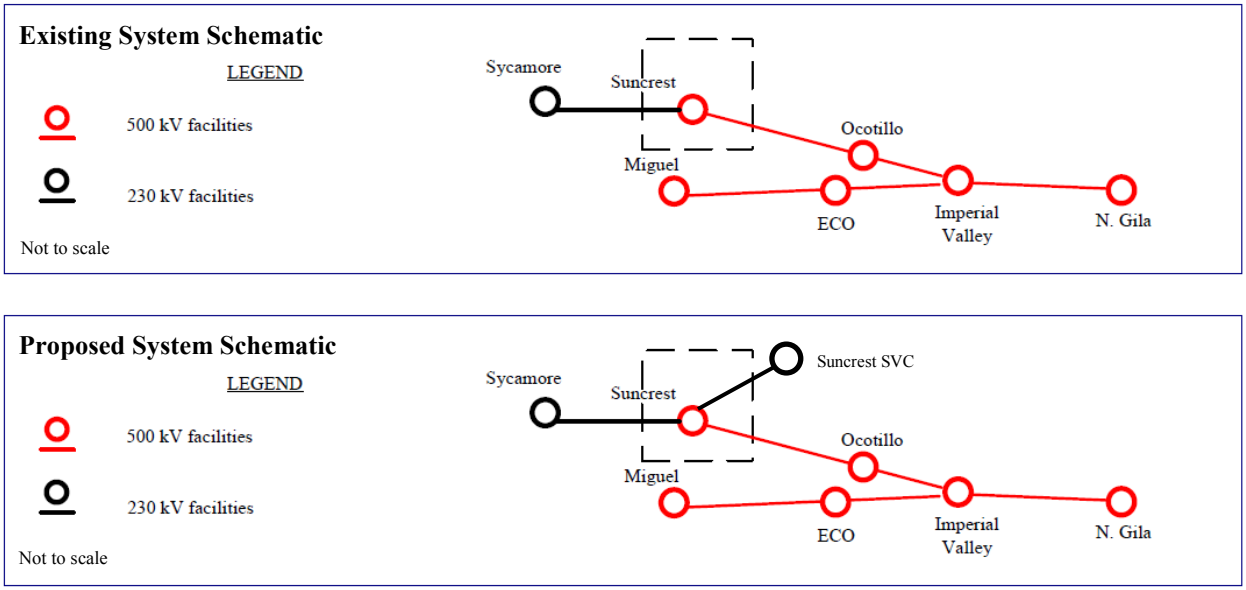
3.2. EXISTING TRANSMISSION SYSTEM

The Proposed Project is a SVC facility and a 230 kV single circuit underground transmission line that will connect to the existing SDG&E Suncrest Substation. The transmission system in the vicinity of the Proposed Project includes the existing 500/230 kV SDG&E Suncrest Substation and the Sunrise Powerlink. The Suncrest Substation became operational in 2012 as one of the Sunrise Powerlink's substations and is used to convert voltages along the Sunrise Powerlink from 500 kV to 230 kV. The Sunrise Powerlink enters the substation from the south at 500 kV, connecting to the Ocotillo and Imperial Valley Substations located to the east. The Sunrise Powerlink exits the Suncrest Substation as two 230 kV overhead transmission lines leading to the north, connecting to the Sycamore Substation located to the west. The Suncrest Substation has been designed to accommodate one future 500 kV line and four future 230 kV lines, including the Proposed Project's 230 kV transmission line.

The Proposed Project will connect to the existing Suncrest Substation at a 230 kV bus. From the bus, the proposed transmission line will connect to a new riser pole structure that will be located at the end of the underground segment. This portion of the proposed transmission line will parallel SDG&E's 230 kV transmission line on the north side of Suncrest Substation for approximately 300 feet. From the riser pole, the proposed transmission line will descend to connect to the underground segment. SDG&E will be responsible for stringing the overhead line into the Suncrest Substation to make the interconnection. Figure 3-3 schematically illustrates the existing transmission system centered on the Suncrest Substation, as well as the transmission system after construction of the Proposed Project. Appendix A, Confidential Submittals, contains a confidential map of existing transmission facilities in the Proposed Project area (Appendix A-1, Confidential Existing Transmission Facilities Map).

An existing SDG&E 12 kV distribution feeder line is located underground within Bell Bluff Truck Trail, which is expected to be tapped to provide auxiliary power for the SVC site (i.e., NEET West has requested this service from SDG&E). The cables for this auxiliary power will remain underground until they reach an auxiliary transformer installed on the SVC site.

Figure 3-3. System Overview Map



Source: CAISO 2014.

3.3. PROJECT OBJECTIVES

As described in Chapter 2 of this PEA, Purpose and Need and Objectives, the recent unexpected retirement of SONGS presents a number of challenges to the southern California transmission grid's ability to deliver renewable power from the Imperial Valley area, as well as to adapt and react to system disturbances. The Proposed Project has been identified by the CAISO as a "policy-driven" project that will address several transmission overloading and voltage support issues by providing system stability and reliability.

The Proposed Project's overall objective is to cost-effectively meet the need for reactive support at the Suncrest Substation's 230 kV bus identified in the CAISO's powerflow, stability, and deliverability assessment for the SDG&E area by providing a dynamic reactive power support system that meets the CAISO's technical specifications. The proposed SVC will keep transmission voltages within specified parameters, thereby reducing and preventing blackouts and brownouts and allowing increased deliverability of generated renewable energy. Additional project objectives as well as purpose and need are described in further detail in Chapter 2.

3.4. PROPOSED PROJECT

The Proposed Project will include the following main components:

- Construction of a new SVC facility with a rated real power output of 0 MW, and a nominal terminal voltage of 230 kV;
- Construction of two new access driveways to facilitate construction, operation, and maintenance of the SVC;

- Installation of a new approximately 1-mile 230 kV single-circuit underground electrical transmission line within a concrete-encased electrical duct bank between the SVC and the Suncrest Substation 230 kV bus;
- Installation of fiber optic cable within the same underground duct bank as the 230 kV cable to provide communications for line relaying, the Supervisory Control and Data Acquisition (SCADA) communications and control system, and other devices as required;
- Installation of up to five splice vaults to facilitate installation of the new underground cable and operation and maintenance of the transmission line;
- Installation of a 12 kV underground electrical distribution feed to the SVC; and,
- Installation of a riser pole approximately 85 to 95 feet in height north of the Suncrest Substation to transition the transmission line from underground to overhead to connect to the 230 kV bus.

The Proposed Project components are described in greater detail in Section 3.6, Project Components. The two primary components, construction of the new SVC and construction of the new underground transmission line, through their connection to the Suncrest Substation will provide continuous reactive power response improving and maintaining the reliability of the transmission grid and increasing the deliverability of renewable power. The proposed SVC will be constructed immediately south of Bell Bluff Truck Trail in an area that was previously used as a construction laydown area for the Sunrise Powerlink. The proposed underground transmission line will exit the SVC on the north side and will then head westward below Bell Bluff Truck Trail for approximately 1 mile to a point where the transmission line will transition to a riser pole structure. SDG&E will then string the conductor with an approximately 300-foot-long overhead span to enter the Suncrest Substation and make the interconnection. SDG&E will take ownership of this span, because it crosses over its assets within the substation. The point of ownership demarcation for the conductor will be the dead-end jumper pads on the substation side of the riser structure near Bell Bluff Truck Trail. The point of ownership demarcation for the fiber optic line will be a splice box located on the riser structure.

In order to provide the interconnection for the SVC, NEET West understands at this time that SDG&E needs to add electrical infrastructure to support the underground transmission line termination within the Suncrest Substation. SDG&E will add foundations, support structures, grounding, conduits and wiring, bus work, breakers, disconnect switches, jumpers, and associated protection and control equipment to the existing 230 kV substation yard. In addition, SDG&E will add foundations, support structures, grounding, conduits and wiring, bus work, 230kV breakers, disconnect switches, control, protection, metering, communication support racks and SCADA and communication facilities to the existing 230 kV substation yard. These activities have been included in this PEA's environmental analysis.

Based on the System Impact Study Report, NEET West does not anticipate that SDG&E will require transmission upgrades beyond these additions.

3.5. FUTURE PHASES

There are no future phases of the Proposed Project.

3.6. PROJECT COMPONENTS

The Proposed Project components, including construction elements, are described in the following sections and shown on the map in Figure 3-2, Project Overview Map. Proposed Project components are summarized in Table 3-1.

Table 3-1. Proposed Project Components Summary

Component	Quantity	Size (unit)	Description
SVC Facility	1	Approximately 6 acres total Approximately 2.58 acres fenced	SVC including all components and associated improvements (e.g., grading, access routes, retaining wall, stormwater management, etc.).
SVC Access Driveway	2	20 feet × 95 feet	New access driveways from the edge of Bell Bluff Truck Trail to the SVC.
Underground Transmission Line	1	Approximately 1 mile	230 kV single-circuit, three-phase underground electric transmission line from the SVC to a new riser pole outside Suncrest Substation.
Overhead Transmission Span – Interconnection to Suncrest Substation	1	300 feet	230 kV single-circuit, three phases from underground cable riser pole to Suncrest Substation.
Underground Splice Vaults	Up to 5	30 feet × 7 feet × 8 feet	Precast concrete, located within Bell Bluff Truck Trail.

3.6.1. SVC Facility

The proposed SVC will be constructed immediately south of Bell Bluff Truck Trail within a portion of APN 523-040-080. Construction of the SVC will disturb a total area of approximately 261,360 square feet (6 acres) (i.e., limit of grading and associated site improvements based on current information) to be obtained in fee by NEET West prior to construction (see Section 3.7 for further discussion of requirements). The SVC will be contained within a fenced area of up to approximately 112,000 square feet (2.58 acres). The final design and layout of the SVC within the fenced area will be procured through an EPC contract and functional specification detailing required capacity, performance, available site area, and other requirements. The SVC manufacturers invited to submit proposals will have the flexibility to configure their SVC designs in an optimal manner that will meet the requirements of the specification. All submitted candidate designs will generally incorporate a number of common components including the following contained within the SVC fenced area:

- Lightning Shielding Masts
- 230 kV Circuit Breaker
- 230 kV Main Stringbus and Busbar

- 230 kV Group Operated Air Break Switch
- 230 kV Lightning Arresters
- 230 kV Potential Measurement Transformers
- Three Single Phase 230 kV Main Power Transformers (plus One Spare) Outdoor HVAC Equipment and Thyristor/Convertor Cooling Equipment
- Outdoor Capacitor Banks
- Outdoor Air Core Reactors
- Outdoor Medium Voltage Busbars
- Outdoor Medium Voltage Instrument/Auxiliary Transformers
- Outdoor Medium Voltage Surge Arresters
- Outdoor Medium Voltage Group Operated Air Break Switches
- Control House of approximately 2,500 square feet containing the following equipment:
    - Thyristor Valves and/or IGBT Convertors
    - Protective Relaying and Control Equipment
    - SCADA Equipment
    - Cooling Equipment
    - AC/DC Auxiliary Power Equipment
    - Spare Parts and Maintenance Tool Storage
    - Miscellaneous Support Facilities

All major equipment (e.g., power transformers, power circuit breakers, control buildings, capacitors, and reactors) will be installed on concrete foundations. The maximum amount of oil required for the transformers at the SVC will be approximately 10,000 to 12,000 gallons for each of the four transformers. The tallest structures within the SVC will be the approximately 75-feet-high lightning shielding masts. The general layout and arrangement of the outdoor equipment of a typical SVC of this approximate size is shown in Figure 3-4, SVC Typical Plan View and General Arrangement. A typical elevation profile of a SVC facility is shown in Figures 3-5a and 3-5b, SVC Typical Elevation View.

Figure 3-4. SVC Typical Plan View and General Arrangement

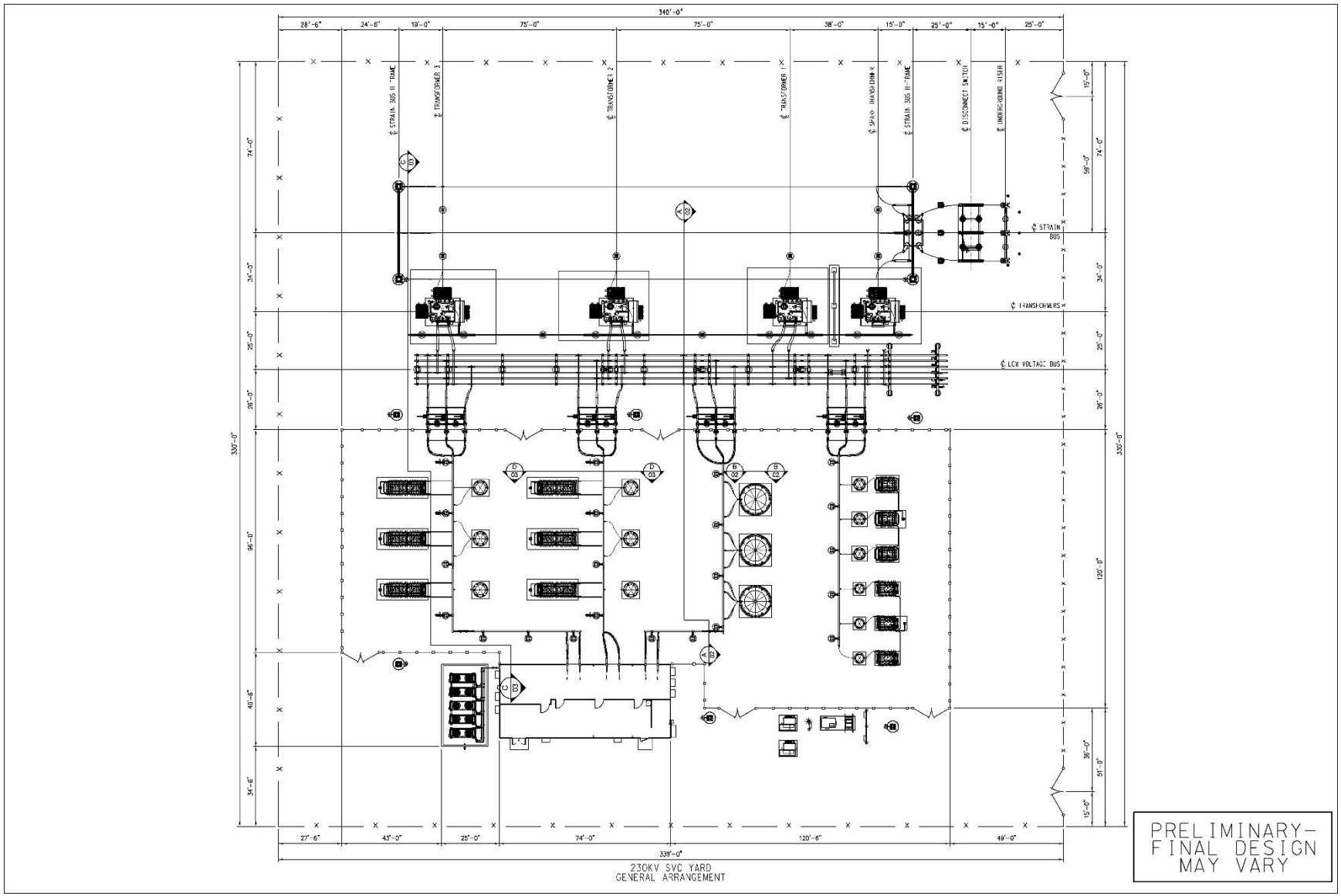


Figure 3-5a. SVC Typical Elevation View (1 of 2)

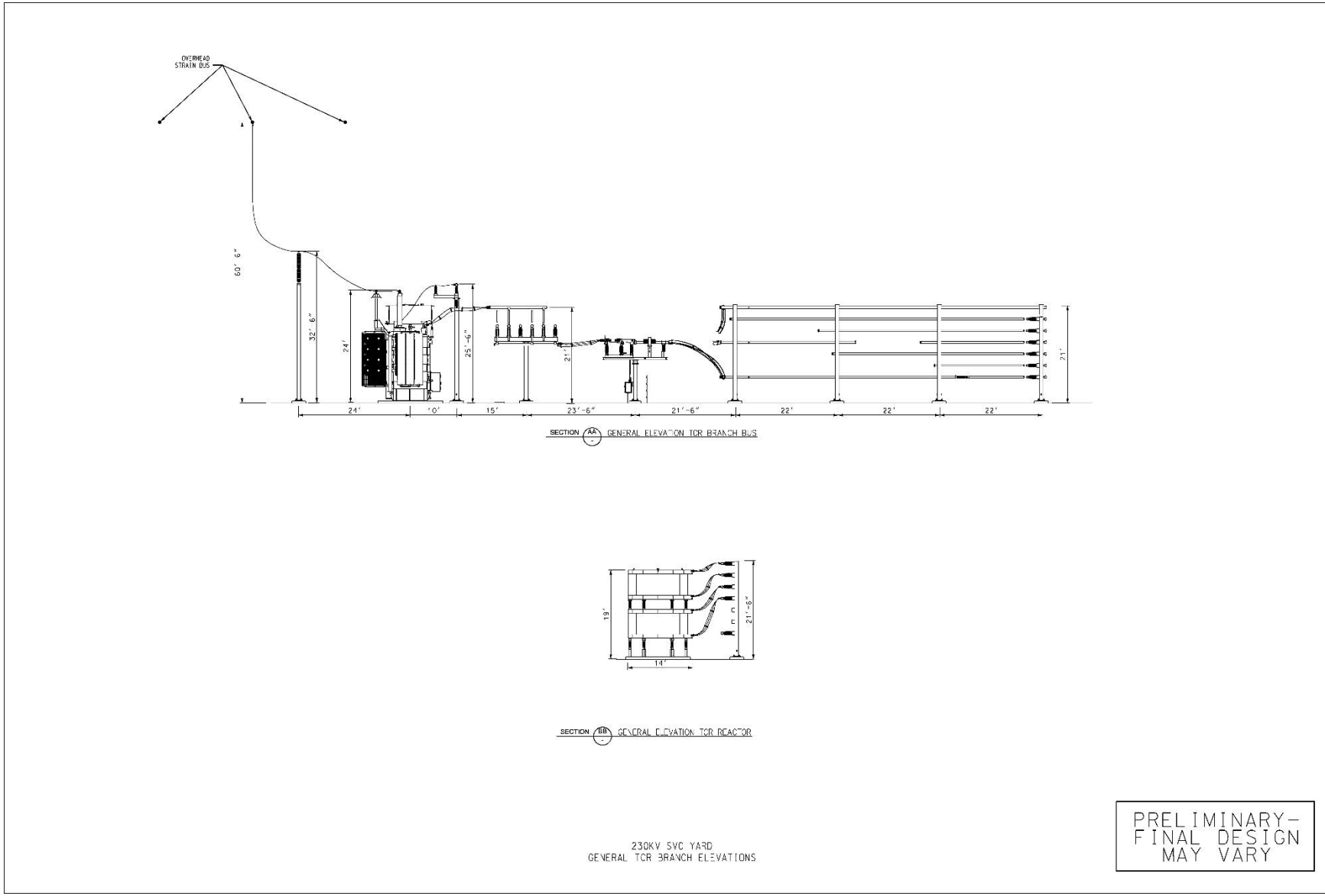
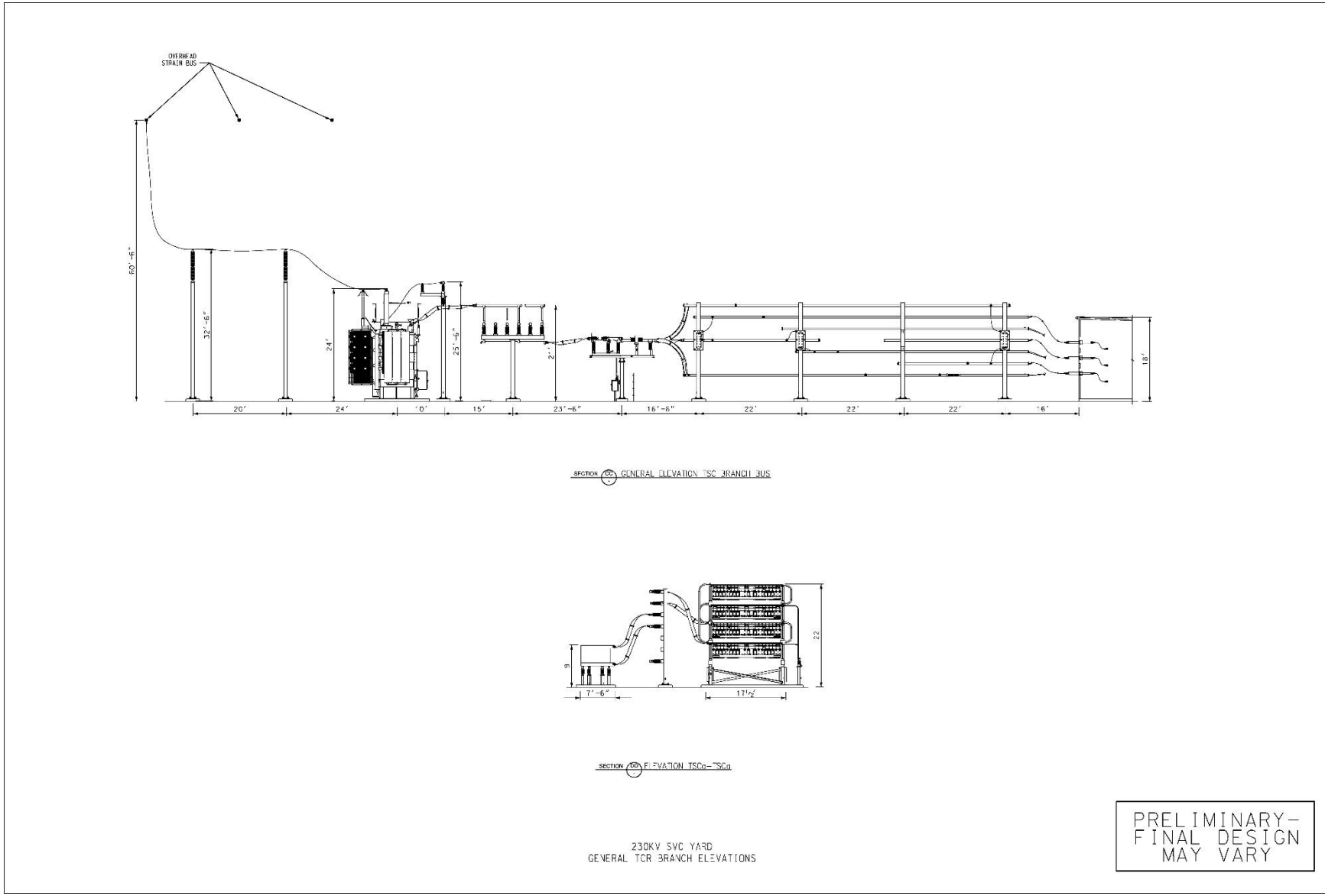


Figure 3-5b. SVC Typical Elevation View (2 of 2)



In addition to the electrical equipment, the SVC will include the following facilities or components:

- Signage and lighting;
- Access driveway improvements;
- A stormwater detention basin;
- A retaining wall, stormwater drainage, and conveyance system;
- Chain link and barb wire security fencing approximately 7 feet in height with secure gates accessible only by NEET West staff and emergency services personnel; and,
- Transformer oil containment basins designed to contain the oil volume of the transformers plus the 25-year 24-hour storm.

Lighting will be installed at the SVC and will conform to National Electric Safety Code (NESC) requirements and all applicable San Diego County outdoor lighting codes. NESC recommends, as good practice, illuminating the substation facilities to a minimum of 22 lux or 2 foot-candles. Remotely controlled lighting will be provided at a level sufficient to provide safe entry, and exit to the SVC site and Control Building. Additional manually controlled lighting will be provided to create safe working conditions at the SVC when required. All lighting provided will be shielded and pointed down to minimize glare onto surrounding properties and habitats.

The proposed SVC will also include a stormwater management system consisting of a stormwater drainage and conveyance system and a stormwater detention basin. The SVC pad will be graded to drain directly toward the detention basin or to a series of earthen swales that will drain via a rip-rap lined ditch to the basin. The earthen detention basin will not be lined, allowing for infiltration and groundwater recharge.

The basin will be designed to capture the runoff from the 85th percentile, 24-hour rainfall event and then release the captured water over 48 hours. An 85th percentile, 24-hour rainfall event equates to the amount of rainfall that up to 85% of all storms would produce, based on a 20- to 30-year historical average (County of San Diego 2015). Overflow from the basin will occur through a rip-rap spillway that will provide for sheet-flow of the stormwater to the adjacent land surface during storms that exceed the basin's design capacity. A series of earthen swales will be constructed around the SVC to divert stormwater that would run onto the SVC site. These features will discharge run-on water via shallow, concentrated sheet flow to the adjacent land surface. Rip-rap aprons will control erosion and prevent scouring at discharge locations.

A retaining wall will be installed on the east side of the SVC to minimize potential for erosion, and soil instability. The wall will be approximately 480 feet long and 15 feet tall at the highest point, with an average height of 8 feet. The retaining wall will be built on grade and not above grade. Grading and drainage improvements for the SVC are shown in Figure 3-6, Preliminary SVC Grading and Drainage Plan. Disturbance area characteristics for the Proposed Project are discussed in Section 3.7. All facilities at the SVC, including the associated access drives and stormwater drainage and conveyance system, will occur within the property line of the approximately 6-acre parcel to be owned by NEET West.

3.6.2. Underground Transmission Line

An approximately 1-mile-long underground electric transmission line will connect the proposed SVC to the existing SDG&E Suncrest Substation. The proposed transmission line will be a new 230 kV single-circuit line composed of cross-linked polyethylene-insulated, solid-dielectric, copper or aluminum conductor cables. There will be three separate cables installed within polyvinyl chloride (PVC) conduits in a concrete-encased duct bank system. In addition to the 230 kV cables, a fourth spare PVC conduit will be installed in the duct bank to facilitate installation of a spare cable in the event a failure occurs. There will be four smaller conduits for fiber optics to provide communications for line relaying, SCADA, and other devices as required. Dimensions of the overall duct bank will be approximately 30 inches wide by 24 inches tall. The bottom of the duct bank will be approximately 5 feet below grade. Up to five underground splice vaults will be installed along the transmission line alignment about every 900 feet to facilitate installation of the underground cables and to operate and maintain the transmission line. Typical drawings of the underground duct bank and vaults are provided as Figures 3-7 and 3-8, respectively.

During the design process, NEET West coordinated with SDG&E to route the underground transmission line within Bell Bluff Truck Trail, taking into account the locations of existing and planned utilities. For the majority of its length, the proposed transmission line will be installed within the curbs of the existing, paved Bell Bluff Truck Trail. The riser pole at the end of the underground alignment where the line transitions to overhead will be located on the road shoulder just north of Bell Bluff Truck Trail. At vault locations, temporary disturbance may be required outside of the roadbed to facilitate installation of the vaults; however, the permanent vault structures will be installed within the existing paved roadbed. As part of final design, NEET West would be open to the opportunity of siting the entirety of the duct bank and vaults within the curbs of Bell Bluff Trail which would avoid temporary impacts to the road shoulder at vault locations.

The proposed underground transmission line will parallel an existing underground 12 kV distribution line owned by SDG&E, which is located on the south side of Bell Bluff Truck Trail, for approximately 3,400 feet. From the intersection of Bell Bluff Truck Trail and SDG&E's substation access road to the riser structure, NEET West anticipates having to cross a 12 kV distribution feeder (powering a communication site on the north side of Suncrest Substation), and the water pipe connecting SDG&E's water tank to the Suncrest Substation. Existing utilities and culverts within the roadway will be located and potholed prior to construction to ensure proper separation and avoidance by the proposed underground transmission line. Separation will be in accordance with CPUC General Order 128, *Rules for Construction of Underground Electric Supply and Communication Systems*.

Final entry into the Suncrest Substation will be via an approximately 300-foot-long overhead span. The underground transmission line will be routed to a new self-supporting riser pole installed north of Bell Bluff Truck Trail outside of the Suncrest Substation. This riser pole will be between 85 and 95 feet tall and located just outside the pavement on the north side of Bell Bluff Truck Trail and approximately 250 feet southeast from the nearest, 142-foot-tall 230 kV Sunrise Powerlink transmission tower. The base of the riser pole has a diameter of approximately 7 feet and an approximate 15-foot radius of permanent disturbance will be

required around the riser pole which equates to approximately 700 square feet of permanent impacts.

Alternative construction methods for transmission pole installation may be required based on results from site-specific geotechnical testing and analysis. Alternative methods may include pole installation on micropile foundations. Micropiles typically consist of small-diameter (less than 300 millimeters) drilled and grouted replacement piles (*i.e.*, a pile placed or constructed within a previously drilled borehole replacing the excavated ground). Micropiles are installed by drilling a borehole, reinforcing the hole with a casing or other enforcement structure, and grouting the hole. Micropiles are effective in a number of different environments and soil types and are often used where shallow rock is present or areas with limited access.

The underground transmission cables will terminate on this structure, and 1272 kcmil (45/7) aluminum steel reinforced (ASCR), non-specular, "Bittern" conductors will complete the last span into the substation. The approximate distance between conductors will be 16.5 feet and clearance to ground will be a minimum of 30 feet in compliance with General Order 95, *Rules for Overhead Electric Line Construction*. Primary and secondary optical ground wires (OPGW) will be used to carry the fiber optic communications and protective relaying from the termination structure into the substation. Two splice boxes, one for each OPGW, will be installed on the base of the riser structure and are where the change of ownership will take place between NEET West and SDG&E. Surge arresters will be mounted on the riser pole arms to protect the underground cable from transient surges. The riser structure jumpers are where the change of ownership will take place between NEET West and SDG&E. NEET West will own the riser structure. SDG&E will be responsible for stringing the overhead line into the Suncrest Substation. A typical drawing of this riser structure is provided in Figure 3-9, Typical Riser Structure.

Figure 3-6. Preliminary SVC Grading and Drainage Plan

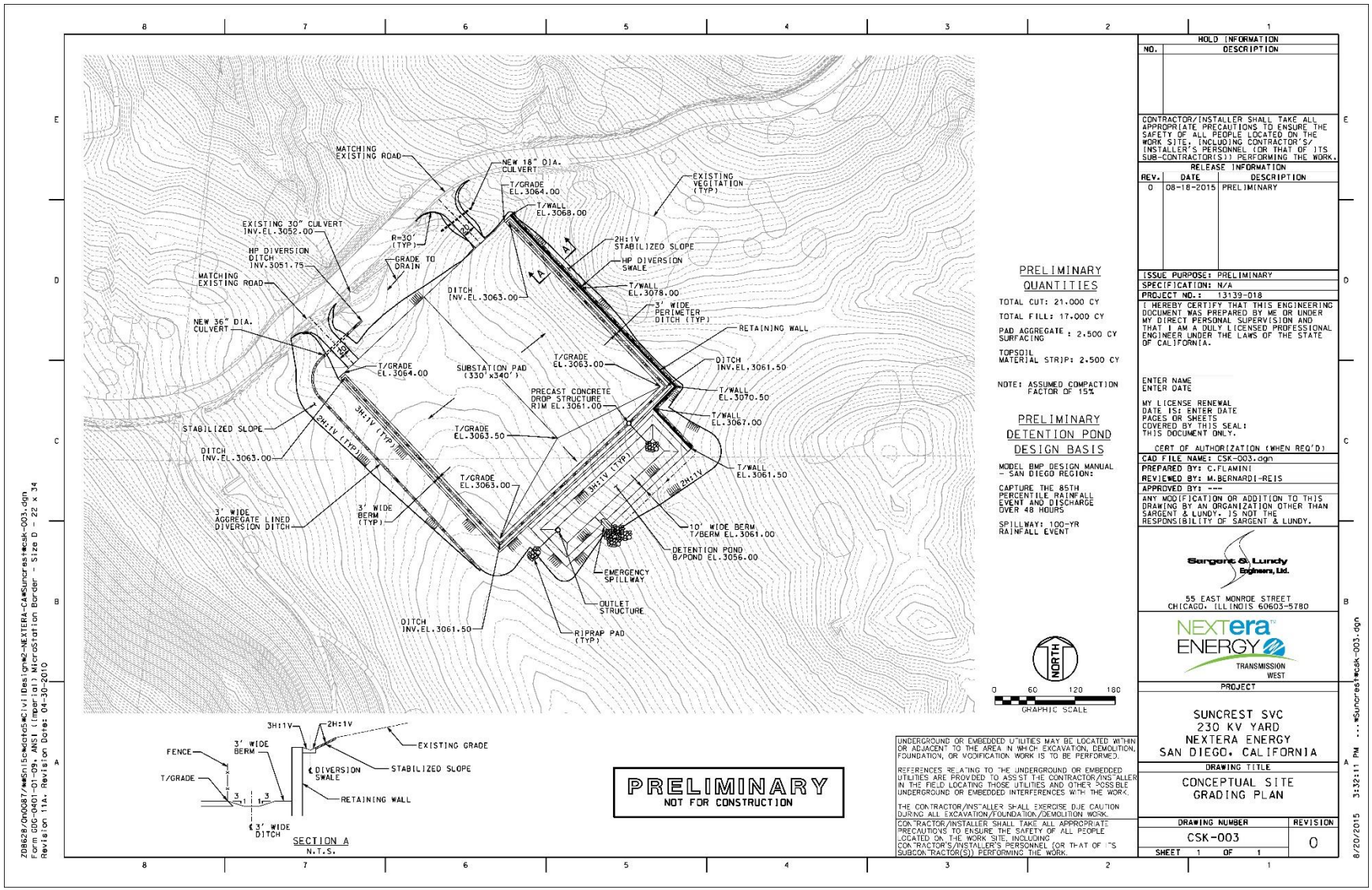


Figure 3-7. Typical Underground Duct Bank

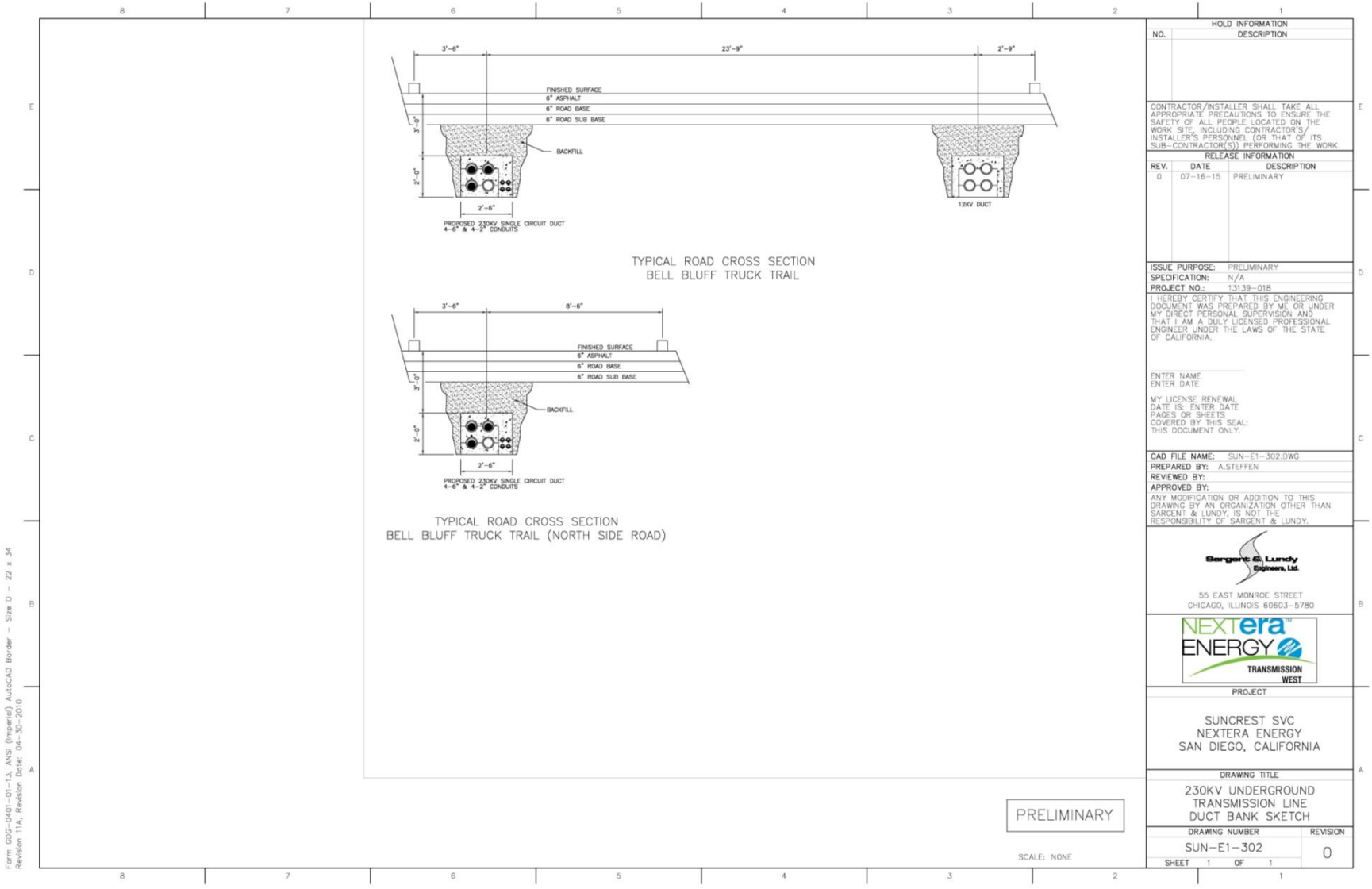


Figure 3-8. Typical Vault (Manhole) Structure

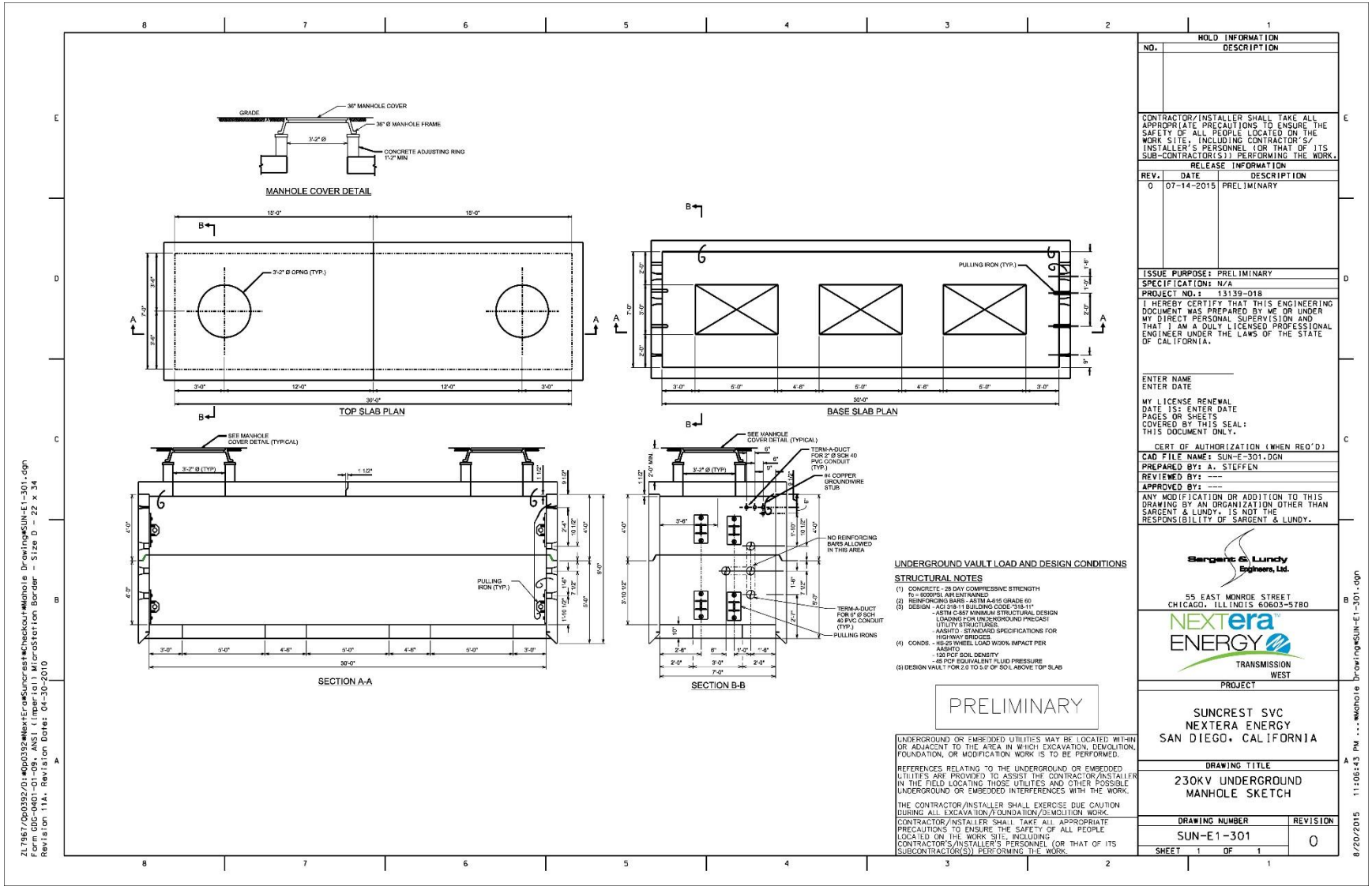
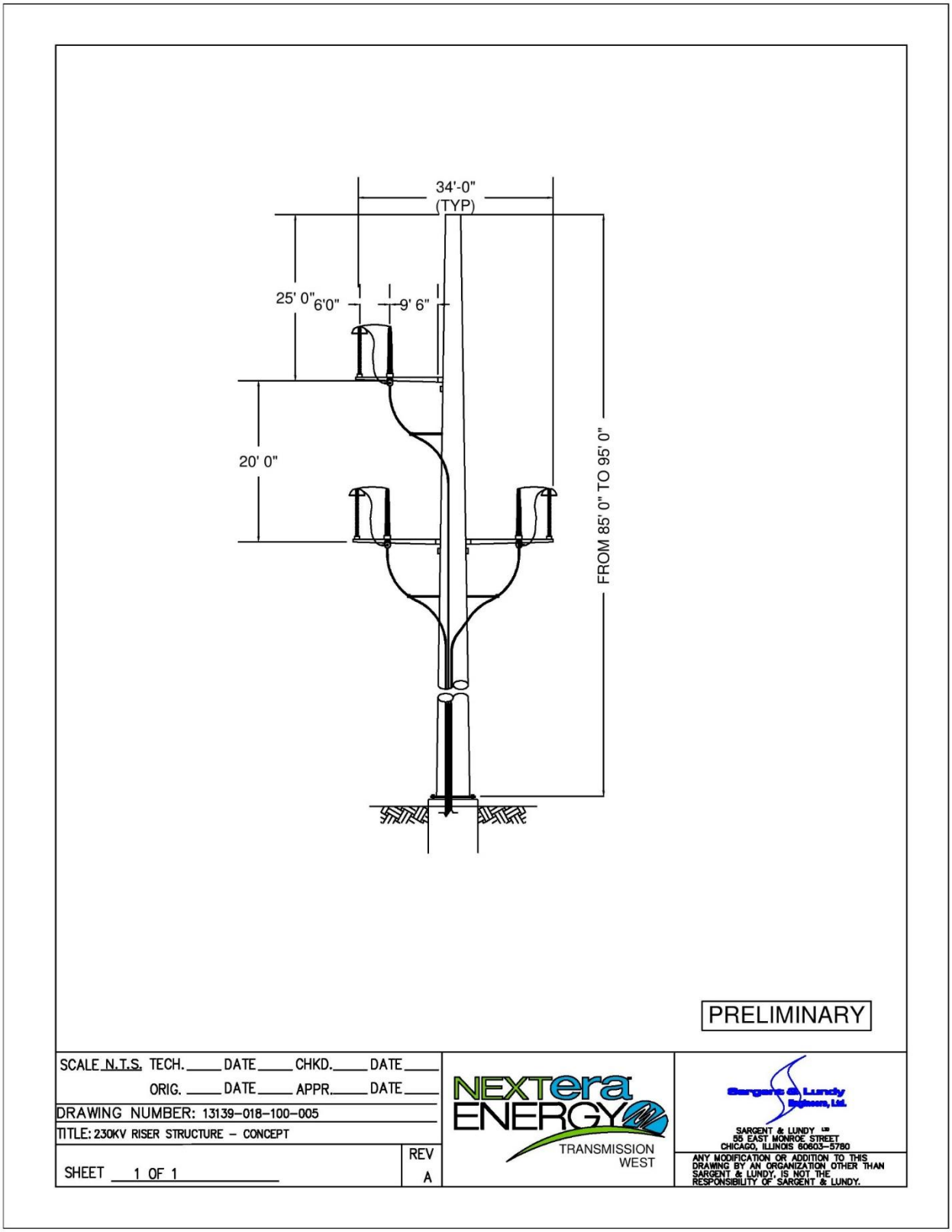


Figure 3-9. Typical Riser Structure



3.7. LAND REQUIREMENTS

The following discussion describes the land requirements for the Proposed Project. The acreages provided below represent the temporary and permanent impacts associated with the proposed facilities. Table 3-2 summarizes land requirements for the Proposed Project components.

Table 3-2. Proposed Project Disturbance Summary

Project Component	Temporary Disturbance Area* (Acres)		Permanent Disturbance Area** (Acres)		Total Disturbance Area (Acres)	
	Previously Disturbed Areas	New Disturbance Areas	Previously Disturbed Areas	New Disturbance Areas	Previously Disturbed Areas	New Disturbance Areas
SVC						
SVC Footprint (Area within Fence)	0.00	0.00	2.58	0.00	2.58	0.00
Two New Access Driveways	0.00	0.00	0.10	0.00	0.10	0.00
Stormwater Conveyance and Detention System	0.03	0.00	2.04	0.00	2.07	0.00
Staging Area	2.56	0.00	0.00	0.00	2.56	0.00
SVC subtotal	*2.59*	*0.00*	*6.00****	*0.00*	*8.59****	*0.00*
Underground Transmission Line						
Underground Transmission Line (includes Work Areas and Vaults)	3.13	0.00	0.00	0.00	3.13	0.00
Riser Pole (includes Work Area and Pad)	0.00	0.48	0.00	0.01	0.00	0.49
Underground Transmission Line Subtotals	*3.13*	*0.48*	*0.00*	*0.01*	*3.13*	*0.49*
SVC and Underground Transmission Line Subtotals	***5.72***	***0.48***	***6.00***	***0.01***	***11.72***	***0.49***
Totals	**6.20**		**6.01**		**12.21**	

* Includes all temporary staging and work areas. Excludes areas being permanently disturbed.

** Includes only those areas of permanent disturbance following construction and all restoration. Does not include the portion of the underground line installed within the existing roadway.

***Assumes permanent disturbance for entire previously disturbed 6-acre parcel.

3.7.1. Permanent Land Requirements

3.7.1.1. SVC Facility

The parcel where the SVC will be constructed (APN 523-040-080) is under private ownership. NEET West has an Option Agreement to purchase a 6-acre portion of this parcel. Prior to construction, NEET West will purchase and hold fee title of this 6-acre area. This area is adequate to accommodate the entire SVC facility including all considerations for site grading, fencing, equipment, access and internal circulation, spill and stormwater management, and other operational considerations. Permanent disturbance will total approximately 6 acres. The area within the fence line of the SVC is currently designed to be approximately 2.58 acres, with the final, exact acreage dependent on the approved manufacturer design. The access drives and stormwater conveyance and detention system comprise the remaining approximately 2.17 acres outside of the fenced facility. A Mechanically Stabilized Wall (MSE) will be installed along the east side of the site on-grade to manage run-on and provide slope stability. The wall height varies from 2 feet to 15 feet high and is approximately 480 feet in length. A concrete foundation will be installed 1–2 feet below grade to support the wall, which will be constructed with concrete blocks. Depending on the soil and rock conditions, anchors or reinforced geogrid strips will be installed with a maximum embedment length of approximately 12 feet. As shown in Table 3-2 above, the entire 6 acres of the SVC, which represents the total limit of disturbance, is previously disturbed land.

Permanent access to the proposed SVC area will be immediately off Bell Bluff Truck Trail via two new access driveways. The new access drives will entail construction of two 95-foot-long by 20-foot-wide graveled access road and paved turning aprons off Bell Bluff Truck Trail. Access driveways will be entirely within the 6-acre area NEET West will obtain in fee. Construction and operation of the SVC will also use the existing Bell Bluff Truck Trail, a private road, for access.

3.7.1.2. Underground Transmission Line

The transmission line alignment will traverse two privately owned parcels: APNs 523-030-130 and 523-040-080. One of these parcels (APN 523-030-130) is currently owned by SDG&E; the other is owned by the private landowner with whom NEET West has the Option Agreement to purchase the Proposed Project location. Approximately 12-foot-wide permanent easements will be obtained from SDG&E and the private landowner in order for NEET West to operate and maintain the underground transmission line on their respective properties.

Construction and operation of the transmission line will use the existing Bell Bluff Truck Trail, a private existing access road that is owned individually by SDG&E and a private landowner on parcels APN 523-030-130 and 523-040-080, respectively, for access and material/equipment staging. As for the SVC, a formalized operating protocol between NEET West and SDG&E will be established regarding support and maintenance of the underground transmission line.

As part of the approval process for the Sunrise Powerlink, construction of Suncrest Substation, and the improvements to Bell Bluff Truck Trail, NEET West understands that SDG&E agreed to deed over portions of APN 523-030-130 to the USFS CNF. However, NEET West also understands that SDG&E plans to retain its land rights for Bell Bluff Truck Trail and an

approximately 20-foot-wide area outside of the curbs of the paved roadway. NEET West has taken this future land transfer into account in the design of the Proposed Project so that the permanent easement needed for the underground transmission line will be wholly within the paved portion of Bell Bluff Truck Trail or within areas that will remain in private ownership.

3.7.2. Temporary Land Requirements

3.7.2.1. SVC Facility

Land requirements to facilitate construction of the SVC include the 6-acre parcel that NEET West will obtain in fee prior to construction, an approximately 2.56-acre temporary staging area, and a 0.03-acre temporary work area located south of the SVC to construct the stormwater pond that will be obtained with a temporary construction easement from a private landowner. As shown in Table 3-2 above, the 2.59 acres represent the total limit of temporary disturbance, and are located on previously disturbed land.

3.7.2.2. Underground Transmission Line

Temporary easements for construction of the underground transmission line will be required prior to construction to accommodate materials receiving and assembling, equipment storage and staging, and facility installation. Underground cable installation and associated material/equipment staging activities will occur primarily within the approximately 30-foot-wide and 12-foot-wide paved portions of Bell Bluff Truck Trail, which are 3,400 feet long and 1,600 feet long, respectively. New temporary disturbance associated with the underground transmission line will be approximately 0.48 acre and will be required for installation of the vaults. The remaining 3.13-acre temporary work area will be within the paved portion of Bell Bluff Truck Trail. On the 30-foot-wide section of Bell Bluff Truck Trail, it is NEET West's intention to have construction work areas confined to only one side of the 30-foot-wide roadway to maintain an unobstructed access lane to the SDG&E Suncrest Substation and for emergency purposes. At the intersection of SDG&E's substation access driveway and Bell Bluff Truck Trail, the underground transmission line will follow Bell Bluff Truck Trail, which is only approximately 12 feet wide. For the portion of the transmission line between this point and the riser pole structure, NEET West will have to temporarily close this road to facilitate construction. NEET West will coordinate with SDG&E to ensure that appropriate water tank access along the 12-foot-wide portion of the road is maintained via either construction work plans or temporary piping, if necessary. However, because SDG&E has its own access driveway, SDG&E and emergency access to Suncrest Substation will not be impeded.

At vault locations and at the riser pole structure, temporary construction easements may be required outside the paved portion of Bell Bluff Truck Trail. The vaults will be placed within the roadbed; however, to facilitate excavation and installation of the vaults, NEET West may require access to land outside the curbs on a temporary basis (and accounted for in the 0.48 acre of temporary disturbance mentioned above). Similarly, the installation of the riser pole on the north side of Bell Bluff Truck Trail will require access and staging outside the roadbed to erect the structure, and for SDG&E to pull the overhead line into the Suncrest Substation to make the interconnection. Temporary construction easements will be acquired from underlying landowners prior to construction.

3.8. CONSTRUCTION

Construction of the Proposed Project will follow a typical sequence beginning with pre-construction biological clearance surveys (as appropriate), survey marking, site clearing, grubbing, grading for access and SVC construction, installation of foundations and electrical equipment, and lastly restoration. Construction of the underground transmission line is expected to be concurrent with the SVC construction and begin with utility line locating; survey; asphalt cutting of pavement; trench excavation, which may include rock removal; installation of the duct bank, vaults, and backfill; pavement restoration, installation of the conductor cables and OPGW; and splicing and testing of the line. SVC equipment will be installed on concrete foundations.

Grading and earth-moving activities will be required for construction of the SVC and associated access drives. Excavation will be required for the installation of the underground transmission line duct bank, splice vaults, and installation of any other underground facilities (e.g., installation of underground duct bank for electric distribution connection or other public services); however, limited grading will be required for these facilities if at all. Grading for the SVC may result in up to 4,000 cubic yards of excess material, which will be hauled off site. Slope stabilization issues will be addressed by completion of geotechnical investigation and incorporation of recommendations into final grading design. In select locations, where material cannot be excavated via backhoe and/or bulldozer, material removal may require scraping, ripping, drilling, hammering, cutting and localized low energy blasting. Based on preliminary geotechnical analysis, blasting is not anticipated at the SVC site, but may be required for transmission line and splice vault excavations on less than 10% of the transmission line. After clearing and grading, transmission line and SVC construction activities are expected to occur simultaneously. All concrete for the SVC and transmission line will be brought on-site by concrete mixing trucks; a concrete batch plant will not be required on-site. All construction staging and storage areas will occur within the temporary work areas and permanent project boundaries illustrated in Figures 3-10a through 3-10e, Proposed Project Work Areas.

Construction equipment for all Proposed Project phases will include but is not limited to bulldozers, excavators, back hoes, loaders, graders, scrapers, cranes, drill rigs, skid steer, dump trucks, tractor-trailers, splice trailers, water trucks, concrete mixer trucks, line trucks, fork lifts, pulling rigs, reel trailers, transformer low-boy trucks and trailers, and pick-up trucks. A complete list of anticipated construction equipment and usage for each stage of construction is detailed in Section 3.8.7.

3.8.1. Access

The primary access to the Proposed Project for both construction and operations will be along Bell Bluff Truck Trail. Bell Bluff Truck Trail is an existing, private, approximately 30-foot-wide paved road providing access to the Proposed Project and the SDG&E Suncrest Substation from Japatul Valley Road located approximately 1.66 miles to the east of the Proposed Project. No improvements are expected on this portion of Bell Bluff Truck Trail east of the proposed SVC. In addition to access along this eastern portion of Bell Bluff Truck Trail, the Proposed Project will use nearly all of the additional 1 mile of road between the intersection with the proposed SVC access road westward to the Suncrest Substation for vehicle movements and staging during the course of construction.

Figure 3-10a. Proposed Project Work Areas

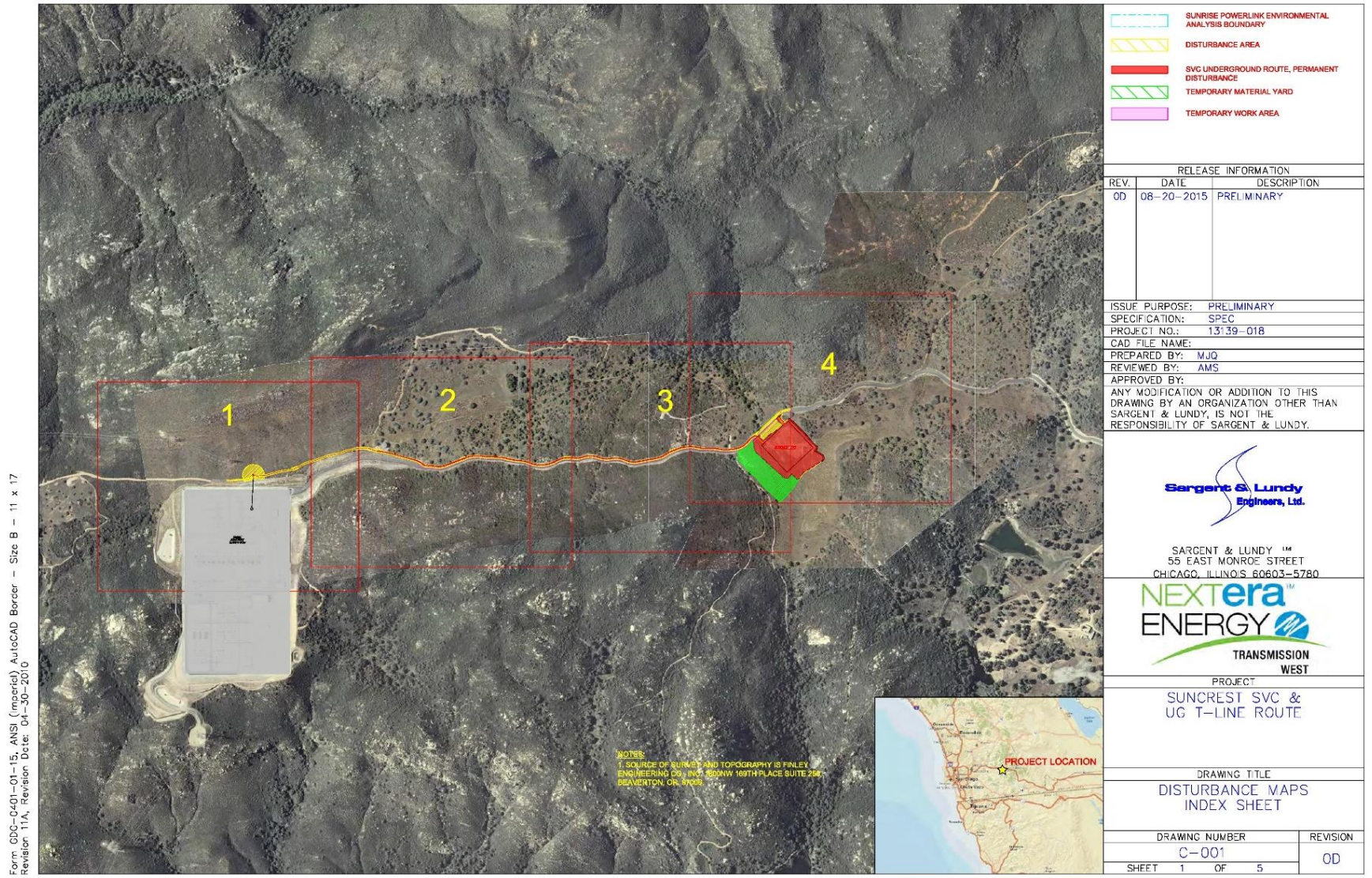


Figure 3-10b. Proposed Project Work Areas

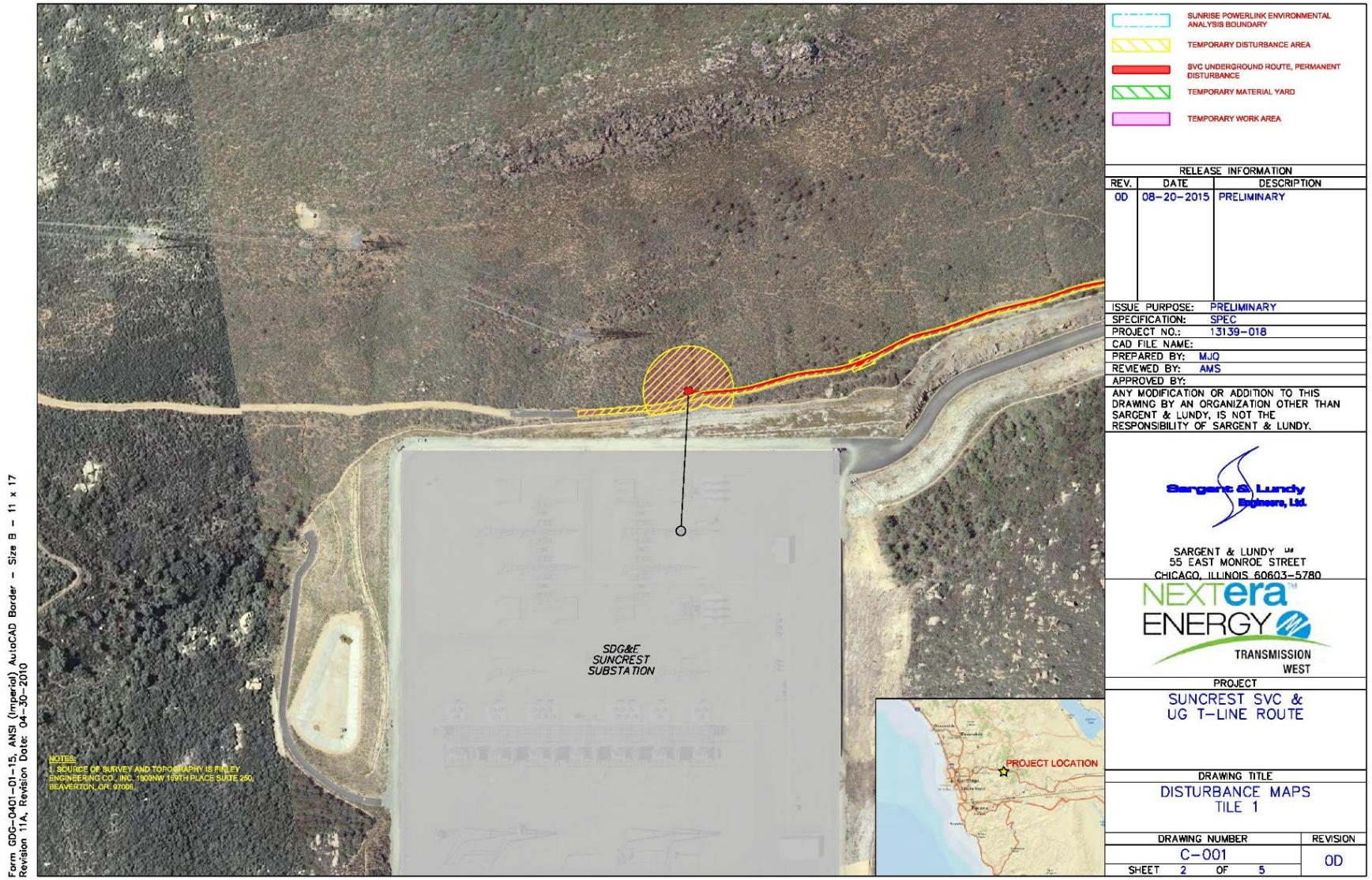


Figure 3-10c. Proposed Project Work Areas

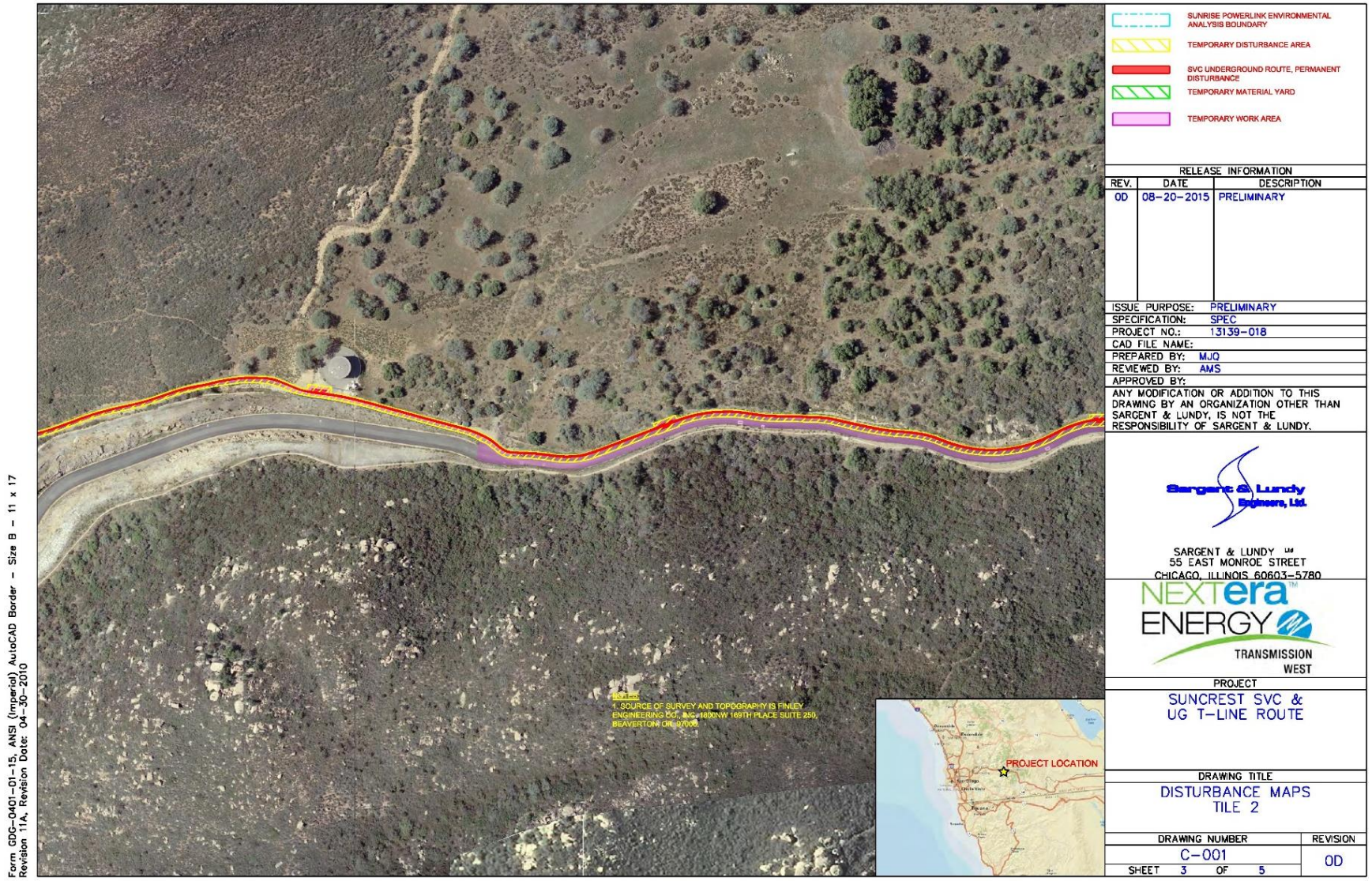


Figure 3-10d. Proposed Project Work Areas

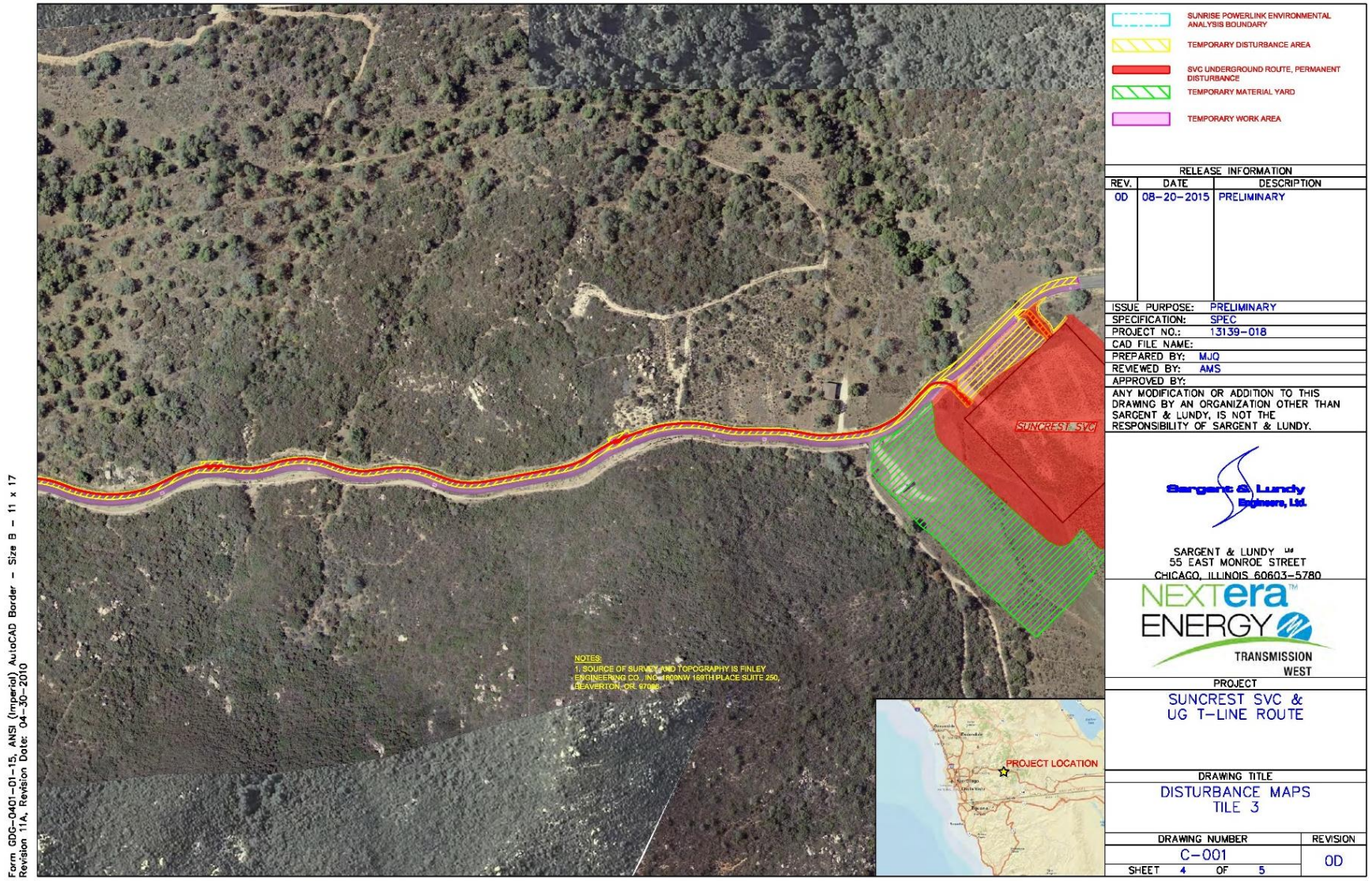
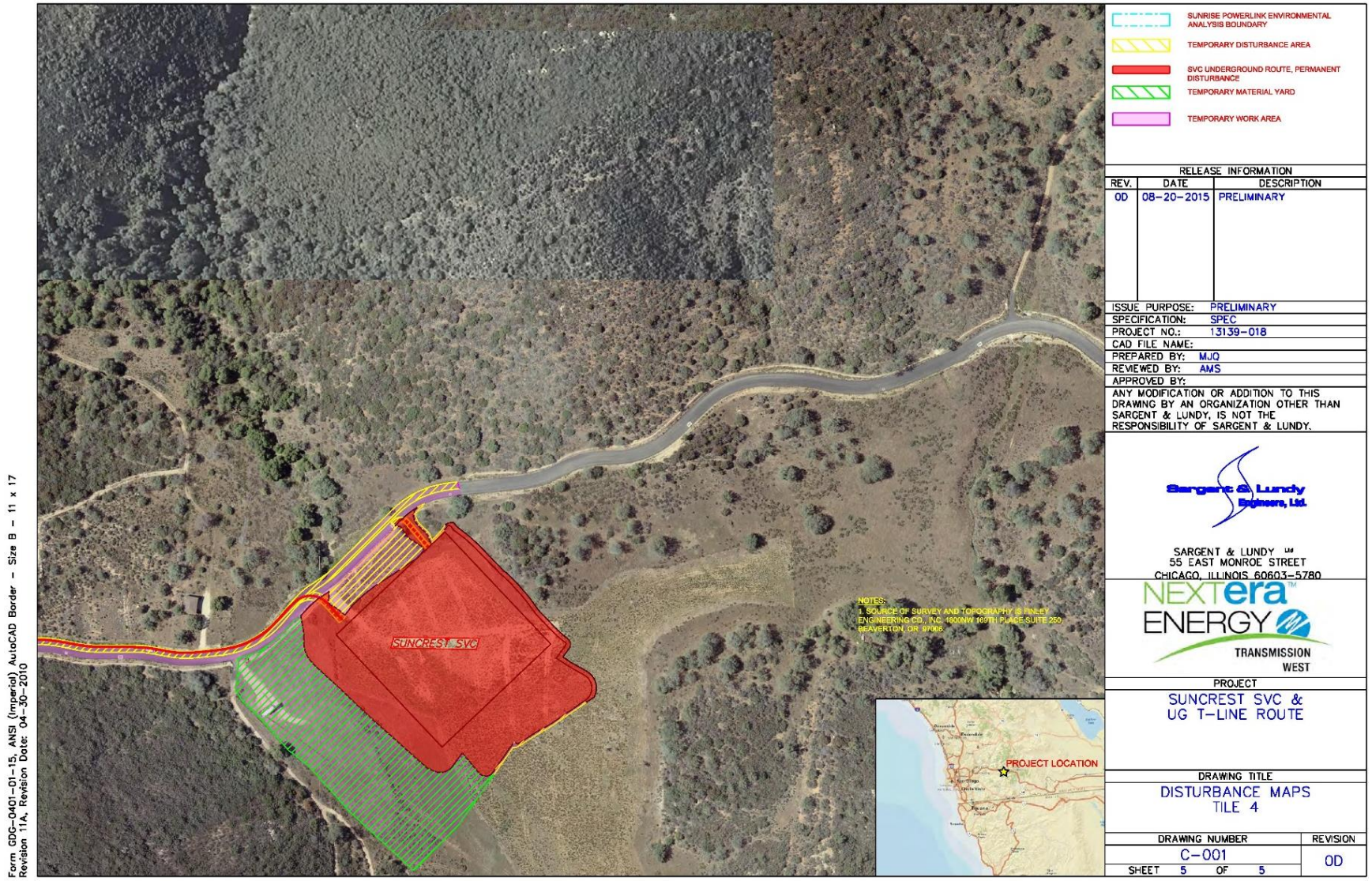


Figure 3-10e. Proposed Project Work Areas



3.8.1.1. SVC Facility

Access to the SVC will be off Bell Bluff Truck Trail. Two new 20-foot-wide by 95-foot-long access driveways will be constructed between Bell Bluff Truck Trail and the SVC. The new driveways will be graveled and will include construction of paved turning aprons off Bell Bluff Truck Trail, an internal circulation route, and associated improvements. The turning aprons immediately off Bell Bluff Truck Trail will be designed to accommodate large construction and haul vehicles, will be paved, and will occupy a total area of approximately 5,000 square feet (0.10 acre). Construction of the access driveways will include clearing, then grading per the final project design, and installation of a paved and gravel driving surface as described above. The work area required is encompassed in the SVC site work area.

3.8.1.2. Underground Transmission Line

Construction access for the underground transmission line will also be along Bell Bluff Truck Trail off Japatul Valley Road. No new temporary or permanent access roads will be required for underground transmission line construction. Underground cable installation activities will occur primarily within the approximately 30-foot-wide and 12-foot wide paved portions of Bell Bluff Truck Trail, which are 3,400 feet long and 1,600 feet long, respectively. Cable vault locations may require excavation up to 10 feet outside the curb; however, any disturbance outside of the paved roadbed will be restored following construction. The exact location of the permanent duct bank will be based on the location of existing and planned utilities and culverts, which will be located prior to construction. In addition, materials and equipment staging will be confined to the side of the road within which the duct bank will be installed, in order to maintain an open travel lane during construction for SDG&E and emergency access, as required. At the point where Bell Bluff Truck Trail narrows to 12 feet wide (at the intersection of Bell Bluff Truck Trail and SDG&E's substation access road) to the riser structure, construction will require the full width of the road. However, this temporary road closure will not affect SDG&E's access or emergency access to the Suncrest Substation. NEET West will coordinate with SDG&E to ensure that appropriate water tank access along the 12-foot-wide portion of the road is maintained via either construction work plans or temporary piping if necessary.

3.8.2. Work Areas and Staging Areas

3.8.2.1. SVC Facility

The Proposed Project will utilize one primary 2.56-acre materials receiving and staging area located immediately west of the proposed SVC on APN 523-040-080. NEET West will obtain a temporary construction easement from the private landowner to use this staging area prior to construction. Preparation of the staging area will involve grubbing, clearing, and limited grading. Perimeter security fencing will be installed around the outer limits of the SVC work area. Lighting will also be installed for security purposes. A security professional will monitor the staging area nightly, after normal working hours, and on weekends during the day if construction personnel are not present.

It is anticipated that all major electrical and SVC equipment such as power transformers, power circuit breakers, control building, capacitors, and reactors will be delivered to the SVC site and

placed directly on previously constructed foundations. Other SVC equipment, such as air break switches, instrument transformers, transmission structures, insulators, conductors, bus, connectors, conduit, cable trench, rebar, etc., will be received and temporarily stored at the staging area prior to installation. All construction equipment and vehicles associated with SVC construction will be parked within the staging area while inactive and at the completion of each workday, where practical. Because underground transmission line construction is likely to be going on concurrently, NEET West will make an effort to park vehicles in this designated staging area as opposed to Bell Bluff Truck Trail for safety reasons and to minimize access impediments to the Suncrest Substation.

3.8.2.2. Underground Transmission Line

Work areas for construction of the underground transmission line will be primarily located within the paved, approximately 30-foot-wide and 12-foot-wide portions of Bell Bluff Truck Trail. There will be a few locations where work will take place along the road shoulder to install the riser pole structure and facilitate installation of the vault structures. One lane of traffic on the 30-foot-wide Bell Bluff Truck Trail will remain open to allow access for emergency vehicles and SDG&E maintenance vehicles accessing the Suncrest Substation. Flaggers or other traffic control measures will be utilized to guide traffic around active work areas in a safe manner. The 12-foot-wide portion of Bell Bluff Truck Trail will need to be temporarily closed when the work activities are taking place in that portion of the road. As stated above, NEET West will coordinate with SDG&E to ensure that water tank access is maintained either through construction plans or temporary piping.

Construction equipment supporting the underground transmission line component may be staged along Bell Bluff Truck Trail at active work sites based on safety considerations and/or to reduce environmental disturbance associated with moving heavy equipment back to staging areas at the end of each workday. All transmission line materials including, but not limited to, conductor cable reels, fiber reels, manholes, and vaults may be stored at the SVC staging area since that area will be secured and monitored overnight and on weekends if project personnel are not present. Construction staging areas are depicted in Figures 3-10a through 3-10e, Proposed Project Work Areas.

3.8.3. SVC Construction Methods

Construction of the SVC will occur in a phased approach beginning with site preparation and grading of the site, then installation of foundations and underground equipment, and lastly installation and testing of electrical equipment. Prior to clearing and grubbing, all necessary surveys, marking, and installation of stormwater management features (e.g., silt fence, fiber rolls, etc.) will be completed. Following construction, temporary disturbance areas will typically be re-contoured to match pre-construction grades.

3.8.3.1. Vegetation Removal

Construction of the SVC will require clearing of approximately 8.56 acres of California buckwheat scrub, non-native grassland, and ruderal lands. Vegetation within the chaparral portion is dominated by California buckwheat with other low-growing perennial shrub species such as California sagebrush, deerweed, black sage, and white sage. The vegetation removal

area includes a planted area that consists of a mix scrub species. Certain plantings are being completed by SDG&E as part of restoration/revegetation activities associated with construction of the Suncrest Substation as part of the Sunrise Powerlink. Intermixed with the California buckwheat/chaparral are areas of non-native grassland dominated by invasive non-native and disturbance tolerant native species.

Vegetation removal will be completed utilizing mechanized removal equipment or by hand using chain saws. Vegetation removal will not occur outside of approved work areas. Following initial clearing, topsoil will be salvaged to a depth of 6 inches, or to actual depth if shallower, for on-site storage and use in site restoration, as appropriate. Salvaged topsoil material will be kept on-site in the immediate vicinity of temporary disturbance areas or at a nearby approved work area to be used in restoration of temporary disturbed areas, as appropriate.

3.8.3.2. Grading and Excavation

Construction of the SVC and associated improvements will require earth-moving activities. Grading, excavation, material removal quantities anticipated for the SVC based on current information are summarized in Table 3-3. In addition to general earth-moving quantities, approximately 6 inches of surface gravel will be required to be imported and installed within the SVC footprint for grounding purposes. This material will be imported from a suitable, nearby aggregate source.

Table 3-3. SVC Grading Summary

Description	Quantity (units)	Description
SVC Facility*		
Total Cut	21,000 cubic yards (cy)	Excavated earthwork material (Topsoil Included)
Total Fill	17,000 cy	Placed and compacted material (Surfacing Included)
Excess Material	4,000 cy	Material to be removed from site
SVC Surfacing	2,500 cy	Gravel to be imported (included in total fill 6 inches)
Maximum Cut-Slope Depth	15 feet	Maximum depth of excavation from ground surface
Maximum Fill-Slope	13 feet	Maximum height of filling from ground surface
Maximum Retaining Wall Height	15 feet	Maximum height of retaining wall

* Includes SVC footprint (area within fenceline), two SVC access driveways, stormwater conveyance and detention system, retaining wall, and staging yard.

Generally, grading and excavation will be accomplished in a phased approach. Earthwork activities (e.g., grading, excavation, will be completed, such that the site meets project design specifications and matches proposed grades. Geotechnical borings were performed in the vicinity of the SVC site. The borings showed predominately gravel, clayey sand and decomposed granite which can be excavated. It is anticipated that these materials can be removed using conventional excavation and earth moving equipment. In areas where bulldozers and backhoes are not able to remove the material, scraping, ripping, drilling, hammering, and cutting may be used to break up the material into manageable pieces. If these mechanical

methods are impracticable, localized low energy blasting may be required. During earthwork, soils and other surficial deposits that do not possess sufficient strength and stability to support structures will be removed from the work area. Removal will typically extend to competent materials with high mechanical strength, resistant to erosion and deformation. Material that requires processing will be mechanically processed on-site to achieve a maximum particle size and distribution suitable for conventional placement in engineered fills. As a result of the grading, approximately 4,000 yards of fill will be hauled off site. In addition to general earth-moving quantities, approximately 6 inches of surface gravel will be required to be imported and installed within the SVC footprint for grounding purposes. This material will be imported from a suitable, nearby aggregate source. All clean spoils excavated by the Proposed Project would be used on-site to balance cut and fill calculations, as feasible. All spoils that are not useable and/or contaminated would be sent to a properly licensed landfill facility. All recyclables would be taken to a licensed recycle facility, and all refuse would be taken to Miramar Landfill or other suitable landfill facility.

Following earthwork, all necessary below-grade construction including structure and equipment foundations, underground ducts, ground grid, and construction of the control shelter will begin. Once all earthwork and below-grade work is complete, major equipment and structures would be installed and anchored on their respective foundations. It is anticipated that all major electrical and SVC equipment such as power transformers, power circuit breakers, control building, capacitors, and reactors will be delivered to the SVC footprint and placed directly on the previously constructed foundations. Other SVC equipment such as air disconnect switches, instrument transformers, transmission structures, insulators, conductors, rigid bus, connectors, conduit, cable trench, rebar, etc., will be received and temporarily stored at the staging area prior to installation.

Transmission line terminations and distribution connections will be completed inside the SVC substation following final installation of the substation structures and equipment.

3.8.3.3. Erosion and Sediment Control and Pollution Prevention

The Proposed Project will result in more than 1 acre of soil disturbance. As a result, the Proposed Project will be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the State's General Permit for Stormwater Discharges Associated with Construction Activities (CGP) (2009-009-DWQ, as amended). Disturbance areas for each Proposed Project component are described in Section 3.7 of this chapter, summarized in Table 3-2, and depicted in Figures 3-10a through 3-10e, Proposed Project Work Areas.

The SWPPP will include measures to limit erosion and off-site transport of pollutants from construction activities. The plan will designate best management practices (BMPs) that will be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport. Prior to construction, a Hazardous Materials and Waste Management Plan will be also prepared describing hazardous materials use, transport, storage, management, and disposal protocols. Erosion and sediment control and Pollution Prevention are discussed in detail in Section 4.6, Geology and Soils; Section 4.7, Hazards and Hazardous Materials; and Section 4.8, Hydrology and Water Quality. As discussed in Section 4.8, Hydrology and Water Quality, dewatering may be required during trenching activities associated with underground

transmission duct bank installation. Should dewatering be necessary, the procedures described in Section 4.8, Hydrology and Water Quality, will be implemented.

3.8.3.4. Cleanup and Post-Construction Restoration

During construction, NEET West will ensure that all areas of the construction site are kept clean, free of trash and waste. All items that may become windborne will be secured. Additional measures will be implemented during construction and operation to minimize the Proposed Project's footprint and impacts to environmental resources.

Following completion of construction and demobilization, all temporarily disturbed work areas will be restored to their pre-construction conditions. All areas will be carefully assessed to be sure all residual construction debris and waste is removed and transported off-site to an approved disposal facility. Any types of Proposed Project waste materials that are routinely recycled will be recycled in an appropriate fashion at an approved disposal facility. Areas that are disturbed by grading, augering, or equipment movement will be restored to their original contours. Work areas will be decompacted, and salvaged topsoil materials will be re-spread following recontouring to aid in restoration of temporary disturbed areas. Revegetation activities will be conducted in accordance with the Proposed Project SWPPP and APMs recommended herein.

3.8.4. Underground Transmission Line Construction Methods

Construction of the underground transmission line will occur in a phased approach beginning with site preparation, then trenching with duct bank and splice vault installation occurring concurrently, and lastly cable pulling, splicing, and termination. Prior to trenching, all necessary surveys, marking, and installation of stormwater management features (e.g., silt fence, fiber rolls, etc.) will be completed.

3.8.4.1. Vegetation Removal

Construction of the transmission line is anticipated to require minimal vegetation clearing as the underground transmission line installation will be conducted primarily within the paved surface of Bell Bluff Truck Trail. There will be approximately 0.48-acre of the underground alignment that will require vegetation clearing along the road shoulder to facilitate installation of vault structures and the riser structure where the transmission line transitions to overhead near the Suncrest Substation. With only approximately 0.01 acre of permanent impacts at the riser pole location, approximately 0.47 acre of this work area outside the roadbed will be restored following construction.

3.8.4.2. Trenching

Trenching required for duct bank and vault installation will follow engineering plan and profile drawings, outlining the alignment and the location and type of existing underground facilities located during the project design phase. Asphalt cutting will be used to expose the soil layer below the paved surface of the Bell Bluff Truck Trail. Prior to trenching, NEET West will notify utility companies (via Underground Service Alert) to locate and mark existing underground utilities along the proposed underground alignment. Prior to trenching, NEET West will also

conduct exploratory excavations (i.e., potholing) in order to verify the locations of existing utility facilities.

Typical trench width for duct bank installation and vault installation will be approximately 2.5 feet wide by 5 feet deep and 9 feet wide by 13 feet deep, respectively. Open-cut trenching techniques will be used for duct bank and vault installation. A backhoe will be used to remove the majority of material. In areas were material cannot be excavated using a backhoe, scraping, ripping, drilling, hammering, and cutting may be used to break up the material into manageable pieces. In limited areas, low energy controlled blasting may be required. Considering the shallow depth of trench excavation (five (5) feet below the road surface), the limited number of splice vaults (13 feet below grade), and based on NEET West's preliminary geotechnical analysis, it is anticipated that only a small portion of the trench may require advanced removal techniques. As discussed above, localized, low energy blasting will only be utilized in areas where mechanical methods are impracticable. Trench width, shoring, and personnel egress will comply with California Occupational Safety and Health Administration safety requirements. For safety purposes, temporary fencing will surround all open trench sections. Open trenches will be steel plated overnight and during non-working hours for personal and environmental safety precautions. All crossings of existing utilities will be done in a manner that proper separations are kept and proper supports are in place during the installation process. Traffic control will be provided for SDG&E maintenance or emergency vehicles. Jersey barriers or other road barriers will be installed around the construction area for safety purposes.

All excavated material including soil, rock, concrete, and asphalt will be temporarily staged on-site and hauled off to an appropriate disposal facility, such as Miramar Landfill. Excavated soil that is stained, odorous, or otherwise suspect of containing contaminants will be sampled in-place and tested. If excavation material is determined to contain contaminants, the material will be manifested to a permitted facility that will accept the material, such as Miramar Landfill. It is assumed that approximately 30 cubic yards of excavated material will be generated per day, necessitating approximately three truck trips per day to haul material off-site. With an estimated construction schedule of 100 days for the underground transmission line, a total of approximately 3,000 cubic yards of trench material will be hauled off-site.

Throughout the length of the duct bank installation alignment, it is anticipated fluidized thermal fill will be used as backfill. Backfill for splice vaults will consist of either aggregate, slurry, or concrete. Native fill, aggregate road base and an asphalt concrete cap will be installed above the duct bank and splice vault backfilled areas in order to restore the Bell Bluff Truck Trail.

3.8.4.3. Duct Bank Installation

Within each open trench section, NEET West will install the duct bank, approximately 2.5 feet wide by 2 feet in height, approximately 3 feet (36 inches) below the ground surface. The duct bank will be constructed by installing 6-inch diameter and 2-inch diameter conduits for the electrical cable and fiber telecommunications cable, respectively. The conduits will be separated by spacers and 3,000-psi concrete will be placed around the conduits to form the duct bank. It is anticipated that approximately 800 cubic yards of thermal backfill will compose the remaining duct bank trench backfill and each duct bank will have a minimum of 36 inches of cover, including 18 inches of road and sub-road material; however, native or non-thermal backfill may also be able to be used as determined during detailed design.

In areas where the duct bank alignment runs parallel to water line and telecommunication utilities and drainage culverts, a minimum horizontal clearance of 12 inches and vertical clearance of 6 inches will be required. In areas where the duct bank alignment runs parallel to the existing SDG&E 12 kV electric distribution feeder line or other utilities with operating temperatures greater than the surrounding earth temperature, a minimum horizontal clearance of 12 inches and vertical clearance of 6 inches will be required. However, due to mutual heating effects, these clearances will need to increase to 24 inches.

3.8.4.4. Vault Installation

NEET West will excavate and install pre-fabricated concrete splice vaults/manholes during trenching for the underground duct bank along the underground transmission line alignment. Up to five vaults may be required and will be spaced approximately 900 feet apart along the transmission line alignment. The splice vaults will have approximate dimensions of 30 feet long, by 8 feet wide, by 11 feet deep.

Initially, the vaults will be used to pull electric cable and the fiber telecommunications cable through the PVC conduits and splice the cables together during construction. During operation, the vaults will provide access to the underground cables for maintenance, inspections, and repairs. Each vault will be accessed from a manhole cover approximately 36 inches in diameter. Vaults will be constructed of prefabricated steel-reinforced concrete and designed to withstand the maximum credible earthquake in the area and heavy truck traffic loading on Bell Bluff Truck Trail. Installation of each vault will occur over a 1-week period with excavation and shoring of the vault pit followed by delivery and installation of the vault, fill and compact the backfill, as well as restoring the excavated area to pre-existing conditions. Backfill for vaults will consist of either compacted native soil, slurry, or concrete.

3.8.4.5. Cable Pulling, Splicing, and Termination

Following installation of the duct bank and splice vaults, NEET West will install the electric and telecommunications cables in the duct banks. The cables will be pulled into the duct banks by placing a pulling rig on one end of the duct bank section and a cable reel on the other. Cables will be pulled through each segment between splice vaults. After the cables are pulled through the duct bank section, the cables will be spliced at each splice vault location. A splice trailer will be located adjacent to the vault manhole to facilitate the stripping of the cable jacket, shield, and insulation, and connection of the two cables on either side of the vault. At the ends of the cables in the SVC facility and on the riser pole, the cable jacket, shield, and insulation will be stripped back to facilitate the installation of a terminator. Temporary scaffolding may be required to reach the elevated terminations on the riser pole. Prior to energizing, each phase will be tested to insure proper splicing and continuity.

Telecommunication and electric cable will be spliced into the SVC facility after being pulled through their respective ducts. Fiber optic cable routed to the Suncrest Substation will need to be spliced to connect to the OPGW in a splice box located on the riser pole.

3.8.4.6. Dewatering

No dewatering is anticipated during construction. However, in the event that groundwater is encountered, it would occur during trenching and installation of the duct bank and vaults for the new underground transmission line. Should dewatering be necessary, the following general dewatering procedures will be implemented during construction:

- A submersible pump will be installed into the excavation. A float will be used so that the intake of the pump remains at or near the water surface.
- Groundwater will be pumped into mobile Baker tanks or filter bags to filter out sediment prior to discharge.
- Dewatering and water quality testing will be performed in accordance with the Proposed Project SWPPP, and the project-specific sediment-waterbody risk level category, to ensure compliance with National Pollutant Discharge Elimination System (NPDES) requirements.
- If water quality levels do not meet permit requirements, additional treatment or filtering may be required.
- Disposal of water at an approved and permitted disposal site.

Should dewatering be necessary, the BMPs and APMs described in Section 4.8, Hydrology and Water Quality, will be implemented.

3.8.4.7. Clean-up and Post-Construction Restoration

During construction, areas of the construction site will be kept clean, free of trash and waste. All items that may become windborne will be secured and fugitive dust will be controlled by watering and/or covering stockpiles and exposed soil. Additional measures will be implemented during construction and operation to minimize the Proposed Project's footprint and impacts to environmental resources.

Following completion of construction and demobilization, all temporarily disturbed work areas will, to the extent practicable, be restored to their pre-construction conditions. All areas will be carefully assessed to be sure all residual construction debris and waste is removed and transported off-site to an approved disposal and/or recycling facility. Any types of project waste materials that are routinely recycled will be recycled in an appropriate fashion at an approved disposal facility. Bell Bluff Truck Trail will be restored by replacing the aggregate road base and installing an asphalt concrete cap. Any road signage or markings will be replaced.

3.8.5. Utility Connections

AC power for construction and operation at the SVC (e.g., for power during construction and permanent lighting) will be provided from a nearby underground 12 kV distribution line located underground within the south side of Bell Bluff Truck Trail. This distribution line will be tapped and service will be brought to the SVC site. The service line will be installed in cooperation with SDG&E in an underground duct bank. All disturbances associated with the addition of the distribution line including excavation, materials receipt and storage, and installation will be

contained within previously contemplated areas of disturbance associated with other described components of the Proposed Project. Additional power for construction activities may be supplied by portable gas or diesel generators.

No new temporary or permanent sewer connections will be required for the Proposed Project. Portable toilets will be located at the staging area at the SVC facility. Portable toilets may be towed behind vehicles to the work locations for the underground transmission line each morning and then taken off of the road each evening, and stored overnight at the SVC staging area.

3.8.6. Water Sources

Over the course of the construction schedule, approximately 2,600,000 gallons of water will be required on-site for the cutting of asphalt pavement, dust control, fire suppression reserve, concrete washout, and other construction activities, including restoration. Of that total, approximately 2,100,000 gallons of water will be needed over the entire construction period for building the SVC and underground transmission line. The remaining approximately 500,000 gallons will be for the modifications within the Suncrest Substation.

Water usage will vary based on the construction phases, but the average will be approximately 13,100 gallons per day (gpd) for the entire Proposed Project for the approximate construction duration of 196 days (actual workdays). This quantity can be easily hauled by truck.

As an example, for construction of the underground transmission line, about 3,800 gpd will be used for 100 days for the trenching work. For this same activity, about 1,400 gpd will be used for dust control, and roughly 150 gpd for fire suppression reserve.

To illustrate water use for construction of the SVC, building foundations will take about 50 days. For this activity, approximately 6,700 gpd of water will be needed for the foundation work, about 600 gpd will be used for dust control, and roughly 150 gpd for fire suppression reserve. This construction phase for the SVC will have the highest water usage. A 200-gallon water truck will accompany the construction crews to each work location for the transmission line, staging area, and SVC construction to provide immediate fire suppression if necessary.

Following construction and during the restoration period, it is estimated that approximately 9,200 gallons of water per year would be required to facilitate restoration of temporarily impacted areas for each of the following areas: SVC, staging, and underground transmission areas. With a restoration period of up to 5 years, this could amount to up to 46,000 gallons of water for restoration purposes.

Potential water supplies would include primarily non-potable and recycled water sources. In an effort to minimize the use of potable water in drought conditions, a recycled water source has been identified at Padre Dam Municipal Water District's (PDMWD) Water Recycling Facility (PDMWD 2015), located 19 miles to the west of the Proposed Project. A water services agreement is currently being negotiated with PDMWD. NEET West is also coordinating with the owner of the SVC property to provide an on-site water source in the event that reclaimed water sources are unavailable prior to construction. An on-site source would reduce the number of truck trips required to and from the site to deliver water. Existing PVC piping is already in place between the property owner's storage ponds and a water tank at the SVC site as the water

is currently being used by SDG&E for restoration purposes. Assuming the more conservative scenario that water will have to be hauled from an off-site location such as PDMWD's Water Recycling Facility, truck trips would average approximately three trucks per day. During below-grade construction, it is estimated that a peak of 6 trucks per day would be required, and during above grade construction approximately 1 truck per day would be required. Construction crews will be responsible for providing their own drinking water during construction.

3.8.7. Construction Workforce and Equipment

Construction of the SVC and transmission line is expected to occur simultaneously. The construction workforce and equipment deployed for the Proposed Project will be typical for similar transmission line and substation construction projects of this size. The peak employment is anticipated to be 64 workers, but on average, the workforce on site will be less. The workers will likely commute from the Chula Vista and San Diego areas.

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

3.8.8. Construction Schedule

Construction is targeted to start September 1, 2016, and is expected to be complete March 10, 2017, at total of approximately 6.5 months from initial site disturbance until the SVC is ready for testing. Testing and commissioning of the Proposed Project will take approximately 2.5 months between March 11 and May 31, 2017, at which point the SVC will be fully operational and ready for energization. Restoration and cleanup will take another 2 months following energization. Construction will typically occur 10 hours per day, 6 days per week, Monday-Saturday, during the hours between 7:00 a.m. and 7:00 p.m. However, activities that are not noise-intensive may occur outside these hours. Additional work days or hours may also be required for time sensitive work activities (e.g., concrete pours, splicing, trenching, transformer oil filling, etc.) or as dictated by safety concerns. Table 3-5 provides a general schedule for the primary phases and elements of the Proposed Project over the approximate 9-month construction and testing period as well as preliminary permitting and clean-up.

Table 3-4. Preliminary Construction Plan (Construction Equipment, Personnel, and Equipment Uses)

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
GENERAL																							
Survey	1-Sep-16	15-Sep-16	0	0	0	14	0	0	0	10	Surveying includes setting up survey equipment, taking measurements, and installing stakes, along the ROW.	1	3	1	pickup truck	100%	Yes	30	1	1	65	10	Material and personnel transport
UNDERGROUND TRANSMISSION LINE CONSTRUCTION																							
Install Riser Pole Foundation and Set Transmission Line Cable Riser Pole	11-Oct-16	15-Jan-17	4,125	10,000	2,004	15	275	667	134	10	Foundation work includes, augering holes grading or using an existing flat area to place the rig so that the auger is centered on the foundation stake. The auger turns removing soil from the ground creating a hole at the appropriate diameter. The removed soil is typically spread using a dozer, backhoe, or by hand. Direct embed poles are embedded and backfilled with crushed rock. Foundations are formed, rebar cages are tied and placed in the hole, bolt cages are fixed in place, and concrete is placed. Pole is set and framed using crane or boom truck.	1	5	1	hole digger	50%	No	30	1	N/A	Non-commuting	5	Excavate holes for structure foundations
										10				1	backhoe, dozer, or bucket excavator	70%	No	30	1	N/A	Non-commuting	5	Earth movement
										10				1	water truck	100%	Yes	30	1	1	65	10	Dust and fire suppression
										10				1	pickup truck	100%	Yes	30	1	1	65	10	Material and personnel transport
										10				1	crane or boom truck	25%	No	30	1	N/A	Non-commuting	5	Lifting of heavy equipment for riser pole and SVC equipment installation
										10				2	concrete truck	30%	Yes	30	1	2	260	10	Concrete transport and delivery
										10				1	line truck	100%	Yes	30	1	1	65	10	Carries tools and materials to work areas

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
UNDERGROUND TRANSMISSION LINE CONSTRUCTION (continued)																							
Trench ~5,000' for 230kV UG	1-Sep-16	24-Apr-17	381,000	140,511	13,360	100	3,810	1,405	134	10	Grind or blast approximately 50 to 100 feet of trench per day. Trench will be approximately 30" wide by 60" deep. Depth can vary due to conflicts, rock encountered, or utility crossings. Haul off spoils.	1	5	3	trencher, backhoe, dump truck	100%	Yes	30	1	1	Non-commuting	10	Excavation and dust suppression
														1	water truck	100%	Yes	30	1	1	65	10	Water delivery and dust control
														1	Tandem Axle Dump Truck	50%	Yes	30	N/A	5	65	10	Material transport and removal
Install up to 5 Vaults			114,300	42,153	4,008	30	3,810	1,405	134	10	Excavate hole for vault, install vault sections, backfill with concrete or install pre-cast section	1	5	3	track hoe, dump truck, assist truck	100%	Yes	30	1	1	Non-commuting	10	Excavation, backfill, and installation of vaults
														3	concrete truck	100%	Yes	30	1	1	65	10	Concrete delivery and transport
														1	water truck	100%	Yes	30	1	1	65	10	Water delivery and dust control
Install~5,000' of 230kV duct package			72,600	70,255	6,680	50	1,452	1,405	134	10	Duct package will be 4-6" ducts with 4-2" communication ducts, pattern will be 2 6" ducts over 2-6" ducts. Install approximately 100 feet of duct/day.	1	5	2	flatbed truck, assist truck,	75%	Yes	30	1	1	Non-commuting	10	Material transport and removal;
														1	concrete truck	75%	Yes	30	1	1	65	10	Concrete transport and delivery
Pull cable, 6 pulls at 900 feet each			0	29,507	2,806	21	0	1,405	134	10	Install approximately 900' of cable per phase. One day per phase, three days per circuit run.	2	5	4	puller, tensioner, cable truck, assist truck	100%	Yes	30	1	1	Non-commuting	10	Install underground cable (conductor)
Install cable splices			0	44,963	4,275	32	0	1,405	134	16	Install cable splice. Each splice (phase) will take approximately 3 days to complete.	1	3	1	splice truck	100%	Yes	30	1	1	Non-commuting	10	Splicing of underground cable
Test cable splices			0	2,810	267	2	0	1,405	134	10	Test cable splices per accepted standards and techniques.	1	3	1	test truck	100%	Yes	30	1	1	Non-commuting	10	Splicing of underground cable

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
SVC CONSTRUCTION																							
SVC Site Grading	1-Sep-16	1-Oct-16	38,181	18,861	4,126	30	1,273	629	138	10	Site earthwork and grading. Deliver and haul off materials. Install drainage features. Construct SVC Site pad to rough grade.	1	18	1	bulldozer	90%	No	30	N/A	N/A	Non-commuting	8	Earth movement; miscellaneous trash removal
										10				1	articulating dump truck	90%	No	30	N/A	N/A	Non-commuting	8	Material transport and removal
										10				1	track hoe	90%	No	30	N/A	N/A	Non-commuting	8	Earth movement
										10				1	rubber tire loader	90%	No	30	N/A	N/A	Non-commuting	8	Material transport and removal
										10				2	roller	50%	No	30	N/A	N/A	Non-commuting	8	Soil compaction, recontouring, pavement restoration
										10				1	motor grader	90%	No	30	N/A	N/A	Non-commuting	8	Grading and soil movement, restoring original contours
										10				7	tandem axle dump truck	50%	Yes	30	N/A	5	65	10	Material transport and removal
										10				1	water truck	100%	Yes	30	N/A	1	65	10	Carries water for soil compaction, dust suppression, and can be used for fire suppression
										10				1	pickup truck	100%	Yes	30	N/A	1	65	10	Material and personnel transport

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
SVC CONSTRUCTION (continued)																							
Set SVC Substation Foundations	1-Oct-16	20-Nov-16	336,300	31,435	6,877	50	6,726	629	138	10	Foundation Installation includes, augering holes included grading or using an existing flat area to place the rig so that the auger is centered on the foundation stake. The auger turns removing soil from the ground creating a hole at the appropriate diameter. The removed soil which is typically spread using a dozer, backhoe, or by hand. Foundations are formed, rebar cages are tied and placed in the hole, bolt cages are fixed in place, and concrete is poured.	1	6	1	hole digger	50%	No	30	N/A	N/A	Non-commuting	5	Excavate holes for structure foundations
										10				1	backhoe, dozer, or bucket excavator	90%	No	30	N/A	N/A	Non-commuting	5	Earth movement; miscellaneous trash removal
										10				1	water truck	100%	Yes	30	N/A	1	65	10	Carries water for soil compaction, dust control, and fire suppression
										10				1	pickup truck	100%	Yes	30	N/A	1	65	10	Material and personnel transport
										10				1	crane or boom truck	30%	No	30	N/A	N/A	Non-commuting	5	Lifting of heavy equipment, used during riser pole and SVC equipment installation
Material Delivery	7-Oct-16	15-Jan-17	127,270	62,868	13,751	100	1,273	629	138	10	Material Delivery includes a tractor trailer transporting material to the site and being unloaded either using cranes, fork lifts, or boom trucks. Transmission line material includes structures, splice vaults,hardware, and conductor	1	3	1	tractor/trailer	50%	Yes	30	N/A	3	65	10	Haul SVC equipment
										10				2	yard and field cranes or line trucks	50%	No	30	N/A	N/A	Non-commuting	5	Carries tools and materials to work areas
										10				1	fork lift	50%	No	30	N/A	N/A	Non-commuting	5	Material and equipment transport
Transformer & SVC Delivery	15-Jan-17	30-Jan-17	19,098	9,431	2,063	15	1,273	629	138	10	Install Transformer and SVC	1	5	1	tractor/trailer	25%	Yes	30	N/A	3	65	10	Haul SVC equipment
										10				1	crane	25%	No	30	N/A	N/A	Non-commuting	5	Lifting of heavy equipment, used during riser pole and SVC equipment installation

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
SVC CONSTRUCTION (continued)																							
Substation Construction	31-Oct-16	10-Mar-17	165,451	81,728	17,879	130	1,273	629	138	10	Install equipment, structural steel, and bus work.	1	8	1	truck (2 ton)	100%	Yes	30	N/A	1	65	10	Material and personnel transport
										10				1	pickup truck	100%	Yes	30	N/A	1	65	10	Material and personnel transport
										10				2	bucket truck	50%	Yes	30	N/A	1	65	10	Lifts work personnel, used during riser pole and SVC structure installation and conductor installation
										10				1	crane or boom truck	75%	No	30	N/A	N/A	Non-commuting	5	Lifting of heavy equipment, used during riser pole and SVC equipment installation
										10				1	tractor/trailer	25%	Yes	30	N/A	1	65	10	Haul SVC equipment
										10				1	truck	100%	Yes	30	N/A	1	65	10	Material and personnel transport
Right-of-Way Restoration and Cleanup. One-year restoration maintenance.	15-Apr-17	15-Apr-18	27,600	115,677	25,306	184	150	629	138	10	Restore temporarily disturbed areas back to its original contours and condition. This includes restoring original grade, seeding area with native plants and one year restoration maintenance. If maintenance period extends beyond one year, the same equipment, crew members, water usage would be required in each subsequent year.	1	6	1	Truck	100%	Yes	30	N/A	1	65	10	Material and personnel transport
										10				1	motor grader	50%	No	30	N/A	N/A	Non-commuting	5	Grading, restoring original contours
										10				1	backhoe, dozer, or bucket excavator	50%	No	30	N/A	N/A	Non-commuting	5	Earth movement; miscellaneous trash removal
										10				1	pickup truck	100%	Yes	30	N/A	1	65	10	Material and personnel transport
										10				1	water truck	100%	Yes	30	N/A	1	65	10	Carries water for soil compaction, dust control, and fire suppression
SUBTOTAL Water Usage			*1,285,925*	*660,200*	*103,401*						*2,049,525*												

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
SDG&E INTERCONNECTION CONSTRUCTION																							
SDG&E Site Prep and Set Suncrest Substation Foundations	1-Sep-16	31-Oct-16	300,000	45,000	12,000	60	5,000	750	200	10		1	9	1	hole digger	50%	No	30	1	N/A	Non-commuting	5	Excavate holes for structure foundations
										10				1	backhoe, dozer, or bucket excavator	70%	No	30	1	N/A	Non-commuting	5	Earth movement; miscellaneous trash removal
										10				2	water truck	100%	Yes	30	1	1	130	10	Carries water for soil compaction, dust control, and fire suppression
										10				1	pickup truck	100%	Yes	30	1	1	65	10	Material and personnel transport
										10				1	crane or boom truck	25%	No	30	1	N/A	Non-commuting	5	Lifting of heavy equipment, used during equipment installation
										10				2	concrete truck	30%	Yes	30	1	2	260	10	Concrete transport and delivery
										10				1	line truck	100%	Yes	30	1	1	65	10	Carries tools and materials to work areas

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
SDG&E INTERCONNECTION CONSTRUCTION (continued)																							
SDG&E Suncrest Substations Structure and Equipment Erection	1-Nov-16	31-Dec-16	90,000	45,000	12,000	60	1,500	750	200	10		1	4	1	pickup truck	100%	Yes	30	1	1	65	10	Material and personnel transport
										10				1	boom truck	100%	Yes	30	1	1	65	10	Lifts materials
										10				1	truck (2 ton)	100%	Yes	30	1	1	65	10	Material and personnel transport
										10		1	8	1	truck (2 ton)	100%	Yes	30	1	1	65	10	Material and personnel transport
										10				1	pickup truck	100%	Yes	30	1	1	65	10	Material and personnel transport
										10				2	bucket truck	50%	Yes	30	1	1	130	10	Lifts work personal, used during installation and conductor installation
										10				1	crane or boom truck	50%	No	30	1	N/A	Non-commuting	5	Lifting of heavy equipment, used during installation
										10				1	tractor/ trailer	20%	Yes	30	1	1	65	10	Haul equipment
										10				1	line truck	100%	Yes	30	1	1	65	10	Carries tools and materials to work areas

Activity	Start	Finish	Water Consumption (Total Gal)			Duration (Days)	Water Consumption (gpd)			Hours per Day	Description	Crew	People/ Crew	Quantity of Equip.	Equipment	% of Duration Equipment is Used	Road Access Vehicle	Distance to Town (miles)	Length of Line (Miles)	Trips per Day	Commuting Distance (Miles/Day) On Road Vehicle Only	Estimated Usage Time (Hours/Day) Off Road Vehicle Only	Uses for Proposed Equipment
			Const.	Dust Control	Fire Fighting		Const.	Dust Control	Fire Fighting														
SDG&E INTERCONNECTION CONSTRUCTION (continued)																							
Wire Stringing into SDG&E Suncrest Substation	15-Jan-17	15-Feb-17	0	7,500	2,000	10	0	750	200	10		1	15	1	wire reel trailer	100%	No	30	0.1	N/A	Non-commuting	5	Install conductor
										10				1	diesel tractor	100%	No	30	0.1	N/A	Non-commuting	5	Earth movement; miscellaneous trash removal
										10				1	crane	10%	No	30	0.1	N/A	Non-commuting	5	Lifting of heavy equipment, used during equipment installation
										10				1	line truck	100%	Yes	30	0.1	1	65	10	Carries tools and materials to work areas
										10				3	pickup trucks	100%	Yes	30	0.1	1	65	10	Material and personnel transport
										10				2	bucket trucks	100%	Yes	30	0.1	1	65	10	Lifts personnel, used during installation/ conductor installation
										10				2	3-drum pullers	100%	No	30	0.1	N/A	Non-commuting	5	Install conductor
										10				1	single drum puller	100%	No	30	0.1	N/A	Non-commuting	5	Install conductor
										10				1	double bull-wheel tensioned	100%	No	30	0.1	N/A	Non-commuting	5	Install conductor
SUBTOTAL Water Usage			*390,000*	*97,500*	*26,000*						*513,500*												
TOTAL PROJECT Water Usage			**1,675,925**	**757,700**	**129,401**						**2,563,025**												

Table 3-5. Approximate Schedule Breakdowns of Construction Components*

Construction Component	Start	Finish	Duration
Site Work (access roads, grading)	9-1-2016	10-1-2016	30 days
Transmission Line Construction	9-1-2016	4-24-2017	230 Days
SVC Facility Construction	10-1-2016	3-10-2017	160 Days
High-Voltage Non-SVC Construction	9-1-2016	12-31-2016	121 Days
SDG&E Suncrest Substation Interconnection Upgrades	To be determined by SDG&E		
Testing and Commissioning	3-11-2017	5-31-2017	81 Days
Restoration and Clean-up	4-15-2017	6-15-2017	61 Days

* This schedule is approximate, representing the relative duration of and sequence of project elements. There may be variation of these sub-schedules, all within the stated overall project schedule.

3.9. OPERATION AND MAINTENANCE

The Proposed Project will be remotely operated from NEET's Lone Star control center in Austin, Texas, subject to approval by the CPUC and other applicable regulatory authorities. NEET West anticipates using similar substation monitoring, control, and data acquisition architecture as used for its other power delivery assets, including the use of standard monitoring, control, protection equipment, use of circuit breakers, and other line relay protection equipment. Again subject to regulatory approvals, the Proposed Project will be monitored and operated via an Energy Management Systems (EMS) with redundant servers and telecommunications to two data centers based in North and South Florida. The Proposed Project facilities will be dual scanned from both data centers and redundant Inter-Control Center Communications Protocol (ICCP or IEC 60870-6/TASE.2) servers will exchange SCADA data with the CAISO and the neighboring transmission operator entities. The EMS will include displays and alarm processing to ensure transmission operations has real-time situational awareness. The EMS support personnel will perform daily checks of the applications and hardware to ensure they are in proper working order. The EMS system will also be maintained to ensure compliance with NERC Critical Infrastructure Protection Standard requirements.

A maintenance plan will be created in accordance with the equipment vendors' directives, industry practice, NEET West's internal guidelines, and regulatory requirements. The plan will comply with the CAISO Transmission Control Agreement and Maintenance Practices Procedure and approved by the CAISO before the start of commercial operation.

In general, monthly inspections will be performed on the SVC to inspect each required piece of equipment and check that no obvious abnormalities exist to the extent possible without taking the SVC out of service. Annually, it is anticipated, the facility will be taken out of service to perform more invasive checks and maintenance on the SVC main components. Owing to the diversity of SVC equipment and the individual system components a small specialized team will execute the varying degrees of monthly and annual maintenance requirements. It is anticipated

that the short cable length associated with the SVC will be inspected annually and the cable jacket tested every 5 years. The cable termination equipment will be inspected annually. Inspection and maintenance will be performed by a small crew of one to two NextEra local high voltage technicians and personnel provided by the equipment vendor.

3.10. APPLICANT PROPOSED MEASURES

The following APMs will be implemented by NEET West in order to avoid impacts and further reduce less than significant impacts. The APMs are discussed in context with environmental resources in their respective Chapter 4 subsections. The significance of each project impact is first considered prior to application of APMs. The implementation of APMs is then considered part of the project when evaluating significance.

Table 3-6. Applicant Proposed Measures

APM No.	Description
	GENERAL
APM GEN-1	**Worker Environmental Awareness Program.** Prior to construction, all NEET West, contractor, and subcontractor Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the project APMs and to comply with the applicable environmental laws and regulations including appropriate resource avoidance and impact minimization procedures, the importance of resources and the purpose and necessity of protecting them, methods for protecting sensitive resources, and unanticipated discovery procedures should resources be uncovered during construction.
	AESTHETICS
APM AES-1	**Visual Contrast Minimization.** The color of the SVC perimeter fence will be chosen to blend with the existing site features (i.e., dull grey, light brown, or dull green) in order to minimize visual contrast with the landscape setting. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate survey or construction activity limits.
APM AES-2	**Light and Glare Reduction.** Construction lighting and permanent exterior lighting of the SVC will be the lowest illumination allowed for human safety and security, selectively placed, and shielded to minimize nighttime glare.
APM AES-3	**Material Selection.** Dulled metal finish transmission structures and non-specular conductors (within the SVC and for the overhead span to interconnect into SDG&E's Suncrest Substation) will be used for the Proposed Project. Non-specular conductors have been treated to reduce reflectivity. They must have a smooth matte gray finish that blends unobtrusively with the environment.
	AIR QUALITY AND GREENHOUSE GAS EMISSIONS
APM AIR-1	**Fugitive Dust Control.** During construction, water or non-toxic soil stabilizers will be applied in sufficient quantities on access roads, staging areas, work areas, and on stockpiles to control fugitive dust.
APM AIR-2	**Speed Limits.** During construction, vehicle speeds will be limited to 15 mph on unpaved roads or work areas and vehicles should be turned around in established or designated areas only.
APM AIR-3	**Vehicle Use and Idling Time.** To the extent feasible construction vehicle use and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following startup. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The Proposed Project will apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-

Table 3-6. Applicant Proposed Measures

APM No.	Description
	construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
APM AIR-4	**Construction Equipment Emissions.** Low-emission construction equipment will be utilized during construction of the Proposed Project. Construction equipment will be maintained per manufacturer specifications. All off-road construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program shall meet at a minimum the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in CCR Title 13, Section 2423(b)(1).
APM AIR-5	**Loss of SF6.** In operation of the SVC, NEET West will maintain the 230 kV circuit breaker so that the loss of SF6 is less than 0.5% per year. To assess the loss of SF6, NEET West will conduct monthly inspections and maintain the records of such inspections. NEET West will also participate in EPA's voluntary SF6 Emission Reduction Partnership for Electric Power Systems.
	BIOLOGICAL RESOURCES
APM BIO-1	Biological Monitor. A qualified biologist or environmental inspector who is familiar with the biological resources and issues at the Proposed Project will conduct monitoring during all construction-related ground-disturbing activities that may impact sensitive biological resources, including but not necessarily limited to: initial clearing and vegetation removal; perimeter fence installation and excavation; and movement of construction equipment and other activities outside of fenced/paved areas within wildlife habitat. The biological monitor/environmental inspector will flag or otherwise clearly mark environmentally sensitive areas with appropriate buffers, within which construction is not allowed. The monitor/inspector will have the authority to stop work activities upon the discovery of sensitive biological resources, and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to sensitive resources.
APM BIO-2	Vehicle Use of Existing Roads. Except when not feasible due to physical or safety constraints, all Proposed Project vehicle movement will be restricted to existing roads as a part of the Proposed Project. When it is not feasible to keep vehicles on existing access roads or avoid construction of access driveways during the nesting, breeding, or migration season, NEET West will perform a site survey in the area where the work is to occur. This survey will be performed to determine presence or absence of special-status nesting birds or other special-status species in the work area. Parking or driving on unpaved areas underneath oak trees will not be allowed in order to protect root structures. In addition, a 15-mile-per-hour speed limit will be observed on dirt access roads to reduce dust and allow reptiles and small mammals to disperse.
APM BIO-3	Debris and Litter Removal. Littering will not be allowed in the Proposed Project area. Proposed Project personnel will deposit all debris and litter into covered garbage containers which will be disposed of when full. Garbage containers will not be allowed to overflow and lids will be secured to prevent wildlife from removing garbage from containers. No food or waste will be left on the ground in the Proposed Project area, and no biodegradable or non-biodegradable debris will remain in the right-of-way following completion of construction.
APM BIO-4	**Delineating Sensitive Plant Populations.** The Proposed Project does not directly impact any sensitive plant populations, although felt-leaved monardella has been observed immediately adjacent to the Proposed Project. To ensure proper protection of these plants on or near the Proposed Project alignment, a qualified botanist will flag plant populations to be protected and avoided prior to Proposed Project implementation. The flagging will remain in place until work has ceased and the potential for impacts to the populations has abated. Flagging and demarcation will be updated as necessary. The botanist will also map populations using GPS/GNSS to update Proposed Project designs for avoidance in the field. If any sensitive plants are encountered during construction, buffers will be established for avoidance. A minimum buffer of 50 feet will be established from an identified special-status plant species unless consultation with a qualified biologist determines a reduced buffer would suffice to avoid impacts to the species. If plants cannot be avoided, seed will be collected and used during revegetation efforts following construction.
APM BIO-5	**Vegetation Trimming and Removal.** Vegetation trimming and removal will not be conducted during the bird breeding season (February through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the on-site biological resource monitor will ensure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, tree removal/trimming or brush clearing work

Table 3-6. Applicant Proposed Measures

APM No.	Description
	would be avoided within a buffer determined by the on-site biologist. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance-level survey, soil in the vegetation trimming or removal area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present. Whenever feasible, trees in environmental sensitive areas, such as areas of riparian or native scrub vegetation, will be scheduled for trimming during non-sensitive (i.e., outside breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, NEET West will perform a site survey, or more as appropriate, to determine presence or absence of nesting bird species in riparian or native scrub vegetation. Only the minimum amount of vegetation necessary for the construction of structures and facilities will be removed. **Nesting Bird Buffers and Management Plan.** If active nests of non-special-status species birds or common raptors are found, a suitable buffer shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of a qualified biologist. If bird nesting is initiated during active construction, the birds will be assumed acclimated to the disturbance and no buffer will be applied; however, direct impacts to active nests will be avoided. Prior to construction, NEET West shall prepare a Nesting Bird Management Plan. The plan shall include at a minimum: the types of birds that may occur in the Proposed Project area; the proposed management strategy for nesting birds; the proposed buffer distances for nesting birds; monitoring, field survey requirements and reporting standards; and nest deterrence strategies.
APM BIO-6	**Harming or Feeding Wildlife.** No wildlife, including rattlesnakes, will be harmed except to protect life and limb. Firearms and pets will be prohibited in all Proposed Project areas. In addition, feeding of wildlife will not be allowed. This includes keeping trash bins covered and secured at all times until they are removed from the Proposed Project site.
APM BIO-7	**Inspect Excavations for Trapped Wildlife.** All steep-walled trenches or excavations used during construction will be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in a trench or excavation, the on-site biological resource monitor will be contacted immediately to remove them if they cannot escape unimpeded. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency may be employed to remove the wildlife and transport them safely to other suitable habitats. Steep-walled trenches and excavations will be fenced and/or covered at the end of each workday to the extent practicable, to prevent wildlife from becoming entrapped and for safety purposes. Alternatively, escape ramps will be installed in trenches or excavation to allow wildlife to exit on their own volition.
APM BIO-8	**Emergency Repairs.** Emergency repairs may be required during the construction and maintenance of the Proposed Project to address situations (e.g., slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the Proposed Project facilities. During emergency repairs, APMs will be followed to the fullest extent practicable.
APM BIO-9	**Structures Constructed to Minimize Impacts to Raptors.** Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc. 1981) to minimize impacts to raptors. NEET West will construct all aboveground power transmission lines to the Avian Power Line Interaction Committee (APLIC) Guidelines recommendations: Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, and Reducing Avian Collisions with Power Lines: State of the Art in 2012.
APM BIO-10	**Restoration and Revegetation.** NEET West will develop a Restoration and Revegetation Plan to guide restoration activities on the Proposed Project that promotes locally appropriate native plant growth and eliminates non-native and invasive species. The Restoration Plan will identify measures and success criteria specific to each impacted plant community at the Proposed Project. The total area to be planted, and species composition, will be tailored for each impacted plant community based on existing standards and precedents. The Restoration Plan will identify success criteria for each habitat type and develop monitoring measures to ensure that success criteria will be met. Disturbed soils will be revegetated with an appropriate weed-free, native seed mix. All areas designated for temporary impacts will be revegetated with a seed blend that includes native grasses, forbs, and shrub species characteristic of the plant community receiving the temporary impact. Revegetation activities will be undertaken as soon as construction activities have been completed to minimize colonization by non-native

Table 3-6. Applicant Proposed Measures

APM No.	Description
	weedy species and to ensure compliance with the Proposed Project's SWPPP. Herbicides, if required during the restoration period, will be applied using hand-held applicators for spot-treatment and will not be used within 100 feet of drainages or sensitive plant populations.
APM BIO-11	**Night Lighting.** NEET West will minimize construction night lighting on adjacent habitats. Exterior lighting within the Proposed Project area adjacent to habitat will be the lowest illumination allowed for human safety and security, selectively placed, shielded, and directed downward to the maximum extent practicable. Vehicle traffic associated with Proposed Project activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species moving about.
APM BIO-12	**Implementation of Best Management Practices.** The plans and specifications for the Proposed Project will require the construction contractor to comply with the Proposed Project's SWPPP and reduce the transport of fugitive dust particles related to construction activities through the use of soil stabilization, watering, or implementation of comparable measures. In addition, construction materials and stockpiled soils will be covered or treated in accordance with the SWPPP to ensure that they do not become a source of fugitive dust or sediment. Fugitive dust management areas, including stockpiled soils, will be inspected weekly by the on-site biologist to ensure that they are adequately managed to prevent the generation of fugitive dust. Erosion controls that comply with county, State, and federal standards will be applied, including the implementation of best management practices. Practices such as installation of silt fences, straw wattles, and check dams will be implemented near disturbed areas to minimize and control erosion and sedimentation. Erosion management areas will be inspected and maintained regularly in accordance with the Proposed Project's SWPPP. To minimize potential impacts to the environment from accidental fuel spills, the plans and specifications for the Proposed Project will specify that all refueling occur in a designated fueling area that includes a temporary berm to limit the spread of any spill; drip pans will be used during refueling to contain accidental releases, and drip pans will be used under the fuel pump and valve mechanisms of any bulk fueling vehicles parked at the construction site; spills will be immediately addressed per the appropriate spill management plan, and soil cleanup and soil removal initiated if needed.
APM BIO-13	**Preconstruction Sweeps for Biological Resources.** Prior to initial vegetation clearance, grubbing, and ground-disturbing activities, a qualified biologist will conduct pre-construction sweeps of the Proposed Project for special-status wildlife and plants. During these surveys, the biologist will: a) Ensure that potential habitats become inaccessible to wildlife (e.g., burrows are removed that would otherwise provide temporary refuge); b) In the event of an unanticipated discovery of a special-status ground-dwelling animal, a biologist holding the appropriate State and/or federal permits will recover and relocate the animal to adjacent suitable habitat within the Proposed Project at least 200 feet from the limits of grading; and, In the event of the discovery of a previously unknown special-status plant, the area will be marked as an environmentally sensitive area, and avoided to the maximum extent practicable. If avoidance is not possible, NEET West will consult with USFWS and/or CDFW as appropriate given the species' status.
APM BIO-14	**Nesting Bird Surveys.** If construction is scheduled to commence during the non-nesting season (September 1 to January 31), no preconstruction surveys or additional measures with regard to nesting birds and other raptors are required. To avoid impacts to nesting birds in the Proposed Project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the Proposed Project, and within a 150-foot buffer if access allows, for Proposed Project activities that are initiated during the breeding season (February 1 to August 31). The survey for special-status raptors shall focus on potential nest sites on site and within a 500-foot buffer around the site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire Proposed Project at one time; they may be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. Active nests will be avoided and monitored, and the qualified biologists will have authority to stop-work should it be determined that a nest is being impacted by Proposed Project activity.
APM BIO-15	**Dead or Injured Special-Status Wildlife**. If any dead or injured special-status wildlife, or birds protected by the MBTA, are discovered at the Proposed Project during construction, NEET West will stop work in the immediate vicinity. NEET West will notify CPUC, the on-call biologist, and the appropriate resource agency (USFWS and/or CDFW) before construction is allowed to resume.

Table 3-6. Applicant Proposed Measures

APM No.	Description
	CULTURAL RESOURCES
APM CUL-1	**Retain a Qualified Principal Investigator.** A qualified principal investigator, defined as an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology, will be retained to carry out all applicant proposed measures related to archaeological and historical resources.
APM CUL-2	**Archaeological Construction Monitoring.** A qualified archaeological monitor will be retained to conduct periodic spot checking of initial ground disturbing activities. The archaeological monitor will work under the supervision of the principal investigator. Spot checking will include but not be limited to: excavations below 24 inches (60 cm) within the former Wilson Laydown Area (previously used as a materials storage and laydown area for the Sunrise Powerlink); and in locations wherein blasting will occur, both prior to and after blasting. The duration and timing of the monitoring will be determined by the CPUC, with recommendations provided by the principal investigator. If the principal investigator determines that periodic spot-checking is no longer warranted, he or she may recommend to the CPUC that monitoring cease entirely. In addition, if the principal investigator determines that an increase in the level of monitoring is warranted, he or she may recommend to the CPUC that full-time monitoring of ground disturbing activities be conducted in archaeologically sensitive areas.
APM CUL-3	**Inadvertent Discoveries.** In the event that unanticipated cultural materials are encountered during any phase of construction, all construction work within 50 feet of the deposit will cease, and the principal investigator will be consulted to assess the find. Construction activities may continue in other areas. Ground-disturbing impacts to any newly-discovered eligible or potentially eligible resources should be avoided to the extent feasible. If avoidance of these sites is not feasible, CPUC's Energy Division will ensure that potentially impacted cultural resources are assessed for significance, as defined by PRC Section 21083.2 or State CEQA Guidelines Section 15064.5(a), through implementation of Phase II investigations. Should such testing exhaust the data potential of these resources, impacts from the Proposed Project would be reduced to less than significant. Resources found to be not significant will not require additional treatment. Impacts to resources found to be significant will be reduced to less than significant through a Phase III data recovery program. Prior to any ground-disturbing activities, a detailed archaeological treatment plan will be prepared and implemented by a qualified archaeologist for the data recovery program. Data recovery investigations will be conducted in accordance with the archaeological treatment plan to ensure collection of sufficient information to address archaeological and historical research questions, and results will be presented in a technical report (or reports) describing field methods, materials collected, and conclusions. Additional testing and/or data recovery phases may involve additional excavation and/or more detailed recordation of resources or more comprehensive archival research. Any cultural material collected as part of an assessment or data recovery effort should be curated at a qualified facility. Field notes and other pertinent materials should be curated along with the archaeological collection.
APM-CUL-4	**Discovery of Human Remains:** If human remains are discovered, all work within 15 meters (50 feet) of the discovery shall cease and the San Diego County Coroner shall be notified. State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The San Diego County Coroner and the CPUC will be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a MLD. The MLD will complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.
	GEOLOGY AND SOILS
APM-GEO-1	**Appropriate Design Measure Implementation.** Site excavation likely has the potential to expose variably weathered granitic and metamorphic rock. Earthwork will incorporate the following measures typical to southern California grading practices: ▪ Remove soils and other surficial deposits that do not possess sufficient strength and stability to support structures. Removals should extend to competent materials with high mechanical strength and resistant to erosion and deformation. ▪ Process material obtained from excavation to achieve a maximum particle size and distribution that is suitable for conventional placement in engineered fills. Depending on the quantity of oversize material, consider rock fill placement and/or other forms of disposal as appropriate. ▪ Construct keyways, benches, or other structural component transitions/connections into competent material for all fill slopes.

Table 3-6. Applicant Proposed Measures

APM No.	Description
	▪ Control blasting or utilize alternative excavation techniques near cut slope faces that may be unstable to minimize further slope instability. ▪ Install sub-drains in the base of fills placed in swales or ravines. ▪ Over-excavate cut areas where structures will be supported by shallow foundations between transitions from cut to fill.
APM-GEO-2	**Soil Disturbance Minimization.** The following measures will be implemented during construction to minimize impacts from geological hazards and disturbance to soils: ▪ Keep vehicle and construction equipment within the limits of the Proposed Project and in approved construction work areas to reduce disturbance to topsoil. ▪ Prior to grading, salvage topsoil to a depth of 6 inches or to actual depth if shallower (as identified in site-specific geotechnical investigation report) to avoid mixing of soil horizons. ▪ Avoid construction in areas with saturated soils, whenever practical, to reduce impacts to soil structure and allow safe access. Similarly, avoid topsoil salvage in saturated soils to maintain soil structure. ▪ Keep topsoil material onsite in the immediate vicinity of the temporary disturbance or at a nearby approved work area to be used in restoration of temporary disturbed areas. Temporary disturbance areas will be re-contoured following construction to match pre-construction grades. Areas will be allowed to re-vegetate naturally, or will be reseeded with a native seed mix from a local source if necessary. Onsite material storage will be sited and managed in accordance with all required permits and approvals. ▪ Keep vegetation removal and soil disturbance to a minimum and limited to only the areas needed for construction. Removed vegetation will be disposed of off-site to an appropriate licensed facility or can be chipped onsite to be used as mulch during restoration. Onsite material storage will be sited and managed in accordance will all required permits and approvals.
APM-GEO-3	**Stormwater Pollution Prevention Plan Implementation.** The Proposed Project will involve more than one acre of ground disturbance. A SWPPP will be prepared in accordance with the California General Permit for Stormwater Discharges Associated with Construction Activities (CGP) (2009-009-DWQ) and implemented for the Proposed Project. Construction will not begin until the SWPPP is complete and coverage under the CGP is obtained. The SWPPP will be prepared in accordance with CGP requirements and other applicable BMPs. The plan will designate BMPs that will be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport. Erosion minimizing efforts will include: ▪ Avoiding excessive disturbance of steep slopes; ▪ Using drainage control structures (e.g., straw wattles or silt fencing) to direct surface runoff away from disturbed areas; ▪ Installing sediment barriers between disturbed areas and aquatic habitat (i.e. jurisdictional wetland and water); ▪ Strictly controlling vehicular traffic, specifically ingress and egress locations; ▪ Implementing a dust control program during construction; ▪ Stockpile containment and management requirements; and ▪ Re-vegetating disturbed areas where applicable following construction. Erosion control measures will be installed, as necessary, prior to clearing during the wet season and before the onset of winter rains or any anticipated storm event. Temporary measures, such as silt fences or straw wattles, intended to minimize erosion from temporarily disturbed areas will remain in place until disturbed areas have stabilized. Such temporary measures will be placed and monitored by a qualified inspector to ensure effectiveness and timely repair as needed. If determined to be necessary the SWPPP will be submitted to the CPUC for review at least 30 days prior to the start of construction. Plan updates will be made and submitted as needed if construction activities change whereas the existing plan does not adequately address the Proposed Project.

Table 3-6. Applicant Proposed Measures

APM No.	Description
APM-PR-1	**Inadvertent Fossil Discovery**. Should any paleontological resources be found within the Proposed Project footprint prior to or during construction: ▪ Surface-disturbing work will be halted in the immediate area (within 50 feet) of the find and project paleontologist notified immediately so the find can be evaluated ▪ No operations will resume in the immediate area of the find until written authorization to proceed is issued by the appropriate agency personnel.
	HAZARDS AND HAZARDOUS MATERIALS
APM HAZ-1	**Hazardous Materials and Waste Management Plan.** A HMWMP will be prepared and implemented for the Proposed Project. Construction will not begin until the plan is complete. The plan will be prepared in accordance with relevant state and federal guidelines and regulations (e.g., Cal/OSHA). The plan will include the following information related to hazardous materials and waste, as applicable: ▪ A list of hazardous materials present on-site during construction and operation to be updated as needed along with product Safety Data Sheets and other information regarding storage, application, transportation, and disposal requirements; ▪ A Hazardous Materials Communication (i.e., HAZCOM) Plan; ▪ Assignments and responsibilities of Proposed Project Health and Safety roles; ▪ Standards for any secondary containment and countermeasures required for hazardous materials; ▪ Spill response procedures based on product and quantity. The procedures will include materials to be used, location of such materials within the Proposed Project area, and disposal protocols; and ▪ Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction. This will include termination of work within the area of suspected contamination sampling by an OSHA trained individual, and testing at a certified laboratory. A copy of the plan will be provided to the CPUC for recordkeeping prior to the start of construction. Plan updates will be made and submitted as needed if construction activities change whereas the existing plan does not adequately address the Proposed Project.
APM HAZ-2	**Environmental and Hazardous Materials Safety and Management Plans.** In addition to the HMWMP, all necessary environmental and hazardous materials safety and management plans will be developed for the Proposed Project. This may include but is not limited to the preparation of a Hazardous Materials Business Plan, Spill-Response Plan, 90-day temporary storage and disposal facility permit, and a Spill Prevention Control and Countermeasure Plan (i.e., if the Proposed Project will result in storage of over 1,320 gallons of oil at any one location).
APM HAZ-3	**Weed Control Plan.** A Proposed Project-specific weed control plan will be prepared and implemented. The plan will include methods for controlling the introduction and distribution of weeds during construction such as cleaning of tires and surfaces of all trucks and construction equipment prior to commencing work in off-road areas, using rocks/grates at the Proposed Project entry points to physically dislodge seeds, using certified weed-free mulch for stabilizing areas of disturbed soil, utilizing on-site soil to the maximum extent practicable for fill. Following construction annual maintenance actives will track the presence and proliferation of non-native, invasive plants known to potential increase wildland fire hazards (e.g., cheatgrass [*Bromus tectorum*], Saharan mustard [*Brassica tournefortii*], and medusa head [*Taeniatherum caputmedusae*]. The plan will establish performance criteria and metrics for the presence of weed species based on reducing fire hazards and include methods for control of these species to generated acceptability thresholds.
APM HAZ-4	**Develop and implement a Fire Prevention Plan.** Following Proposed Project approval, a Fire Prevention Plan will be prepared and implemented for the Proposed Project. The Plan is intended to reduce or eliminate the causes of fire, and prevent loss of life and property by fire. The goals of the Plan are to further minimize or eliminate identifiable fire risks associated with the Proposed Project and minimize or eliminate impedances to local fire protection service responders through design improvements or aid agreements. The Plan will be prepared based on evaluation of potential fire risks as they relate to required building standards, structural protection, fire protection systems, access requirements, fuel management requirements, water supply, and emergency response adequacy. This evaluation will be augmented by fire behavior modeling (utilizing BehavePlus 5.05) to determine site-specific priority hazard areas, appropriate setbacks from wild land field, and stable defensible space distances. The Plan will outline recommendations and site-specific

Table 3-6. Applicant Proposed Measures

APM No.	Description
	measures or requirements for construction, operation and maintenance of the Proposed Project. The Plan will be prepared with a similar intent to the Occupational Safety and Health Administration's standard on fire prevention, 29 CFR 1926.24, 8 CCR 3221 and in consideration of the San Diego County Consolidated Fire Code (Ordinance No. 10172). The Plan will be developed in coordination with the San Diego County Fire Authority (SDCFA).
APM HAZ-5	**Remove hazards from work area.** The removal of hazards (i.e., fuels) from the work area will reduce the severity of construction- and maintenance-related ignitions that escape initial containment efforts by minimizing fuel loads. This will reduce the potential impact to communities and natural resources in the event of a project construction- or maintenance-related ignition.
APM HAZ-6	**Establish and maintain adequate equipment clearances.** Establishing and maintaining adequate clearances from electrical equipment, such as the riser pole structure or SVC transformer components, will reduce the risk of vegetation contact with the 300-foot overhead conductor and provide a defensible space around the SVC site. Maintenance of vegetation will be in accordance with CPUC General Order No. 95, Section 3, Rule 35, Vegetation Management.
APM HAZ-7	**Fire Safe Working Conditions and Best Management Practices.** The following measures will be implemented during construction and operation to reduce the potential for ignitions and minimize fire related hazards: ▪ All work vehicles will be required to carry fire suppression equipment. Workers will be trained in the use of equipment for incipient stage fire suppression (see APM HAZ-3). ▪ Smoking will be confined to vehicles or approved smoking areas where fire suppression equipment and appropriate disposal facilities are present. All smoking materials will be disposed of in appropriate disposal bins. ▪ All on-road vehicle parking will be restricted to paved or graveled surfaces unless parking is required during an emergency or required for worker safety. ▪ Require spark arrestors on all off-road equipment. ▪ Restrict work activities during Red Flag Warnings issued by the National Weather Service to the extent possible. Where it is not possible to stop or restrict work activities due to safety or time sensitive activities, work activities will be limited to those needed to complete the current task and establish safe working conditions. During Red Flag Warnings a crew member will be assigned to fire watch for each separate and distinct active work area. ▪ Weather and fire danger will be monitored on a daily basis. ▪ Fire suppression equipment such as backpack water pumps or water buffaloes will be kept on-site at a minimum of 50 feet from each separate and distinct active work area.
APM HAZ-8	**Blasting Plan.** If blasting is deemed necessary for the construction of Proposed Project components, NEET West shall conduct a pre-blast survey and prepare a blasting plan. A written report of the pre-blast survey and final blasting plan shall be provided to the appropriate regulatory agency and approved prior to any rock removal using explosives. In addition to any other requirements established by the appropriate regulatory agencies, the pre-blast survey and blasting plan shall meet the following conditions, as well as those outlined in APM NOI-2: ▪ The pre-blast survey shall be conducted for structures within a minimum radius of 1,000 feet from the identified blast site to be specified by NEET West. Notification that blasting will occur shall be provided to all owners of the identified structures to be surveyed prior to commencement of blasting. The pre-blast survey shall be included in the final blasting plan. ▪ The final blasting plan shall address air-blast limits, ground vibrations, and maximum peak particle velocity for ground movement, including provisions to monitor and assess compliance with the air-blast, ground vibration, and peak particle velocity requirements. The blasting plan shall meet criteria established in Chapter 3 (Control of Adverse Effects) in the Blasting Guidance Manual of the U.S. Department of Interior Office of Surface Mining Reclamation and Enforcement. ▪ The blasting plan shall outline the anticipated blasting procedures for the removal of rock material at the proposed SVC, riser pole and underground transmission line structures. The blasting procedures shall incorporate line control to full depth and controlled blasting techniques to create minimum breakage outside the line control and maximum rock fragmentation within the target area. Prior to blasting, all applicable regulatory measures shall be met. NEET West, or its subcontractor (as appropriate) shall keep a record of each blast for at least 1 year from the date of the last blast. ▪ The blasting plan shall incorporate provisions to post signage along roads and trails within a minimum

Table 3-6. Applicant Proposed Measures

APM No.	Description
	of 1000 feet of the identified blast site. Precautions such as fencing or taping will be incorporated that limit access to recreationalists and the general public.
	HYDROLOGY AND WATER QUALITY
APM WQ-1	**Limited On-site Vehicle and Equipment Fueling.** Construction equipment will use off-site fueling stations to the extent possible. Where off-site fueling is not possible, all on-site fueling will adhere to measures specified in the SWPPP and Hazardous Materials and Waste Management Plan. On-site fueling will occur within approved work areas only. No refueling or fuel storage will occur within 100 feet of environmentally sensitive areas (i.e., jurisdictional waters, and riparian areas; rare plant localities; or existing storm drains) or within 200 feet of water supply wells, unless otherwise approved by the environmental inspector or in the event of an emergency that threatens life or property. If fueling is required within these buffer zones, the environmental inspector or on-site biologist must be contacted and secondary containment devices must be utilized to ensure no fuel spills occur.
APM WQ-2	**Proper Sanitary/Septic Waste Management.** Sanitary facilities will be located at least 100 feet from environmentally sensitive areas (i.e., jurisdictional waters and riparian areas; rare plant localities; or existing storm drains) at locations convenient for pump-out. Facilities will be sited and maintained (including scheduling regular waste collection by a licensed hauler) to ensure there is no overflow.
APM WQ-3	**Source Water Protection and Identification.** Source water for the Proposed Project will be obtained from a permitted source. There will be no unauthorized withdrawal or capture of surface waters for use or consumption. Contact will occur with affected landowners (i.e., the owner of each tax parcel crossed by the Proposed Project) prior to construction to identify the location of unknown water supply wells.
APM WQ-4	**Groundwater Management.** Groundwater encountered during construction will be handled and discharged in accordance with all State and federal regulations including the following: ▪ Recovered groundwater will be contained on site and tested prior to discharge. ▪ If testing determines water is suitable for land application, discharge may be applied to flat, vegetated, upland areas, used for dust control, or used in other suitable construction operations (e.g., concrete mixing). ▪ Land application will be made in a manner that discharge does not result in substantial erosion and will not be made directly to receiving waters or storm drains. ▪ Water unsuitable for land application will be disposed of at an appropriately permitted facility. ▪ Discharge to surfaces waters or storm drains may occur only if permitted by the agency(ies) with jurisdiction over the resource (e.g., USACE, RWQCB, and/or CDFW, as applicable) .
APM WQ-5	**Identification and Flagging of Sensitive Aquatic Features.** Prior to construction, sensitive aquatic features (i.e., jurisdictional wetlands, waters, and riparian areas; and existing storm drains, culverts, or drainage ditches), where disturbance is not already approved pursuant to permits issued by the USACE, CDFW, RWQCB or other authorizing agency, will be identified in the field and clearly marked for avoidance using flagging tape or other high-visibility signage. Construction personnel will be trained on feature avoidance marking and associated restrictions.
APM WQ-6	**Avoidance of Sensitive Aquatic Features.** The Proposed Project will be designed to avoid sensitive aquatic features (i.e., jurisdictional wetlands, waters, riparian areas, and stormwater conveyance structures) to the extent feasible. Specific avoidance strategies include: ▪ Siting splice vault structures and the riser pole structure within or immediately adjacent to Bell Bluff Truck Trail or in uplands outside of existing drainage features and the storm water conveyance system along Bell Bluff Truck Trail. ▪ Siting of laydown and other temporary staging/materials storage areas within Bell Bluff Truck Trail. ▪ Constructing the SVC, access drives, and riser pole structure within uplands while avoiding other sensitive features (e.g., steep slopes, rare plant localities, sensitive wildlife habitats). ▪ Where feasible based on geotechnical investigation, avoiding culverts within Bell Bluff Truck Trail during construction of the underground transmission line by bracing or stabilizing culvert structures and excavating beneath the culvert structures to maintain culvert function. Where it is infeasible to avoid impacts to existing culverts, work will not occur within 48 hours of a forecasted rain event of 0.5 inches or greater and temporary piping will be onsite to maintain any unexpected water flow.

Table 3-6. Applicant Proposed Measures

APM No.	Description
	▪ All regulated activities within jurisdictional wetlands and waters (e.g., waters of the United States and waters of the State) will require regulatory approval/permitting from the appropriate agency including USACE, CDFW, and/or RWQCB prior to any work within jurisdictional features.
	NOISE
APM NOI-1	**Construction Work Hours.** Noise-generating construction activities will typically occur between 7:00 a.m. and 7:00 p.m. consistent with San Diego County's Noise Ordinance. Additional work days or hours will also be required for time sensitive work activities (e.g., concrete pours, underground transmission cable splicing, trenching, transformer oil filling, etc.) or as dictated by safety concerns. When noise-intensive construction work (which has the potential to exceed noise standards) is required earlier than 7:00 a.m. or later than 7:00 p.m., landowners will be notified at least 2 days prior to the activities beginning. The notice will provide details on the nature of the activity, noise levels anticipated, and duration of the activity.
APM NOI-2	**Reduction of Blasting Impacts.** NEET West will explore the use of alternative excavation techniques (micropiles, etc.) as an alternative to blasting. However, if blasting activities become necessary for excavation, blasting mats or similar attenuation measures will be used to reduce the impulsive noise associated with such activities. Additionally, NEET West shall conduct a pre-blast survey, prepare a blasting plan, and obtain appropriate blasting and explosive permits. A written report of the pre-blast survey and final blasting plan shall be provided to the appropriate regulatory agency and approved prior to any rock removal using explosives. In addition to any other requirements established by the appropriate regulatory agencies, the pre-blast survey and blasting plan shall meet the following conditions: ▪ The pre-blast survey shall be conducted for structures within a minimum radius of 1,000 feet from the identified blast site to be specified by NEET West. Sensitive receptors that could reasonably be affected by blasting shall be surveyed as part of the pre-blast survey. Notification that blasting would occur shall be provided to all owners of the identified structures to be surveyed prior to commencement of blasting. If SDG&E facilities are within the survey radius, NEET West will consult with SDG&E engineers in the pre-blast survey (no other structures fall within 1,000 feet of any part of the Proposed Project). The pre-blast survey shall be included in the final blasting plan. ▪ The final blasting plan shall address air-blast limits, ground vibrations, and maximum peak particle velocity for ground movement, including provisions to monitor and assess compliance with the air-blast, ground vibration, and peak particle velocity requirements. The blasting plan shall meet criteria established in Chapter 3 (Control of Adverse Effects) in the Blasting Guidance Manual of the U.S. Department of Interior Office of Surface Mining Reclamation and Enforcement. ▪ The blasting plan shall outline the anticipated blasting procedures for the removal of rock material at the proposed SVC and underground transmission line structures. The blasting procedures shall incorporate line control to full depth and controlled blasting techniques to create minimum breakage outside the line control and maximum rock fragmentation within the target area. Prior to blasting, all applicable regulatory measures shall be met. NEET West, or its subcontractor (as appropriate), shall keep a record of each blast for at least 1 year from the date of the last blast.
	TRANSPORTATION AND TRAFFIC
APM TRA-1	**Preparation of a Traffic Control Plan. NEET West** will prepare a Traffic Control Plan to describe measures to be taken to guide traffic (such as signs and workers directing traffic), safeguard construction workers, provide safe passage, and minimize traffic impacts.
	UTILITIES AND SERVICE SYSTEMS
APM UT-1	**Use of Reclaimed Water.** To the extent feasible, NEET West will utilize reclaimed water from the Padre Dam Municipal Water District's Reclaimed Water Facility. If needed, NEET West will coordinate with other water suppliers, including the Descanso Community Water District, the San Diego County Water Authority, and possibly other local water districts within 30 miles, in attempt to acquire reclaimed water for delivery to the construction site, if available at a reasonable cost, and to meet any restrictions imposed by the water supplier(s). If a reclaimed source is unavailable prior to construction, the nearby non-potable water supply at the Wilson's ponds will be utilized to reduce the air quality emissions and traffic impacts associated with hauling water to the Proposed Project site.

Table 3-6. Applicant Proposed Measures

APM No.	Description
APM UT-2	**Recycle Construction Waste.** In accordance with the San Diego County Construction and Demolition Debris Ordinance, NEET West and/or its construction contractor will recycle a minimum of 90 percent of inerts and 70 percent of all other materials, and submit all applicable plans and documentation to the appropriate agency(ies).
APM UT-3	**Coordination with Existing Utilities.** NEET West will coordinate with all utility providers with facilities located within or adjacent to the Proposed Project to ensure that the design does not conflict with other utilities. No subsurface work will be conducted that would conflict with a buried utility. In the event of a conflict, the project will be realigned vertically and/or horizontally as appropriate to avoid utilities and provide adequate operational and safety buffering. Underground Service Alert will be notified a minimum of 48 hours in advance of excavation in any location.

3.11. REFERENCES

CAISO, Infrastructure Development. 2014. *Suncrest 230 kV 300 MVAr Dynamic Reactive Power Support Description and Functional Specifications for Competitive Solicitation (the "Suncrest Functional Specifications")*. April 15, 2014. Available at: http://www.caiso.com/Documents/Description-FunctionalSpecificationsSuncrest230ReactivePowerSupport.pdf. The Suncrest Functional Specifications are provided as Annex D to the testimony.

County of San Diego. 2015. Model Design BMP Manual for San Diego Region. Available at: http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250 Accessed July 2015.

Padre Dam Municipal Water District (PDMWD). 2015. Water Recycling Facility. Available at http://www.padredam.org/130/Water-Recycling-Facility. Accessed on July 15, 2015.

4.0. ENVIRONMENTAL SETTING AND IMPACT ASSESSMENT SUMMARY

The following sections (4.1 through 4.16) provide an assessment of potential environmental impacts resulting from construction and operation of the Proposed Project. The potential environmental impacts associated with these components are evaluated herein for the following resource areas, consistent with the requirements of CEQA:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Geology and Soils, including Paleontological Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems
- Cumulative Impacts

Sections 4.1 through 4.16 provide discussion of the existing conditions as they pertain to each resource area and identify potential impacts on such resources anticipated with Proposed Project implementation. A checklist is provided at the beginning of each section to summarize the level of impact (i.e., No Impact, Less Than Significant Impact, Less Than Significant Impact with Mitigation Incorporation, and Potentially Significant Impact) to each resource area, according to the significance criteria used for analysis.

The Proposed Project will result in no impacts to Agriculture and Forest Resources, Land Use and Planning, and Population and Housing. The Proposed Project will result in less-than-

significant impacts or no impacts in the environmental topics of Aesthetics, Air Quality and Greenhouse Gas Emissions, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Recreation, Transportation and Traffic, and Utilities and Service Systems. Although the Proposed Project will not result in any significant environmental impacts, NEET West will implement APMs to ensure that all potential impacts remain less than significant:

- Aesthetics – APM AES-1 through APM AES-3
- Air Quality – APM AIR-1 through APM AIR-5
- Biological Resources – APM GEN-1 and APM BIO-1 through APM BIO-15
- Cultural Resources – APM GEN-1 and APM CUL-1 through APM CUL-4
- Geology, Soils, Paleontology, and Mineral Resources – APM GEO-1 through APM GEO-3, APM PR-1
- Hazards and Hazardous Materials – APM HAZ-1 through APM HAZ-8
- Hydrology and Water Quality – APM WQ-1 through APM WQ-6
- Noise – APM NOI 1 and APM NOI-2
- Transportation and Traffic – APM TRA-1
- Utilities and Service Systems – APM UT-1 through APM UT-3

The APMs are discussed in their relevant sections and are summarized in Table 3-6, Applicant Proposed Measures, in Chapter 3.0, Project Description.

4.1. AESTHETICS

4.1.1 Introduction

This section of the PEA addresses aesthetics, or visual resources, and the potential impacts associated with the construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on aesthetic resources were evaluated using the significance criteria set forth in Appendix G of the State CEQA Guidelines, as shown in Table 4.1-1, CEQA Initial Study Checklist for Aesthetics. The analysis determined that aesthetic impacts will be less than significant or that no impact will occur. Implementation of the APMs described in Section 4.1.4, Applicant-Proposed Measures, will ensure that impacts to aesthetics will remain less than significant.

Table 4.1-1. CEQA Initial Study Checklist for Aesthetics

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
AESTHETICS Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surrounding?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

4.1.2 Existing Conditions

4.1.2.1 Regulatory Background

Federal

The Proposed Project is located on privately owned land but is in close proximity to the USFS CNF. The 421,000-acre CNF is located within San Diego, Riverside, and Orange Counties.

Although the Proposed Project is not under the jurisdiction of the CNF, NEET West has reviewed goals and objectives regarding aesthetics in the Land Management Plan for the National Forests in Southern California for consistency. Relevant policies include the following (USFS 2005):

- **CNF Strategy, LM 1, Landscape Aesthetics:** Manage landscapes and built elements in order to achieve scenic integrity objectives:
    - Use the best environmental design practices to harmonize changes in the landscape and to advance environmentally sustainable design solutions.
- **CNF Strategy, LM 2, Landscape Restoration:** Restore landscapes to reduce visual effects of management activities and nonconforming features.
    - Prioritize landscape restoration activities in key places (Aguanga, Elsinore, Laguna, Morena, Palomar Mountain, Pine Creek, San Dieguito/Black Mountain, San Mateo, Silverado, Sweetwater, and Upper San Diego River). Integrate restoration activities with other resource restoration.
- **CNF Strategy, LM 3, Landscape Character:** Maintain the character of National Forest System lands in order to preserve their intact nature, valued attributes, and open space.
    - Maintain the integrity of the expansive, unencumbered landscapes and traditional cultural features that provide the distinctive character of places.
    - Plan, design, and improve infrastructure along scenic travel routes to meet scenic integrity objectives.

The CNF Land Management Plan identifies areas as "places." Sweetwater Place is described as "a transition zone between the southwestern deserts and the urbanized communities along the southern California seacoast. The Interstate 8 corridor offers expansive, scenic views of Guatay, Laguna, and Viejas Mountains to tens of thousands of interstate travelers each day" (USFS 2005). The desired condition is for Sweetwater Place to be "maintained as a natural appearing landscape that functions as one of the primary transition zones between the deserts of eastern San Diego County and southern California's coastal communities. The valued landscape attributes to be preserved or developed over time are the undeveloped character of Forest Service land that remain in this otherwise highly developed rural area; opportunities for unobstructed, panoramic views from the Interstate 8 corridor—especially on the eastern side; the scenic integrity of important local landmarks; and built elements that are unobtrusive and exhibit a consistent architectural theme" (USFS 2005). Program emphasis is to "manage development within the Interstate 8 road corridor to conserve panoramic views from the highway" (USFS 2005).

State

The Scenic Highway Program in the state of California is aimed at the protection and long-term preservation of highway corridors of scenic value to ensure that the aesthetic value of lands adjacent to the highway is preserved. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from "eligible" to "officially designated" when the local jurisdiction adopts a scenic corridor protection program, applies for California Department of Transportation (Caltrans) approval, and receives the designation via State legislation.

According to the California Scenic Highway Mapping System (Caltrans 2011), no routes in the vicinity of the Proposed Project have been designated as State Scenic Highways. I-8, located approximately 1.75 miles north of the Proposed Project, has been identified as eligible for State Scenic Highway designation.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to aesthetic resources. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County General Plan

The Proposed Project lies within the County of San Diego General Plan area (County of San Diego 2011a). The General Plan sets a direction for the future of the unincorporated area of San Diego County by providing clear, unified framework for community development and conservation. The General Plan has as its overall goal to accommodate population growth and influence its distribution to protect and use scarce resources wisely; preserve the natural environment; provide adequate public facilities and services efficiently and equitable; assist the private sector in the provision of adequate, affordable housing; and promote the economic and social welfare of the region.

The General Plan contains several elements that address the need to protect the County's aesthetic resources, including land use and conservation and open space. The General Plan includes both specific and general provisions identifying aesthetic resources as they may relate to substation and transmission line development.

Land Use Element

The Land Use Element focuses primarily on the development and distribution of residential, commercial, industrial, and open space land uses. The element describes goals and policies related to the preservation of natural resources during new development. The following policies from the Land Use Element pertain to aesthetic resources:

- **Policy LU-2.8, Mitigation of Development Impacts:** Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.
- **Policy LU-4.6, Planning for Adequate Energy Facilities:** Participate in the planning of regional energy infrastructure with applicable utility providers to ensure plans are

consistent with the County's General Plan and Community Plans and minimize adverse impact to the unincorporated County.

- **Policy LU-6.9, Development Conformance with Topography:** Require development to conform to the natural topography to limit grading; incorporate and not significantly alter the dominant physical characteristics of a site; and to utilize natural drainage and topography in conveying stormwater to the maximum extent practicable.

Conservation and Open Space Element

The Conservation and Open Space Element (COSE) addresses conservation, development, and use of natural resources including water, forests, soils, rivers, mineral deposits, and open space. The element describes goals and policies related to the conservation of natural resources and the importance of maintaining open space in select areas during new development. The following policies from the COSE pertain to aesthetic resources:

- **COS-11.1, Protection of Scenic Resources:** Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.
- **COS-11.2, Scenic Resource Connections:** Promote the connection of regionally significant natural features, designated historic landmarks, and points of regional historic, visual, and cultural interest via designated scenic corridors, such as scenic highways and regional trails.
- **COS-11.3, Development Siting and Design:** Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:
    - Creative site planning;
    - Integration of natural features into the project;
    - Appropriate scale, materials, and design to complement the surrounding natural landscape;
    - Minimal disturbance of topography;
    - Clustering of development so as to preserve a balance of open space vistas, natural features, and community character; and
    - Creation of contiguous open space networks.
- **COS-11-5, Collaboration with Private and Public Agencies:** Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that impact visually sensitive areas, whenever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape.
- **COS-11.7, Underground Utilities:** Require new development to place utilities underground and encourage "undergrounding" in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and to keep pace with current and future technologies.

- **COS-12.1, Hillside and Ridgeline Development Density:** Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas.
- **COS-12.2, Development Location on Ridges:** Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.
- **COS-13.1, Restrict Light and Glare:** Restrict outdoor light and glare from development projects in Semi-Rural and Rural Lands and designated rural communities to retain the quality of night skies by minimizing light pollution.
- **COS-14.11, Native Vegetation:** Require development to minimize the vegetation management of native vegetation while ensuring sufficient clearing is provided for fire control.

Alpine Community Plan

The Proposed Project, located approximately 3.36 miles southeast of the community of Alpine, is within the area covered by the Alpine Community Plan (a component of the San Diego County General Plan) (County of San Diego 2011b). The Alpine Community Plan's purpose is to ensure that the goals and policies formulated by the community will be compatible with those found in the General Plan, or, if conflicts exist, they can be readily identified and reconciled. The Alpine Community Plan includes general provisions for promoting designations of scenic highway stems within the Alpine Community Planning Area. The following policy from the Scenic Highways Element pertains to aesthetic resources:

- **Policy 5.3:** Proposed development within the following scenic view corridors should be done with extreme care to preserve these vistas, i.e., minimize grading, clearing and destruction of natural and topographical features. View corridors are:
    - From Interstate 8 toward El Capitan Reservoir;
    - East and west views of Viejas Mountain from Interstate 8; and
    - From Interstate 8 south along Sweetwater River.

Central Mountain Subregional Plan

The Central Mountain Subregional Plan (a component of the San Diego County General Plan) (County of San Diego 2011c) provides guidance to the communities of Cuyamaca, Descanso, Guatay, Mount Laguna, and Pine Valley. While the Proposed Project is not within the area covered by the Central Mountain Subregional Plan, the Proposed Project is within several hundred feet of the plan's coverage area. Therefore, given the Proposed Project site's proximity to the area formally addressed by the plan, the plan's policies are considered in this analysis. Policies in the Parks and Recreational Facilities section of the Central Mountain Subregional Plan include:

- **Policy 7:** Acquisition of lands suitable for local park and recreation purposes will be encouraged to meet the current and projected recreation needs of the community.

4.1.2.2 Methodology

The visual analysis conducted for the Proposed Project addresses the State CEQA Guidelines for potential impacts on aesthetic and visual resources, specifically Appendix G significance criteria (California Resource Agency 2014).

Because the CPUC has jurisdiction over the siting, design, and construction of the Proposed Project, preempting local discretionary land use permitting, the Proposed Project is not subject to the San Diego County General Plan, Alpine Community Plan, or Central Mountain Subregional Plan, or associated zoning. Because the Proposed Project will not occupy or cross USFS land, the USFS Scenery Management System (SMS) methods are not used. The Proposed Project's potential effects on aesthetic resources were analyzed using the Visual Sensitivity-Visual Change Methodology.

Visual Sensitivity-Visual Change

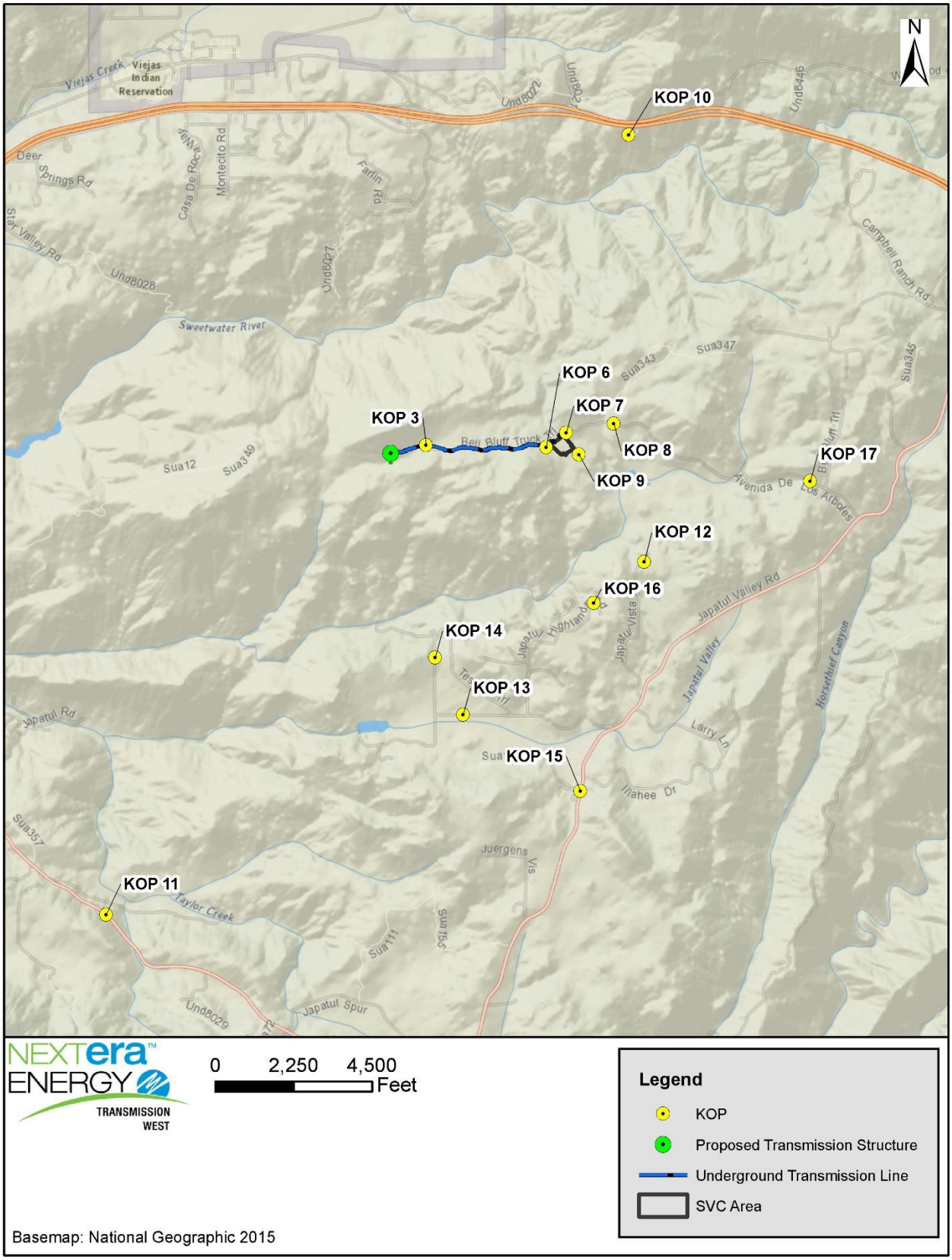
The visual impact assessment is based on evaluation of visual sensitivity-visual change. This type of aesthetic/visual assessment has been used by the CPUC for numerous transmission line and substation projects. Under this methodology, the analysis is based on observations made during site reconnaissance and the potential changes to the existing visual resources that may result from construction and operation of the Proposed Project. Because NEET West intends to underground the proposed transmission line, this analysis is focused on the elements of the Proposed Project that will have the potential for visual sensitivity-visual change impacts: the SVC and the riser pole structure connecting the underground transmission line to the existing Suncrest Substation.

A site visit was conducted on March 24, 2015, to identify existing visual and aesthetic conditions on-site and in the Proposed Project vicinity, as well as to identify sensitive viewing locations from which the Proposed Project may be visible. In addition, the analysis included a review of available technical data, maps, aerial imagery, ground-level photographs, and Proposed Project-specific technical drawings provided by NEET West.

The analysis is focused on the evaluation of vantage points (i.e., "Key Observation Points" [KOPs], as depicted on Figure 4.1-1), from which the Proposed Project site may be visible. In addition to the KOP evaluations, the analysis also utilizes visual simulations that provide a "before" and "after" scenario to illustrate the potential visual changes that will occur with implementation of the Proposed Project.

The baseline (before-project) photographs were taken with a digital single-lens reflex camera and a "normal" 50-millimeter-equivalent lens that represents a horizontal view angle of approximately 40 degrees. The simulation methods employ systematic computer modeling and rendering techniques. Digital aerial photographs and information about the Proposed Project alignment and design, both supplied by NEET West, provided the basis for developing a three-dimensional (3D) computer model of the existing poles, towers, and the Proposed Project.

Figure 4.1-1. Regional Landscape Context and KOPs



For each simulation KOP, viewer location was input from Global Positioning System (GPS) data. Computer "wireframe" perspective plots were overlaid on the simulation photographs to verify scale and viewpoint location. Digital visual simulation images were then produced based on computer renderings of the 3D model combined with digital versions of the selected site photographs.

The visual impact assessment is, therefore, based on an evaluation of the anticipated changes to existing visual resources that will result from short-term construction and long-term operation of the Proposed Project. These changes were assessed, in part, by evaluating the computer-generated visual simulations showing visual conditions with the Proposed Project and comparing them to the corresponding existing view.

This impact analysis herein describes changes to existing visual resources and assesses viewer response to that change. Central to this assessment is an evaluation of the Proposed Project "viewshed" which displays whether or not the Proposed Project might be "visible" or "not visible" from a specific location (see Figures 4.1-2 through 4.1-5, Viewshed Delineation). It should be noted that "visible" means that under clear-sky and conditions during daylight hours, a casual viewer may be able to "notice or see" the Proposed Project if the viewer chooses to focus in on the Proposed Project. "Visible" does not discern the degree of contrast the Proposed Project will impose upon the view, nor does it imply that a casual viewer will automatically "notice or see" the Proposed Project. Accordingly, the further the "visible" displays shown on Figures 4.1-2 through 4.1-5 are from the Proposed Project, the more difficult it will be for a viewer to discern the Proposed Project from the existing landscape.

During site reconnaissance, the Proposed Project was viewed from various public roads and vantage points to develop an overall assessment of the existing landscape character, visual quality, viewing conditions (i.e., viewer concern and viewer exposure), and overall visual sensitivity of the Proposed Project.

Seventeen KOPs were originally identified, visited, and photo-documented during the site reconnaissance to show existing visual conditions. As the design and siting of the Proposed Project was refined, thirteen of those KOPs were ultimately selected based on consideration of typical views experienced by travelers and local viewers, and included locations where Proposed Project-related changes will be most visible to the public or be seen by the greatest number of viewers (Figure 4.1-1). Of the 13 KOPs selected for detailed evaluation, four visual simulations were developed to illustrate representative before-and-after visual conditions along the Proposed Project alignment.

During site reconnaissance at each KOP, the existing landscape was characterized for aesthetic contributing factors as described below. Each of the aesthetics contributing factors considered in the evaluation of the existing landscape under the Visual Sensitivity-Visual Change Methodology (i.e., existing landscape character, visual quality, viewer concern, viewer exposure (viewshed), and overall visual sensitivity) is generally expressed as low, moderate, or high as discussed below and shown in Table 4.1-2, Visual Quality Rating Guidance.

Figure 4.1-2. Viewshed Delineation (10 miles)

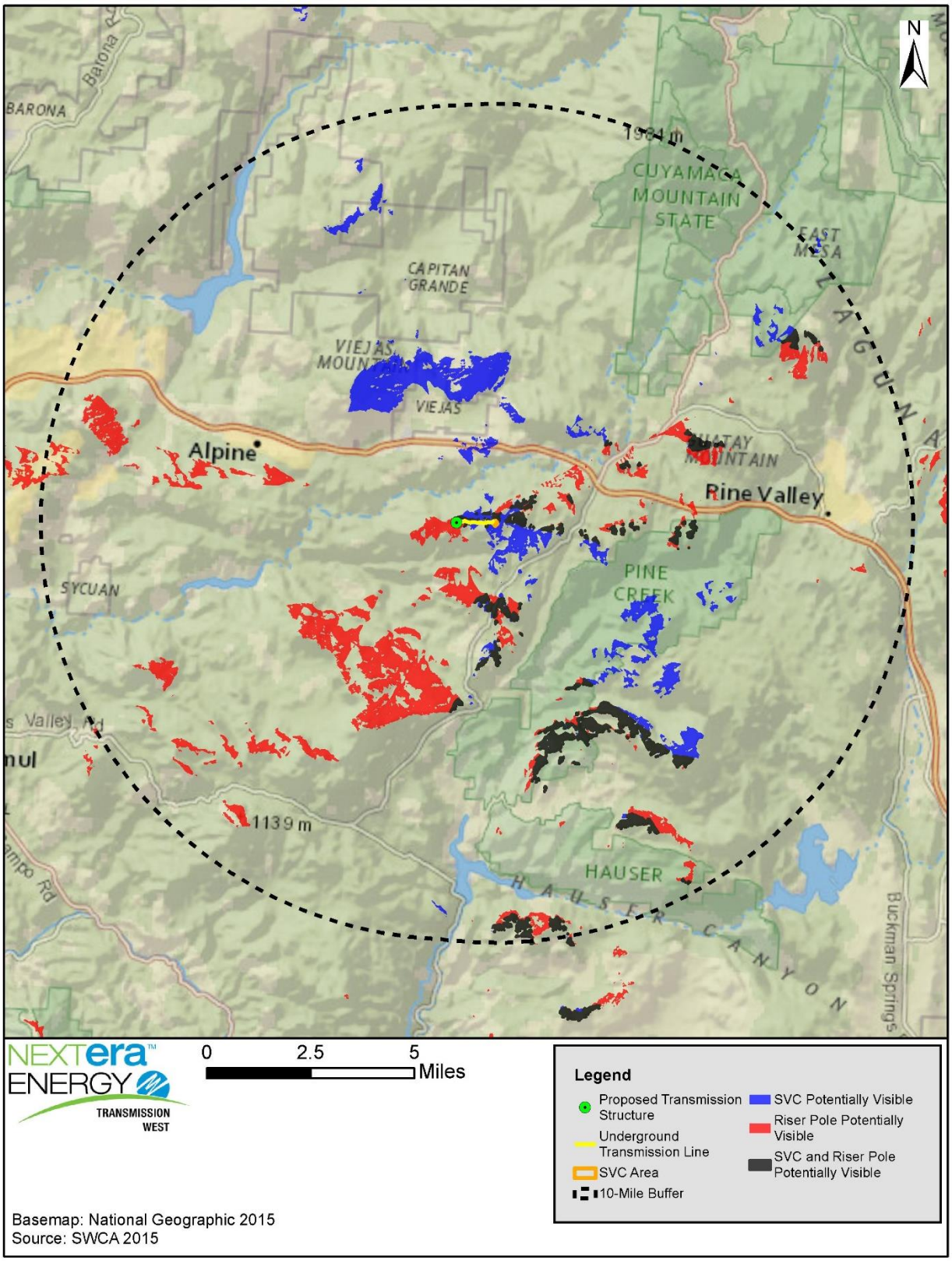


Figure 4.1-3. Viewshed Delineation (2 miles)

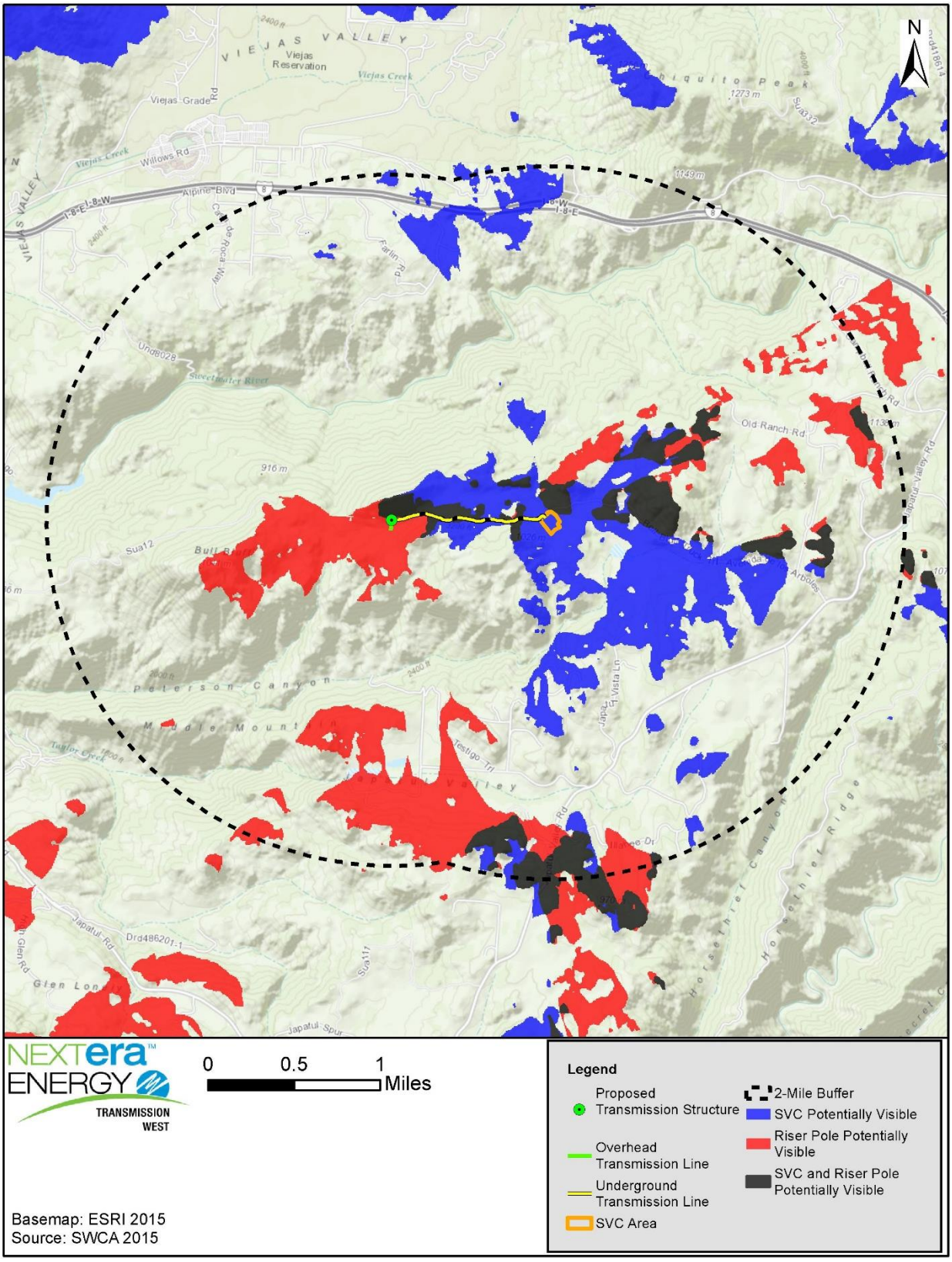


Figure 4.1-4. Viewshed Delineation (1 mile)

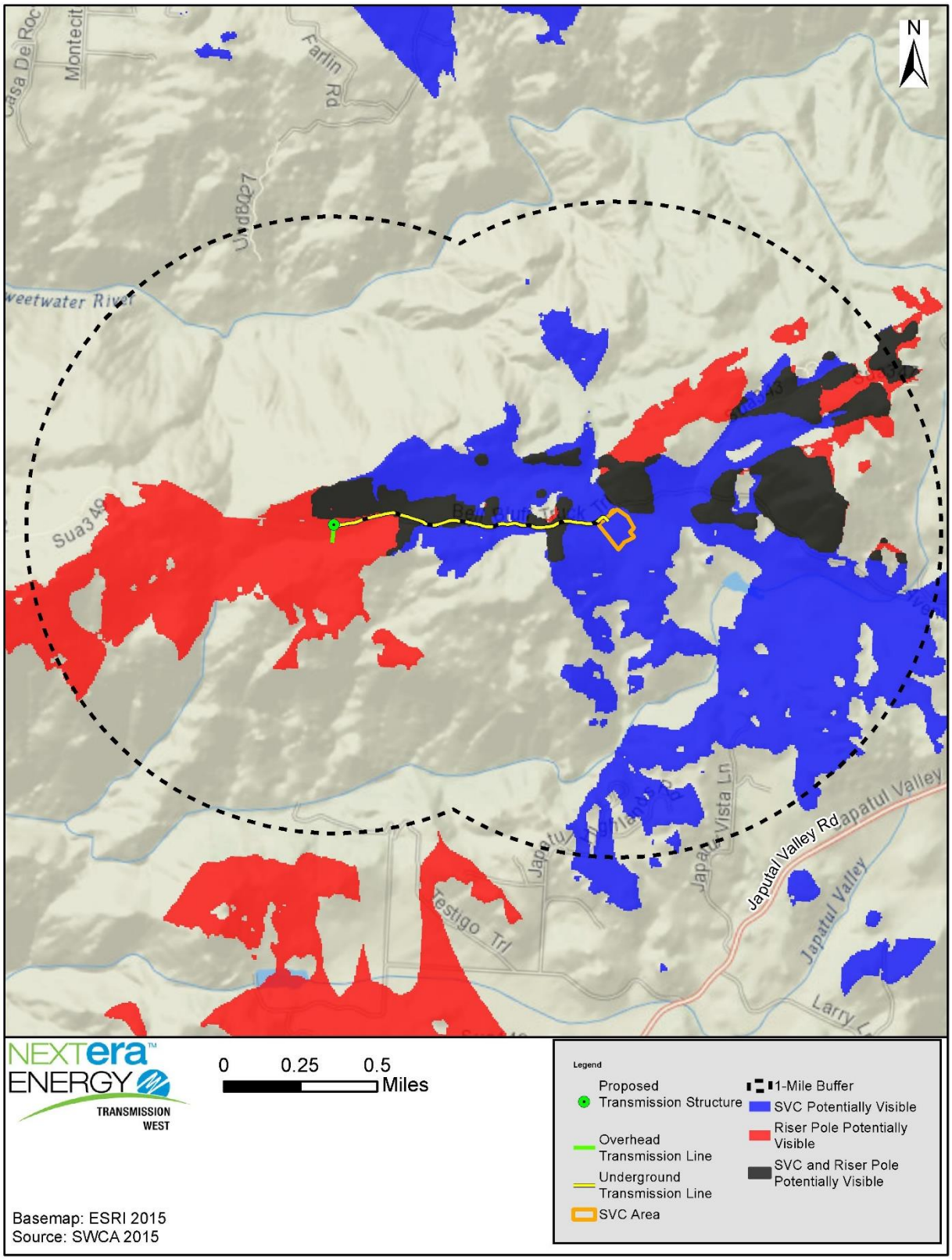


Figure 4.1-5. Viewshed Delineation (300 feet)

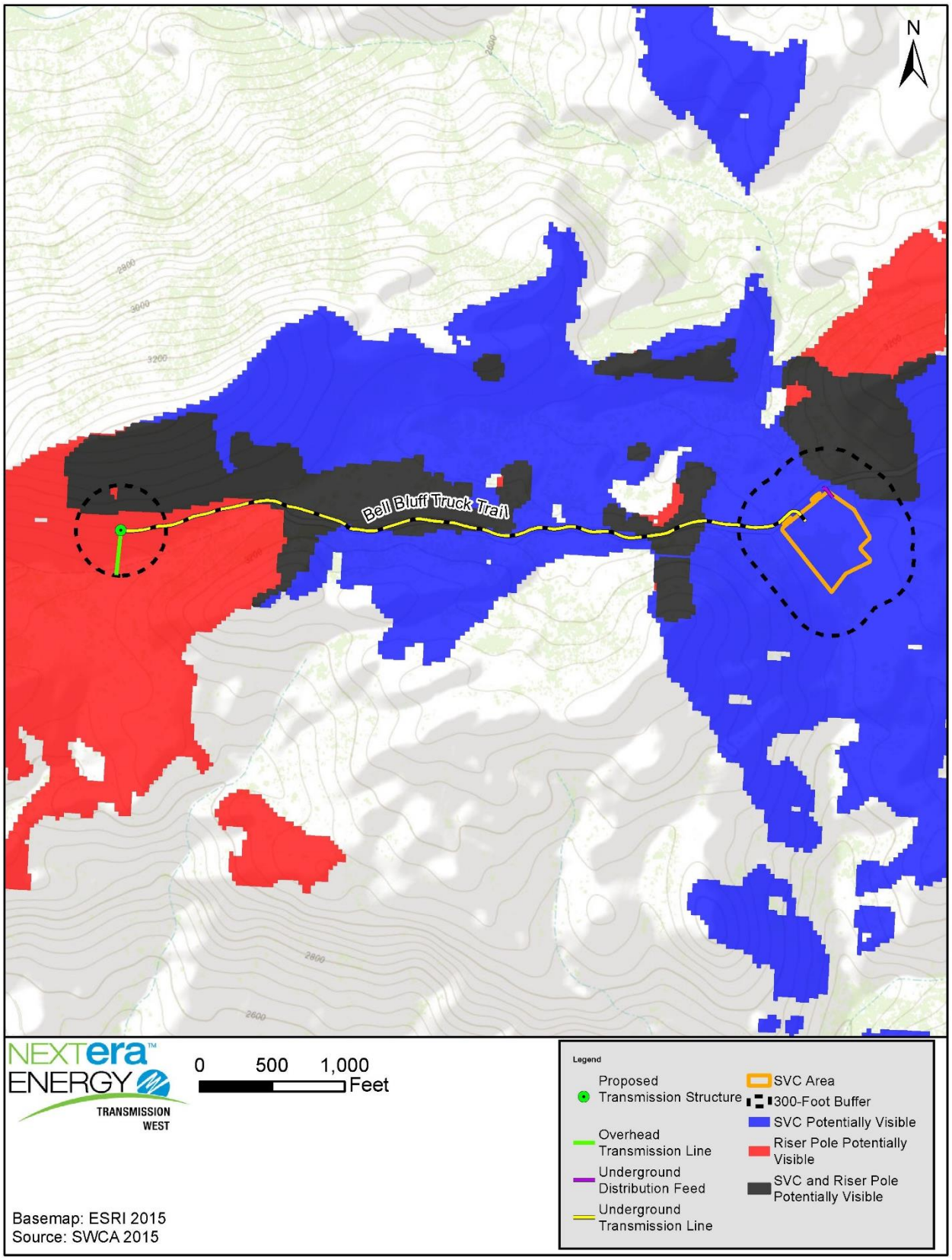


Table 4.1-2. Visual Quality Rating Guidance

Visual Quality Rating	Visual Quality Guidance
High	▪ Landscape elements (landforms, vegetative patterns, water characteristics and cultural features) have high visual appeal ▪ Landscape has high degrees of variety, vividness, intactness, harmony, and uniqueness (attributes) ▪ Distinctive landscape that attracts people to view
Moderate-to-High	▪ Landscape elements have moderate-to-high visual appeal ▪ Landscape attributes have a mix of moderate and high values ▪ Landscape may contain built features that neither complement nor detract from overall visual quality
Moderate	▪ Landscape elements are moderately appealing ▪ Landscape attributes have common or ordinary values ▪ Landscape may contain discordant built features but they are subordinate
Low-to-Moderate	▪ Landscape elements have low-to-moderate appeal ▪ Landscape has weak or missing attributes ▪ Landscape may have prominent though not dominant discordant built features
Low	▪ Landscape elements have low-to-no appeal ▪ Landscape is missing some attributes ▪ Landscape is dominated by discordant built features

Aesthetics Contributing Factors

- ***Existing Landscape Character*** is a description of the specific views from a specific observation point (i.e., KOP) of a given landscape. The attributes for existing landscape character include variations and combinations of natural, rural, and developed character(s).
- ***Visual Quality*** is a measure of the overall impression or appeal of an area as determined by the particular landscape characteristics such as unique landforms, rockforms, water features, and vegetation patterns, as well as associated public values such as crowded or isolated. The attributes of variety, vividness, coherence, uniqueness, harmony, and pattern contribute to visual quality classifications of indistinctive (low), common (moderate), and distinctive (high) (see Table 4.1-2). Visual quality is studied as a point of reference to assess whether a given project will appear compatible with the established features of the setting or will contrast/dominate noticeably and unfavorably with them. The visual quality ratings (low to high) are substantially based on the Bureau of Land Management's (BLM) Scenic Quality Ratings as identified in BLM's Visual Resource Inventory Manual (BLM 1986).
- ***Viewer Concern*** addresses the general public's level of interest or concern of viewers regarding an area's visual resources and is closely associated with viewers' expectations for the area. Viewer concern reflects the importance placed on a given landscape based on the human perceptions of the intrinsic beauty of the existing landforms, rockforms, water features, vegetation patterns, and even cultural features. Viewer concern, or viewer sensitivity, is generally divided into high, moderate, and low categories. Factors considered in assigning categories include viewer activity, view duration, viewing

distance, adjacent land use, and special management or planning designation. Motorists represent the largest potentially affected view groups for the Proposed Project.

- ***Viewer Exposure*** describes the degree to which viewers are exposed to views of the landscape. Viewer exposure considers landscape visibility (the ability to see the landscape), distance zones (proximity of viewers to the subject landscape), number of viewers, and the duration of view.

  Landscape visibility can be a function of several interconnected considerations including proximity to viewing point, degree of discernible detail, seasonal variations (snow, fog, and haze can obscure landscapes), time of day or night, and/or absence of screening features such as landforms, vegetation, and/or built structures. Even though a landscape may have highly scenic qualities, it may be remote, receiving relatively few visitors and, thus, have a lower degree of viewer exposure. Conversely, a subject landscape or project may be situated in relatively close proximity to a major road or highway utilized by a substantial number of motorists and yet still result in relatively low viewer exposure if the rate of travel speed on the roadway is high and viewing times are brief or absent, or if the landscape is partially screened by vegetation or other features. Frequently, it is the subject area's proximity to viewers or *distance zone* that is of particular importance in determining viewer exposure.

  Landscapes are generally subdivided into three distance zones based on relative visibility from travel routes or observation points. Distance zones typically include foreground (0-3 miles), middleground (3-5 miles), and background (5-15 miles). Figures 4.1-2 through 4.1-5 provide a viewshed delineation, which informs viewer exposure based on the physical topography of the vicinity of Proposed Project. Viewing distance is a key factor that affects the potential degree of project visibility; therefore, different distance zones are shown: 10 miles (Figure 4.1-2), 2 miles (Figure 4.1-3), 1 mile (Figure 4.1-4), and 300 feet (Figure 4.1-5). For purposes of this visual analysis, the primary focus is considered this foreground viewshed area, where visual details are apparent, and up to approximately 1 mile from the Proposed Project, where change could be noticeable.

  View blockage or impairment describes the extent to which any previously visible landscape features are blocked from view as a result of the project's scale and/or position. Blockage of higher quality landscape features by lower quality project features causes adverse visual impacts. The degree of view blockage can range from none to high.

- ***Overall Visual Sensitivity*** is a concluding assessment as to an existing landscape's susceptibility to an adverse visual outcome. A landscape with a high degree of visual sensitivity is able to accommodate only a lower degree of adverse visual change without resulting in a significant visual impact. A landscape with a low degree of visual sensitivity is able to accommodate a higher degree of adverse visual change before exhibiting a significant visual impact. Overall visual sensitivity is derived from a comparison of existing visual quality, viewer concern, and viewer exposure.

Table 4.1-3 below presents an explanation summary of all of the contributing factors to the Visual Sensitivity-Visual Change method including how the information and conclusions are derived.

Table 4.1-3. Aesthetics Contributing Factors Summary

Existing Landscape Character	
Data Factor	***Description***
Key Observation Point	A unique view or "observation" point from a specific location, looking in a specific direction. KOPs are identified during the project siting and design process, and are intended to provide typical views of the Proposed Project.
Existing Visual Setting	
Data Factor	***Description***
Visual Quality	Visual quality describes the quality of the existing landscape and can be rated low, low-to-moderate, moderate, moderate-to-high, or high (see Table 4.1-2).
Viewer Concern	Viewer concern is assigned a rating hierarchy similar to visual quality (low to high) and is based on any known information about the viewing population, existing land uses, and plan or policy designations that might indicate public importance.
Visibility	As for visual quality, visibility is assigned one of five ratings (low to high). Visibility is determined by analyst judgment, based on field evaluation of viewing proximity, visible detail, seasonal variations, air quality, lighting, and presence or absence of screening features (land and vegetation).
Distance Zones	Distance zone is assigned one of three ratings (foreground, middleground, or background). The determination of the viewing distance zone (the distance from the viewpoint to the Proposed Project) is determined by map analysis (see Figures 4.1-2 through 4.1-5)).
Number of Viewers	Number of viewers can range from low to high. The analyst determines qualitative thresholds such as route popularity, route capacity, and frequency of use. It also includes field observations and a general understanding of potential residential viewers.
Duration of View	The duration of view is a qualitative assessment made by the analyst and essentially denotes the relative length of the viewing experience (brief, brief-to-moderate, moderate, moderate-to extended, or extended).
Overall Viewer Exposure	This is a summation of the four contributing factors of visibility, distance zone, number of viewers, and duration of view.
Overall Visual Sensitivity	This is a summation of the three contributing factors of visual quality, viewer concern, and overall viewer exposure.
Visual Change	
Data Factor	***Description***
Description of Visual Change	Visual change is a brief description of the change that will be caused by the proposed or subject action. It may include a description of the components contributing to the change as well as the effects on the existing landscape. Visual change descriptions will reference visual contrast, project dominance, and/or view blockage—the three factors contributing to overall visual change.
Visual Contrast	Visual contrast is assigned one of five ratings—low, low-to-moderate, moderate, moderate-to-high, or high. Visual contrast is a qualitative assessment that describes the degree to which a project's visual characteristics differ from those established in the existing landscape.

Table 4.1-3. Aesthetics Contributing Factors Summary

Project Dominance	Project dominance is assigned one of five ratings—subordinate, subordinate to co-dominant, co-dominant, co-dominant to dominant, or dominant. Project dominance is a qualitative assessment and is a measure of feature's apparent size relative to other visible landscape features and the total field of view.
View Blockage	View blockage is assigned one of five ratings ranging from low to high. View blockage is a qualitative assessment that describes the extent to which any previously visible landscape features are either blocked from view or the views of those features are in some way impaired, as a result of the project's scale and/or position.
Overall Visual Change	Overall visual change is a summation of the three contributing factors of visual contrast, project dominance, and view blockage.

Impact Significance

Data Factor	***Description***
Before Mitigation / After Mitigation	A description of the impact to aesthetic resources is described in terms of the State CEQA Guidelines: potentially significant impact, less than significant impact with mitigation incorporation, less than significant impact, or no impact.
Mitigation	Measures taken during design, construction, and/or operation/maintenance which are intended to lessen impacts to aesthetic resources.

4.1.3 Environmental Setting

The Proposed Project is in an unincorporated area of San Diego County, on private land near the CNF, west of Japatul Valley Road and south of I-8. Topography in the vicinity of the Proposed Project area is highly variable, undulating with steep hills interspersed by narrow valleys and deep canyons with incised high gradient drainage corridors. The vegetation that covers the hillsides is primarily coastal chaparral, a mix of dark greens, browns, and tans, forming a marbled, varied surface interspersed with rock outcroppings, clearings, and man-made surfaces/structures. The steep hills and distant mountains are of higher elevation and are closely spaced, creating a multidimensional viewshed. The viewshed is dominated by natural features; however, there are existing utility lines in the vicinity and the landscape is non-contiguous where built features exhibit developed, and in some cases, an industrial character (e.g., substations, roads, water storage towers, communication towers, buildings).

The immediate Proposed Project area (i.e., the approximately 1-mile-long underground transmission line and SVC location, see Chapter 3, Project Description) is a mix of coastal chaparral hillsides and hilltops, grassy fields, the paved Bell Bluff Truck Trail roadway and shoulders, and the entrance to the existing Suncrest Substation, operational since 2012 as part of Sunrise Powerlink. Elevation is approximately 3,050 feet above mean sea level. There is currently a single circuit 500 kV transmission line entering the Suncrest Substation from the south, and a double-circuit 230 kV transmission line (Sycamore-Suncrest 230 kV) exiting the Suncrest Substation to the northwest (see Figure 3-3). Bell Bluff Truck Trail is the access road to the Suncrest Substation, and travel is restricted by gates to authorized personnel (SDG&E employees, contractors, and local landowners). Bell Bluff Truck Trail runs generally east-west in the Proposed Project area. The SVC facility will be located on a site that was used as a laydown yard during the construction of Sunrise Powerlink. This site is referred to as the Wilson

Laydown Area. The underground transmission line will be located underneath Bell Bluff Truck Trail. The Proposed Project is located approximately 1.66 miles from the intersection of Bell Bluff Truck Trail and Japatul Valley Road. The Proposed Project area will not visible from this intersection (See Figure 4.1-3, Viewshed Delineation).

4.1.3.1 Project Viewshed and Representative Views

Viewshed

The viewshed for the Proposed Project's landscape is considered to be lands where potential visual effects to the landscape from the Proposed Project may be discerned. The viewshed delineation reveals those areas from which the Proposed Project could have a clear line of sight, and is a useful tool in defining the final area of analysis and facilitating the selection of KOPs. To generate the 3D environment necessary for the viewshed delineation, Digital Elevation Model (DEM) data files from the U.S. Geological Survey (USGS) were joined into a mosaic with an extent expansive enough to include the area of analysis and KOPs (Figures 4.1-2 through 4.1-5). The "Visible" and "Not Visible" areas resulting from the analysis indicate which areas an observer may be able to see the Proposed Project.

Potentially Affected Viewers

Portions of the Proposed Project will be visible from 10 of the 13 KOPs. KOPs 3, 6, 7, and 8 capture the private views of the primary affected viewers of the Proposed Project: authorized personnel using Bell Bluff Truck Trail. The viewer concern and visual sensitivity is very low for these viewers. The visual change of the Proposed Project will result in moderate to strong contrast and project dominance depending on the viewers' distance from the SVC site and/or riser pole, but will not result in view blockage for the potentially affected viewers represented by KOPs 3, 6, 7, and 8.

KOPs 9 through 17 capture the views of local residents and the local as well as commuter vehicular traffic (i.e., Japatul Valley Road, Japatul Lane, and I-8). The viewer concern and visual sensitivity is moderate-to-high for these viewers. These viewers will be aware of the temporary nature of Proposed Project construction, and the visual sensitivity will be moderate-to-high since there is a mix of undeveloped lands with moderate-to-high visual quality (e.g., CNF and private residences/ranch estates) and developed lands with low visual quality (e.g., I-8, Suncrest Substation, Japatul Road). The viewers will be aware of the permanent presence during Proposed Project operation, but will view the Proposed Project in the context of the existing landscape and existing transmission facilities. As a result, the Proposed Project will not dominate the existing landscape.

Visibility of the Proposed Project in recreational areas was determined to be minimal. The Pine Creek Wilderness Area will have some areas, primarily on peaks with limited access, where the Proposed Project will be visible (see Figure 4.1-2). However, the Proposed Project will not be visible within canyons or along the primary trails. Additionally, the distance is 4 or more miles between these areas of visibility and the Proposed Project. The Proposed Project will not be visible from the California Riding and Hiking Trail, which can be used to access a summit hike to the top of Bell Bluff from the west; however, the riser pole structure at the west end of the underground transmission line alignment will be visible from the peak of Bell Bluff. Views of

the Proposed Project from each of these recreation areas will not be skylined as the topography, vegetation, and distance creates background screening. Even though the riser may be visible from the peak of Bell Bluff, it will be viewed in context with the existing substation and transmission lines. Refer to Section 4.13, Recreation for further details.

Representative Views

Table 4.1-4 below provides a summary of each representative view (KOP). All of the contributing factors are not included; this is a summary table only. Appendix B provides photographs from each KOP. A discussion follows Table 4.1-4 with detailed descriptions for each of the KOPs; KOP locations are shown in Figure 4.1-1.

Table 4.1-4. KOP Summary

KOP	Summary
3	Potential affected viewer: private Viewer Concern: low Project Dominance: low
6	Potential affected viewer: private Viewer Concern: low Project Dominance: high
7	Potential affected viewer: private Viewer Concern: low Project Dominance: high
8	Potential affected viewer: private Viewer Concern: low Project Dominance: high
9	Potential affected viewer: private and public Viewer Concern: low Project Dominance: high
10	Potential affected viewer: public Viewer Concern: high Project Dominance: low
11	Potential affected viewer: public Viewer Concern: moderate to high Project Dominance: low
12	Potential affected viewer: public Viewer Concern: high Project Dominance: low
13	Potential affected viewer: public Viewer Concern: high Project Dominance: low
14	Potential affected viewer: public Viewer Concern: high Project Dominance: low
15	Potential affected viewer: public Viewer Concern: high

Table 4.1-4. KOP Summary

KOP	Summary
	Project Dominance: low
16	Potential affected viewer: public Viewer Concern: high Project Dominance: low
17	Potential affected viewer: public Viewer Concern: low-moderate Project Dominance: low

Key Observation Point 3

KOP 3 was established on Bell Bluff Truck Trail, to the west of the location where Bell Bluff Truck Trail separates from the Suncrest Substation driveway/access road. Viewing to the southeast, this location was selected to generally characterize the existing landscape views along the proposed underground transmission line to the Proposed Project (see Figure 4.1-6 for photographs taken from KOP 3). The landscape visible from KOP 3 is affected by a road cut for the Suncrest Substation access road/driveway and a water tank, while the surrounding area is undeveloped and natural appearing, covered with broadleaf chaparral. Viewer concern and visual sensitivity are generally low as Bell Bluff Truck Trail is closed to public use (thus, this is a private view) and the existing visual quality includes man-made visual contrasts. Background views are partially blocked by nearby hills and large trees.

Key Observation Point 6

KOP 6 was established just south of Bell Bluff Truck Trail, west of the Wilson Laydown Area. Viewing to the east, this location was selected to generally characterize the existing landscape view of the Proposed Project's SVC. The landscape visible from KOP 6 is developed and natural appearing, dominated by Bell Bluff Truck Trail, with a reclaimed California buckwheat scrub meadow in the foreground and undeveloped chaparral covered hills in the background. Some residential structures are visible in the background to the south of this KOP. Viewer concern and visual sensitivity are generally low as Bell Bluff Truck Trail is closed to public use (thus, this is a private view) and the existing visual quality includes man-made visual contrasts. Views are open and unobstructed. Overall viewer sensitivity is moderate.

Key Observation Point 7

KOP 7 was established adjacent to the northeast corner of the Wilson Laydown Area on Bell Bluff Truck Trail. The view is to the southwest and shows existing landscape view toward the Proposed Project. The landscape visible from KOP 7 is both developed and natural appearing, dominated by Bell Bluff Truck Trail and showing a reclaimed California buckwheat scrub meadow and undeveloped chaparral covered hills. Viewer concern and visual sensitivity are generally low as Bell Bluff Truck Trail is closed to public use (thus, this is a private view) and the existing visual quality includes man-made visual contrasts. Views are relatively open with some obstruction by large trees. Overall viewer sensitivity is moderate.

Key Observation Point 8

KOP 8 was established on Bell Bluff Truck Trail, approximately 0.25 mile northeast of the Wilson Laydown Area. Viewing to the west, this location was selected to generally characterize the existing landscape view toward the Proposed Project (see Figures 4.1-7 and 4.1-8 for photographs taken from KOP 8). The landscape visible from KOP 8 is predominantly undeveloped and natural appearing, with undeveloped chaparral covered hills in the background. Viewer concern and visual sensitivity are generally low as Bell Bluff Truck Trail is closed to public use (thus, this is a private view) and the existing visual quality includes man-made visual contrasts. Views are relatively open, with some obstruction by large trees. Overall viewer sensitivity is moderate.

Key Observation Point 9

KOP 9 was established in the southeast corner of the former Wilson Laydown Area, viewing west. The view generally characterizes the existing landscape views across the Wilson Laydown Area and shows the Proposed Project (see Figures 4.1-9 and 4.1-10 for photographs taken from KOP 9). The landscape visible from KOP 9 is predominantly natural appearing, with a reclaimed California buckwheat scrub meadow in the middle ground and undeveloped chaparral covered hills in the background. Viewer concern and visual sensitivity are generally low-to-moderate as Bell Bluff Truck Trail is closed to public use; however, this KOP is adjacent to private land and may be viewed by the property owner. While the existing visual quality includes man-made visual contrasts, views are generally open and unobstructed. Overall viewer sensitivity is moderate.

Key Observation Point 10

KOP 10 was established on an eastbound I-8 scenic viewpoint, which is a public view. Viewing to the south, this location was selected to generally characterize the existing landscape view toward the Proposed Project from I-8. The landscape visible from KOP 10 is predominantly undeveloped and natural appearing, with rolling chaparral covered hills and mountaintops. Viewer concern and visual sensitivity are generally moderate-to-high as this location provides expansive and panoramic views of the surrounding CNF and Sweetwater River Canyon. Views are open with no obstructions. Overall viewer sensitivity is moderate-to-high.

Key Observation Point 11

KOP 11 was established on eastbound Japatul Valley Road, approximately 3 miles south of the Proposed Project. Viewing to the northeast toward the Proposed Project, this viewpoint is representative of the existing landscape views available to residences located in the vicinity of the Proposed Project; thus, this is a public view. This view is to the north-northeast toward the mountain ridges north of Japatul Valley Road and captures a portion of the transition zone between the relatively undeveloped mountain, desert, and wilderness open-spaces of eastern San Diego County, and the urbanized communities of metropolitan San Diego. The existing Suncrest Substation is visible from KOP 11. Viewer concern and visual sensitivity are generally moderate to high, as KOP 11 contains the Japatul Valley Road corridors, which offer expansive, scenic views to the adjacent mountains. The landscape visible to the north from Japatul Valley Road is predominantly undeveloped and natural appearing; however, the landscape includes man-made

structures and pockets of development (see Figure 4.1-11 for a photograph taken from KOP 11). Views can be open and unobstructed. Overall viewer sensitivity is moderate-to-high.

Key Observation Point 12

KOP 12 was established at the nearest private residence, approximately 0.81 mile south of the Proposed Project; thus, this is a public view. Viewing to the north toward the Proposed Project, this view captures the Proposed Project area from an area with high viewer exposure and extended duration of views. KOP 12 contains a middleground view of Bell Bluff Truck Trail, and offers expansive, background views to the adjacent mountains. Views can be open and unobstructed (see Figures 4.1-12 and 4.1-13 for photographs taken from KOP 12). Viewer concern at this property is high. Overall viewer sensitivity is high.

Key Observation Point 13

KOP 13 was established on Japatul Lane, approximately 1.52 miles south of the Proposed Project. Viewing to the north toward the Proposed Project, this viewpoint is representative of the existing landscape views available to users of Japatul Lane and residences located in close proximity to the Proposed Project; thus, this is a public view. This view captures the Proposed Project area from an area with high viewer exposure and extended duration of views. Viewer concern and visual sensitivity are moderate-to-high, as KOP 13 offers expansive, scenic views to the adjacent mountains. The landscape visible to the north is predominantly undeveloped and natural appearing; however, the landscape includes man-made structures and pockets of development (see Figures 4.1-14 and 4.1-15 for photographs taken from KOP 13). The existing Suncrest Substation is highly visible from KOP 13. Views can be open and unobstructed. Overall viewer sensitivity is high.

Key Observation Point 14

KOP 14 was established on Japatul Lane, approximately 1.16 miles south of the Proposed Project. Viewing to the north toward the Proposed Project, this viewpoint is representative of the existing landscape views available to residences located in close proximity to the Proposed Project. This view captures the Proposed Project area from an area with high viewer exposure and extended duration of views and is representative of a public view. KOP 14 offers views of the adjacent mountains in the middleground and background, and viewer concern and visual sensitivity is high. The landscape is predominantly undeveloped and natural appearing; however, the landscape includes man-made structures and pockets of development. The existing Suncrest Substation is highly visible from KOP 14. Views can be open and unobstructed. Overall viewer sensitivity is high.

Key Observation Point 15

KOP 15 was established at the intersection of Vista Esperanza Lane and Japatul Valley Road, approximately 2.15 miles southeast of the Proposed Project, and is a public view. Viewing to the northwest toward the Proposed Project, this viewpoint is representative of the existing landscape views available to residences located in close proximity to the Proposed Project. This view of the mountain ridges to the north captures a portion of the transition zone between the relatively undeveloped mountain, desert, and wilderness open spaces of eastern San Diego County and the urbanized communities of metropolitan San Diego. KOP 15 contains the Japatul Valley Road

corridors, which offer expansive, scenic views to the adjacent mountains, and viewer concern and visual sensitivity is moderate-to-high. The landscape visible to the north from Japatul Valley Road is predominantly undeveloped and natural appearing; however, the landscape includes man-made structures and pockets of development. The existing Suncrest Substation is visible from KOP 15. Views can be open and unobstructed. Overall viewer sensitivity is moderate-to-high.

Key Observation Point 16

KOP 16 was established near a private residence, approximately 0.85 mile south of the Proposed Project, and is a public view. Viewing to the north toward the Proposed Project, this viewpoint is representative of the existing landscape views available to residences located in close proximity to the Proposed Project. Viewer concern and visual sensitivity is high, as KOP 16 offers expansive views of the adjacent mountains in the middleground and background. The landscape is predominantly undeveloped and natural appearing; however, the landscape includes man-made structures and pockets of development. The existing Suncrest Substation is visible from KOP 16. Views can be open and unobstructed. Overall viewer sensitivity is high.

Key Observation Point 17

KOP 17 was established on Bell Bluff Truck Trail, approximately 1.3 miles east of the Proposed Project, and is a public view. Viewing to the west toward the Proposed Project, this viewpoint is representative of the existing landscape views available to residences located to the east of the Proposed Project. The landscape visible from KOP 17 is predominantly undeveloped and natural appearing, with the reclaimed coastal sage meadow in the middle ground and undeveloped chaparral covered hills in the background. Viewer concern and visual sensitivity is low-to-moderate. This portion of Bell Bluff Truck Trail is open to the public and the existing visual quality includes man-made visual contrasts.

4.1.4 Applicant-Proposed Measures and Potential Impacts

4.1.4.1 Significance Criteria

According to Section 15002(g) of the State CEQA Guidelines, "a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the Proposed Project." As stated in Section 15064(b) of the State CEQA Guidelines, the significance of an activity may vary with the setting. Per Appendix G of the State CEQA Guidelines, the project's impacts on aesthetics would be significant if the Proposed Project would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surrounding; or,
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

As previously stated, because NEET West intends to underground the proposed transmission line, this analysis is focused on the elements of the Proposed Project that will have the potential for visual sensitivity-visual change impacts: the SVC and the riser pole structure connecting the underground transmission line to the existing Suncrest Substation.

4.1.4.2 Applicant-Proposed Measures

Table 4.1-5 presents the APMs identified by NEET West that are relevant to aesthetic resources (AES). Specific APMs described in Section 4.3, Air Quality; Section 4.4, Biological Resources; Section 4.6, Geology and Soils; Section 4.8, Hydrology and Water Quality; and 4.10, Noise, will also contribute to reducing already less-than-significant impacts to aesthetic resources and are referenced in the impact analysis that follows.

Table 4.1-5. Applicant Proposed Measures for Aesthetics

APM No.	Description
	AESTHETICS
APM AES-1	**Visual Contrast Minimization.** The color of the SVC perimeter fence will be chosen to blend with the existing site features (i.e., dull grey, light brown, or dull green) in order to minimize visual contrast with the landscape setting. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate survey or construction activity limits.
APM AES-2	**Light and Glare Reduction.** Construction lighting and permanent exterior lighting of the SVC will be the lowest illumination allowed for human safety and security, selectively placed, and shielded to minimize nighttime glare.
APM AES-3	**Material Selection.** Dulled metal finish transmission structures and non-specular conductors (within the SVC and for the overhead span to interconnect into SDG&E's Suncrest Substation) will be used for the Proposed Project. Non-specular conductors have been treated to reduce reflectivity. They must have a smooth matte gray finish that blends unobtrusively with the environment.

4.1.4.3 Potential Impacts

Potential project impacts on aesthetics were evaluated against the CEQA significance criteria and the aesthetic contributing factors. The impact analysis also evaluates impacts resulting from required site preparation and vegetation removal and trimming required to accommodate construction activities associated with the Proposed Project components. Any vegetation removal required for the underground transmission line will not be visible to the general public since Bell Bluff Truck Trail is closed to the public. Temporary disturbance areas will be restored to preconstruction conditions and revegetated. Furthermore, there are no residential areas, parks, or scenic vistas in close proximity that would notice vegetation removal. As such, the impact analysis is limited to permanent impacts associated with structure erection and operation.

Impact AES-1: The Proposed Project will not have a substantial adverse effect on a scenic vista. (No Impact)

The Proposed Project, including both the SVC and approximately 1-mile underground transmission line, will not be visible from any scenic vistas. Therefore, the Proposed Project will have no impact on scenic vistas

Impact AES-2: The Proposed Project will not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. (No Impact)

No designated State scenic highways are crossed by the Proposed Project, and no State scenic highways are in the vicinity of the Proposed Project. The nearest State scenic highway is State Route 78, located approximately 25 miles to the northeast in the Anza Borrego Mountains. The Proposed Project will be slightly visible (e.g., the tops of the lightning masts within the SVC) from I-8 for less than 0.25 mile. While I-8 is eligible for State scenic highway designation, it is unlikely that motorists traveling 65 miles per hour (mph; i.e., the speed limit) would even notice the small portion of the Proposed Project that would technically be visible in this stretch of highway. The I-8 scenic view corridor along the Sweetwater River will not be affected since the Proposed Project will not be substantially visible from I-8 along the Sweetwater River and will not be visible from I-8 in the community of Alpine. Therefore, the Proposed Project will have no impact on scenic highways.

Impact AES-3: The Proposed Project will not substantially degrade the existing visual character or quality of the site and its natural surroundings. (Less than Significant)

The Proposed Project will have less-than-significant impacts to the visual character or quality of the site and natural surroundings. Construction-related visual impacts to KOPs 9 through 17 (which represent public views) will potentially occur with the presence of equipment, materials, and work crews at the SVC site and along the underground transmission line. These activities will be moderately visible to authorized personnel using Bell Bluff Truck Trail and some residents throughout Japatul Valley for the duration of construction (approximately 9 months). The short-term grading, heavy machinery use, and crane use will be visible at KOPs 3, 6, 7, and 8 with low viewer concern, and KOPs 11 through 17 with moderate to high viewer concern, though most of the KOPs will have low viewer exposure. APMs AES-1 through AES-3 will reduce project impacts. Similarly, APMs from Section 4.1 (Air Quality), 4.4 (Biological Resources), 4.6 (Geology and Soils), and 4.8 (Hydrology and Water Quality) will further reduce visual impacts.

Operation-related visual impacts will potentially occur with the presence of the riser pole and the SVC from KOPs 12 through 17. However, as noted previously, the areas surrounding the Proposed Project already supports existing SDG&E transmission and substation facilities. The presence of the Proposed Project will not create an adverse contrast to the existing landscape since there are other linear and horizontal features already present within the visual setting (i.e., Bell Bluff Truck Trail, Sunrise Powerlink transmission lines, Suncrest Substation) and the Proposed Project will not dominate the view. Viewer concern and visual sensitivity are generally low as Bell Bluff Truck Trail is closed to public use (i.e., only authorized personnel may access Bell Bluff Truck Trail beyond the locked gates) and the existing visual quality includes man-made visual contrasts.

The SVC, as viewed from KOP 12, will create a visual contrast to the existing landscape and is in an area with high viewer concern and high visual sensitivity. Sprawling ranch-style residences have been built to face the hills surrounding the Proposed Project. Though the Proposed Project will be visible to a few residences and will be a contrast to the existing

landscape, the Proposed Project will not create view dominance. Bell Bluff Truck Trail, Japatul Vista Lane, and clear-cut vegetation are also visible from this KOP. In addition, the SVC will be viewed with mountains in the background (i.e., no skylining effect) and, with the application of APMs AES-1 through AES-3, the overall impact will remain less than significant.

Visual Simulations

Visual simulations provide an excellent tool to evaluate a Proposed Project's impact on the landscape. There are several steps to complete accurate simulations for the Proposed Project: still photographs were taken, Trimble® SketchUp was used to create and dimension the transmission line structures, Google Earth was used for the placement of the structures in a 3D environment, and Adobe Photoshop was used to bring these together to create and edit the final image. Simulations were prepared for KOPs 8, 9, 12, and 13.

The location of each KOP was recorded in the field with mapping-grade GPS receivers. From each KOP, a series of photographs was taken in the direction of the Proposed Project location with a 50-millimeter (normal) lens and merged together into panoramic views using Adobe Photoshop. An object with a known height and location was included in the foreground of each photo frame to help confirm accurate structure heights in the photographic simulation. To accomplish this, a 12-foot-tall marker was placed in the foreground of each photograph and the location of the marker was recorded using a mapping-grade GPS receiver.

The geographic coordinates for the photo point locations, marker location, and proposed transmission line structure locations were imported to Google Earth. The height of the view within Google Earth is such that it mimics the camera height, angle, and direction used while taking the photographs. Additionally, Trimble® SketchUp was used to create the marker model and transmission line model that was imported for the proposed transmission line location. Trimble® SketchUp allows the user to define the dimensions of the transmission line, including height and width.

The lighting in Google Earth was adjusted to approximate the time of day and year that the panoramic photographs were taken, casting appropriate shading on the Proposed Project model. An image of the adjusted view of the transmission line, 12-foot-tall marker, and surrounding terrain was exported from Google Earth.

Using Adobe Photoshop, the exported image from Google Earth was superimposed on the panoramic photograph. The size of the exported image was increased to the point at which the marker height in the export matched that of the marker height in the photograph. The terrain size in both images was used to further assist scaling. This method scales the Proposed Project to provide a close approximation of the structure size that will be observed from the photo points. Once aligned, the simulated Proposed Project was extracted from the Google Earth export and merged with the actual photograph. Further image enhancements were made using the tools available in Adobe Photoshop. These included softening the hard imagery of the export and correcting for losses and errors from pixilation.

A small amount of structure-size error can be expected for any one of the simulated images due to the inexact method of manually lining up and scaling the superimposed images. However, this error was minimized through the use of the markers of known height and location.

Key Observation Point 3

KOP 3 is a private view looking east from Bell Bluff Truck Trail where SDG&E's substation access road has been cut to descend down to the existing Suncrest Substation. The landscape character of KOP 3 is both developed and natural in appearance with chaparral covered hills and large trees in the foreground and middleground, and man-made features in the foreground (Figure 4.1-6). The landscape character will not change as a result of the Proposed Project since it will be located underground at this location. The visual quality is low, as the view encompasses the road cut for the Suncrest Substation access road/driveway, contrasting distinctly with the shrub-covered slopes, as well as a water tank. As shown in Figure 4.1-6, there will be no visible transmission line, as it will be buried underneath Bell Bluff Truck Trail. Construction of the underground transmission line (i.e., trenching and installing the transmission line within the existing Bell Bluff Truck Trail roadway) will be visible from KOP 3 for approximately 9 months, varying in intensity as construction progresses towards or away from KOP 3. Once construction is complete, no changes to the visual character will be evident. Viewer concern is low, and viewer exposure is low, as the operation and maintenance of the Proposed Project will not be visible from this KOP.

Key Observation Point 6

KOP 6 is a private view looking east from Bell Bluff Truck Trail at the area proposed for the SVC location. The landscape character of KOP 6's foreground is predominantly natural in appearance with a reclaimed California buckwheat scrub meadow, chaparral covered hills, and Bell Bluff Truck Trail. The visual quality is moderate, with a landscape view of undisturbed slopes and a reclaimed meadow. Viewer concern is low. The visual change of the Proposed Project will contrast with the landscape foreground and middleground views, but will be consistent with the background views. The Proposed Project's overall visual change from KOP 6 will create high visual contrast and will dominate the view, but will not create view blockage.

Key Observation Point 7

KOP 7 is a private view looking southwest from Bell Bluff Truck Trail towards the area proposed for the SVC location. The landscape character of KOP 7 is predominantly natural in appearance with a reclaimed California buckwheat scrub meadow, chaparral covered hills, and Bell Bluff Truck Trail, with two latticed structures visible in the background to the west. The visual quality is low to moderate, with a landscape view of undisturbed slopes and a reclaimed meadow. Viewer concern and viewer exposure is low, as vehicles travelling along Bell Bluff Truck Trail will expect industrial facilities. The visual change of the Proposed Project will contrast with the landscape foreground and middleground views, but will be consistent with the background views. The Proposed Project's overall visual change from KOP 7 will create high visual contrast, but will not dominate the view, and will not create view blockage.

Figure 4.1-6. Key Observation Point 3 Existing Conditions, Looking East (Simulation is not included since the Proposed Project will not be visible; transmission line will be buried under the existing Bell Bluff Truck Trail).

Key Observation Point 8

KOP 8 is a private view looking west from Bell Bluff Truck Trail towards the area proposed for the SVC location. The landscape character of KOP 8 is predominantly natural in appearance with coastal sage and chaparral covered hills and Bell Bluff Truck Trail (Figure 4.1-7). The visual quality is low-to-moderate, with a landscape view of relatively undisturbed slopes. Viewer concern is low. The visual change of the Proposed Project will contrast with the landscape foreground and middleground views, but will be consistent with the background views (Figure 4.1-8). The Proposed Project's overall visual change from KOP 8 will not create high visual contrast, will not dominate the view, and will not create view blockage.

Key Observation Point 9

KOP 9 is a private view looking west from the area proposed for the SVC location. The landscape character of KOP 9 is predominantly natural in appearance with a reclaimed California buckwheat scrub meadow, chaparral covered hills, and Bell Bluff Truck Trail (Figure 4.1-9). The visual quality is low-to-moderate, with a landscape view of undisturbed slopes and a reclaimed meadow. Viewer concern is low. The visual change of the Proposed Project will contrast with the landscape foreground and middleground views, but will be consistent with the background views. The Proposed Project's overall visual change from KOP 9 will create high visual contrast, dominate the view, and create view blockage (Figure 4.1-10).

Key Observation Point 10

KOP 10 is a public view looking southwest from the scenic viewpoint on I-8. The landscape character of KOP 10 is mostly natural in appearance with chaparral covered hills, rocky ridges and man-made features in the foreground. The visual quality is moderate-to-high, with a landscape view of undisturbed hills, mountain slopes, and I-8 dominating. Viewer concern is high, as the I-8 corridor along the Sweetwater River is managed to conserve panoramic views from the highway. The Proposed Project will be slightly visible (e.g., the tops of the lightning masts within the SVC) from I-8 for less than 0.25 mile, which at the posted speed of 65 mph, will be visible for approximately 16 seconds or less. Viewer exposure is low, as the Proposed Project will not be visible from the I-8 scenic viewpoint.

Key Observation Point 11

KOP 11 is a public view looking northeast from Japatul Valley Road. The landscape character of KOP 11 is developed and interspersed with structures in the foreground and natural in appearance with chaparral covered hills, rocky ridges in the middleground and background. The visual quality is low-to-moderate, with a landscape view of mountain slopes, structures, vegetation edges, and the Suncrest Substation (Figure 4.1-11). Viewer concern is moderate to high, as a few residences in Japatul Valley will have a view of the Proposed Project. Due to topography, the mountains will screen any view of the Proposed Project from KOP 11. Viewer exposure will be moderate.

Figure 4.1-7. Key Observation Point 8: Existing Conditions, Looking West.

Figure 4.1-8. Key Observation Point 8: Future Conditions with Proposed Project, Looking West – Simulated View of the Proposed SVC.

Figure 4.1-9. Key Observation Point 9: Existing Conditions, Looking West

Figure 4.1-10. Key Observation Point 9: Future Conditions with Proposed Project, Looking West – Simulated View of the Proposed SVC

Figure 4.1-11. Key Observation Point 11: Existing Conditions, Looking North (Simulation is not included since the Proposed Project will not be visible).

Key Observation Point 12

KOP 12 is a public view looking north from a residential area on Japatul Vista Lane. The landscape character of KOP 12 is natural and developed in appearance with rocky ridges, coastal sage meadows, and Bell Bluff Truck Trail in the background (Figure 4.1-12). The visual quality is high, as this view of mountain slopes, structures, and undisturbed hills is representative of the nearest private residence. The visual change will contrast with the existing landscape, but the contrast will be moderate because the Proposed Project will not dominate the view nor result in view blockage (see Figure 4.1-13). The viewer exposure from KOP 12 is high.

The SVC, as viewed from KOP 12 will create a visual contrast to the existing landscape and since it is an area with high viewer concern and high visual sensitivity, the presence of the SVC will change the current view and result in changes to the visual quality. Considering the distance between KOP 12 and the Proposed Project, the SVC would be in the middleground. Foreground and background views would not change. In addition, the height of the SVC's tallest structures, the lightning masts, are well within the background of the existing mountains so there would be no skylining effect. Though the Proposed Project will be visible and will be a contrast to the existing landscape, the Proposed Project will not create view dominance. Bell Bluff Truck Trail, Japatul Vista Lane, and clear-cut vegetation are also visible, and with the application of APMs to further reduce visual contrast, the overall impact will be less than significant.

Key Observation Point 13

KOP 13 is a public view looking north from a residential area on Japatul Lane. The landscape character of KOP 13 is developed, with agricultural fields interspersed with structures in the foreground and natural in appearance with chaparral covered hills and rocky ridges in the middleground and background (Figure 4.1-14). The visual quality is moderate, with a landscape view of mountain slopes, agricultural fields, structures, vegetation edges, and the Suncrest Substation (see Figure 4.1-15). Viewer concern is moderate-to-high. Few residences in Japatul Valley will have a view of the Proposed Project (see Figure 4.1-2). Due to topography, only the tip of the riser pole will be visible from KOP 13, and the mountains will screen any view of the SVC from KOP 13. Furthermore, the tip of the riser pole would not be skylined and would be screened by the background views of the distant hill and mountaintops. The Proposed Project's overall visual change from KOP 13 will not create high visual contrast, will not dominate the view, and will not create view blockage.

Key Observation Point 14

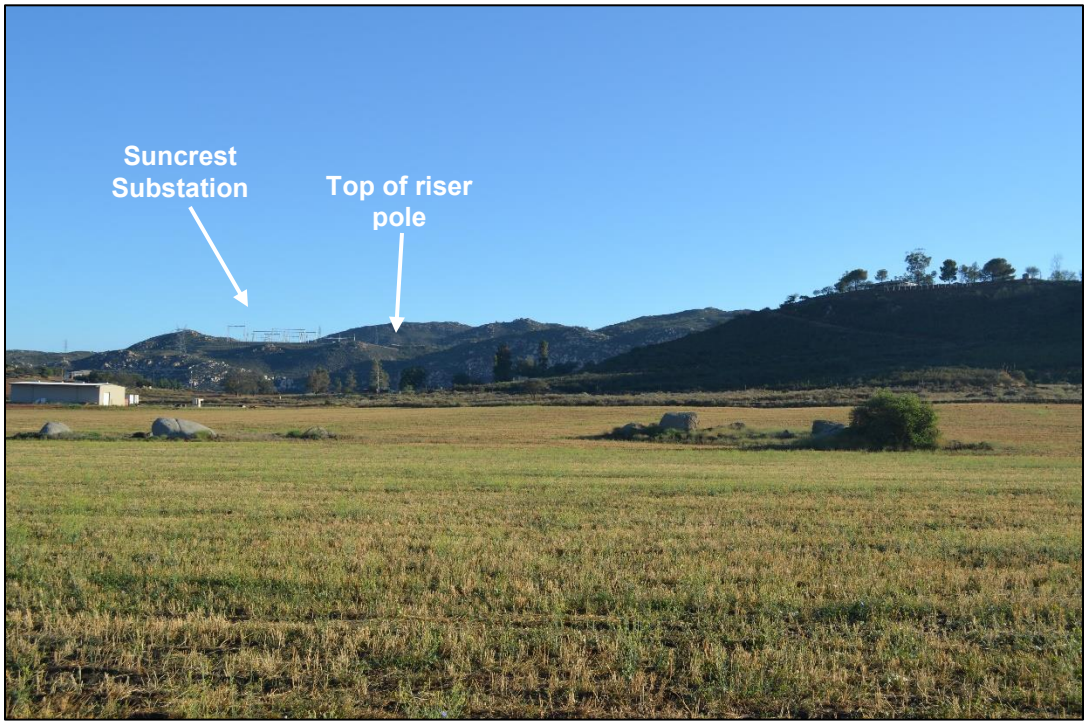
KOP 14 is a public view looking north from a residential area on Japatul Lane, below the existing Suncrest Substation. The landscape character of KOP 14 is developed and interspersed with structures in the foreground and natural in appearance with chaparral covered hills and rocky ridges in the middleground and background. The visual quality is low-to-moderate, with a landscape view of mountain slopes, structures, vegetation edges, and the Suncrest Substation. Viewer concern is moderate-to-high. Few residences in Japatul Valley will have a view of the Proposed Project (see Figure 4.1-2). Due to topography, the mountains will screen any view of the Proposed Project from KOP 14. Viewer concern is high, but viewer exposure is low, as the Proposed Project will not be visible from this KOP.

Figure 4.1-12. Key Observation Point 12: Existing Conditions, Looking Northwest

Figure 4.1-13. Key Observation Point 12: Future Conditions with Proposed Project, Looking Northwest – Simulated View of the Proposed SVC.

Figure 4.1-14. Key Observation Point 13: Existing Conditions, Looking North

Figure 4.1-15. Key Observation Point 13: Future Conditions with Proposed Project, Looking North– Simulated View of the Proposed Riser Pole.



Key Observation Point 15

KOP 15 is a public view looking northwest from a residential area on Japatul Valley Road. The landscape character of KOP 15 is developed and interspersed with agricultural fields, and structures in the foreground and middleground and natural in appearance with chaparral covered hills and rocky ridges in the background. The visual quality is moderate, with a landscape view of mountain slopes, agricultural fields, structures, vegetation edges, and the Suncrest Substation. Viewer concern is moderate-to-high. Few residences in Japatul Valley will have a view of the Proposed Project (see Figure 4.1-2). Due to topography and distance, only the tip of the riser pole will be visible from KOP 15, and the mountains will screen any view of riser pole from KOP 15. The Proposed Project's overall visual change from KOP 15 will not create high visual contrast, will not dominate the view, and will not create view blockage.

Key Observation Point 16

KOP 16 is a public view looking west from a residential area on Japatul Highlands Road. The landscape character of KOP 16 is natural and developed in appearance with chaparral covered hills and rocky ridges in the middleground and background. The visual quality is moderate, with a landscape view of mountain slopes, structures, and undisturbed hills. Viewer concern is moderate-to-high. Few residences in Japatul Valley will have a view of the Proposed Project (see Figure 4.1-2). The Proposed Project's overall visual change from KOP 16 will contrast with the existing landscape, but the contrast will be moderate because the Proposed Project will not dominate the view or result in view blockage.

Key Observation Point 17

KOP 17 is a public view looking west from a rural residential area on Avenida De Los Arboles (Bell Bluff Truck Trail). The landscape character of KOP 17 is predominantly natural in appearance, with coastal sage and chaparral covered hills in the middleground and background and Bell Bluff Truck Trail in the foreground. The visual quality is moderate, with a landscape view of relatively undisturbed slopes. Viewer concern is moderate. The visual change of the Proposed Project will contrast with the landscape background views. The Proposed Project's overall visual change from KOP 17 will not create high visual contrast, will not dominate the view, and will not create view blockage.

Impact AES-4: The Proposed Project will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. (Less than Significant)

The Proposed Project will have less-than-significant lighting or glare impacts and will not adversely affect day or nighttime views in the area. If construction of the Proposed Project includes activities after sunset, portable temporary lighting will be used to provide adequate lighting in immediate work areas. Construction will primarily take place during the daytime; however, depending upon many variables (e.g., weather, schedule, temperature), nighttime construction may be required. When nighttime construction is required, the scope of construction activities will be limited and will be temporary and short term. The limited permanent lighting or light sources that will be required for operation of the Proposed Project

will include safety and security lighting at the SVC; these lights will be shielded to reduce impact on nighttime views. Thus, the Proposed Project will not create a substantial source of lighting during the day or night and the impact will be less than significant. APM AES-2 will further reduce the less-than-significant impact.

Glare exists when a high degree of contrast between bright and dark areas in a field of view makes it difficult for the human eye to adjust to differences in brightness. At high levels, glare can make it difficult to see, such as when driving westward at sunset. The Proposed Project includes the underground transmission line and SVC; however, these facilities will not be visible to the general public since the Proposed Project area is topographically screened. Authorized personnel on Bell Bluff Truck Trail may experience glare from the Proposed Project, but will be travelling at limited speeds and will experience the glare short term—a very brief moment as the vehicle passes the facilities. Therefore, the Proposed Project will not result in new sources of substantial glare to the public (during the day or night) and impacts will be less than significant. APM AES-3 will further reduce the less-than-significant impact.

4.1.5 References

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4.2. AGRICULTURE AND FOREST RESOURCES

4.2.1. Introduction

This section of the PEA describes the environmental and regulatory setting and potential impacts related to agriculture associated with the construction, operation, and maintenance of the Proposed Project. The California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (FMMP) has not designated any farmland within 2 miles of the Proposed Project. The Proposed Project components will not cross any land that is under a Williamson Act contract, or designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Proposed Project is not located on any land under active crop cultivation or livestock grazing. The Proposed Project is located on land that is zoned for agricultural use; however, no agricultural uses currently exist on or adjacent to the Proposed Project. No impact to agriculture and/or forest resources will occur from the implementation of the Proposed Project.

Table 4.2-1. CEQA Initial Study Checklist for Agriculture and Forest Resources

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
AGRICULTURE AND FOREST RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code				X

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use?				X

4.2.2. Existing Conditions

4.2.2.1. Regulatory Background

Federal

The Proposed Project is located on private land that is in close proximity to the CNF. The CNF is located within San Diego, Riverside, and Orange Counties, and has approximately 421,000 acres. The closest Ranger District office to the project site is in Alpine (USFS 2005a, p. 5.)

The USFS is mandated by Congress through the Multiple-Use Sustained-Yield Act of 1960 (Public Law 86-157) to develop and administer the renewable resources of timber, range, water, recreation and wildlife on the national forests for multiple use and sustained yield of the products and services. Multiple use is defined as the management of all the various renewable surface resources of the national forests so that they are used in combinations that will best meet the needs of U.S. citizens. Multiple use means making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. It also means that some land will be used for less than all of the resources, and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land. Consideration is to be given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output. Sustained yield is defined as the means of achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land (16 United States Code [U.S.C.] 531 Sections 4 (a) and (b)).

In addition, the National Forest Management Act of 1976 obligates the USFS to complete systematic and interdisciplinary resource management planning via Land Management Plans

(also known as Forest Plans). Although the Proposed Project is located within the administrative boundary of the CNF, it is located on private land, and therefore does not fall within USFS jurisdiction. While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, the CNF is an adjacent landholder and, as such, NEET West has considered relevant elements of the plan during the design of the Proposed Project.

Goals and objectives regarding grazing and forestry in the Forest Service's Land Management Plan for the National Forests in southern California include the following (USFS 2005a, p. 57; 2005b, pp. 114-115):

- **Vision document, National Strategic Plan, Goal 6:** Mission-related work in addition to that which supports the agency goals.
- **Vision document, Goal 6, Objective 3:** Maintain the environmental, social, and economic benefits of forests and grasslands by reducing their conversion to other uses.
- **CNF Strategy, LG 1 – Livestock Grazing:** Livestock grazing areas are maintained and remain sustainable and suitable over the long term.
- **CNF Strategy, LG 2 – Rangeland Health:** Rangelands are healthy and sustainable over the long term. Rangelands are meeting or moving toward forest plan, ecosystem, and site-specific desired conditions.

State

California Department of Conservation Farmland Mapping and Monitoring Program Important Farmland Designations

The CDOC Division of Land Resource Protection FMMP generates maps depicting Important Farmlands. These farmlands are categorized according to specific criteria, including soil quality and irrigation conditions. FMMP maps are updated every 2 years using aerial imagery review, field reconnaissance, computer mapping analyses, and public input. The minimum land use mapping unit is 10 acres; smaller units of land are generally incorporated into surrounding map classifications.

For the purposes of this section, "Important Farmlands" include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (CDOC 2015).

Williamson Act

The Williamson Act, also known as the California Land Conservation Act of 1965 (California Government Code [CGC] Section 51200 et seq.), preserves agricultural and open space lands from conversion to urban land uses by establishing a contract between local governments (i.e., city and county governments) and private landowners to voluntarily restrict their land holdings to agricultural or open space use. In return, landowners receive property tax assessments based on farming or open space use rather than assessments based on the full market property value. Williamson Act contracts are valid for a minimum of 10 years and are automatically renewable after each 10-year term. The Williamson Act also allows local governments to establish Agricultural Preserves, parcels of land for which cities or counties are willing to enter into Williamson Act contracts. Agricultural Preserves must include a minimum of 100 acres and

typically avoid areas in which public utility improvements and associated land acquisitions may be necessary (CGC Section 51230).

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration local land use plans and policies, as well as local land use priorities and concerns as they relate to agriculture and forestry resources, as described in the sections that follow.

County of San Diego

Farmland of Local Importance is land of value to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. Farmland of Local Importance is either currently producing, or has the capability to produce, agricultural products, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Authority to adopt or to recommend changes to the category of Farmland of Local Importance rests with the San Diego County Board of Supervisors. Several policies that are relevant to the Proposed Project include (County of San Diego 2011a):

- **Policy LU-5.3, Rural Land Preservation:** Ensure the preservation of existing open space and rural areas (e.g., forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, and groundwater recharge areas) when permitting development under the Rural and Semi Rural Land Use Designations.
- **Policy LU-7.1, Agricultural Land Development:** Protect agricultural lands with lower-density land use designations that support continued agricultural operations.
- **Policy COS-6.2, Protection of Agricultural Operations:** Protect existing agricultural operations from encroachment of incompatible land uses.
- **Policy COS-6.4, Conservation Easements:** Support the acquisition or voluntary dedication of agriculture conservation easements and programs that preserve agricultural lands.

Alpine Community Plan

The Proposed Project is located within the Alpine Community Planning Area. The Alpine Community Plan was developed in conjunction with the San Diego County General Plan (County of San Diego 2011b). A goal stated within the Alpine Community Plan is to preserve and enhance existing agricultural areas in Alpine. Several policies that are relevant to the Proposed Project include:

- **Policy 1:** It is intended that agricultural zones be used to implement the Semi-Rural and Rural Land Use Designations to ensure continuation of agricultural uses.
- **Policy 5:** Encourage the formation of Agricultural Preserves in areas with active agricultural operations and in locations that will be optimal for future production of food and fibers.

Central Mountain Subregional Plan

The Proposed Project is west of the boundary of the Central Mountain Subregional Plan, but within several hundred feet of that Plan's coverage area. The Central Mountain Subregional Plan was developed in conjunction with the San Diego County General Plan (County of San Diego 2011c). Given the Proposed Project's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. Several goals stated in the Central Mountain Subregional Plan include the continued support of agricultural preserves that provide and conserve open space and prevent the conversion of open lands to more intensive uses; agricultural uses in the subregion that have only minimal impacts on groundwater supply and quality; and traditional cattle grazing and dry lands practices that preserve open space, wildlife habitats, and the rural character and ecosystems of the area. A policy relevant to the Proposed Project is:

- **Commercial Policy 5:** Provide appropriate commercial zoning designations to support agricultural activities.

4.2.2.2. Methodology

Research involved review of the Alpine Community Plan, Central Mountain Subregional Plan, CNF Land Management Plan, CDOC FMMP database for Important Farmland, and County of San Diego Planning & Development Services Initial Study Research Packet Report that was prepared for the Proposed Project parcels. The County of San Diego GIS data was also reviewed. Additionally, review of aerial images and a site visit to confirm land uses was conducted.

4.2.3. Environmental Setting

The Proposed Project is not located on, and will not cross any, Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or land under a Williamson Act contract. Similarly, the Proposed Project is not located on any land under active crop cultivation or livestock grazing.

The Proposed Project is located within lands that are zoned as Agricultural Use – Limited Agricultural Use Regulations (A70) and Agricultural Use – General Agricultural Use Regulations (A72), and lands that are designated as RL-80. The A72 General Agriculture zoning is intended for crop or animal agriculture. The vicinity of the Proposed Project has historically been utilized for livestock ranching; however, no agricultural or livestock grazing use currently occurs within or adjacent to the Proposed Project.

The County's agricultural zoning, A70 and A72, allow other uses. According to the "Use & Enclosure Matrix," two types of utility uses are allowed: Minor Impact Utilities, via a Minor

Use Permit, and Major Impact Utilities, via a Major Use Permit (County of San Diego 2015b, p. 133). San Diego County's Alphabetical List of Individual Land Uses indicates that electrical substations are considered Minor Impact Utilities (Section 1355), and Distribution Lines and Poles and Transmission Lines are considered Essential Services (Section 1335). According to the County's zoning ordinance *Use and Enclosure Matrix*, Minor Impact Utilities can be permitted through a Minor Use Permit for A72 zoned lands. Additionally, per the County's *Use and Enclosure Matrix*, Essential Services are a permissible use for A72 zoned lands and do not require a permit.

The California Public Resources Code (PRC) provides definitions of forest land (PRC Section 12220(g)) and timberland (PRC Section 4526). CGC Section 51105(g) defines Timberland Production zoned land (CGC Section 51104(g)). The Proposed Project is not zoned for forest land, timberland, or timberland zoned for Timberland Production.

4.2.4. Applicant-Proposed Measures and Potential Impacts

The following sections describe significance criteria, APMs, and impacts related to agricultural resources.

4.2.4.1. Significance Criteria

Standards of significance were derived from Appendix G of the State CEQA Guidelines and the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements. Impacts to agricultural resources would be considered significant if the project:

- Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use for a long period of time or permanently;
- Conflicts with an existing Williamson Act contract;
- 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 CGC Section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use; and,
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use.

4.2.4.2. Applicant-Proposed Measures

As there will be no impact to agriculture and forest resources as a result of the Proposed Project, no APMs are proposed.

4.2.4.3. Potential Impacts

Impact AGR-1: The Proposed Project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance 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 Proposed Project occurs on land mapped as "Other Land," land not included in any other mapping category, within the FMMP, and thus not located on any land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As a result, no impact will occur.

Impact AGR-2: The Proposed Project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. (No Impact)

The Proposed Project is not located in any areas that are under a Williamson Act contract. Therefore, there will be no conflicts with Williamson Act contracts, and no impact will occur.

The Proposed Project occurs on land that is zoned A72, General Agriculture, by the County. The Proposed Project will permanently convert approximately 6 acres of previously utilized grazing land and land zoned for agriculture. While this zoning classification is intended to preserve areas for agricultural production, no parcels are currently being farmed or grazed. The County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements regarding agricultural resources indicates that, "Conflicts with zoning for agricultural use should not occur in the County of San Diego because there are no exclusive agricultural zones in the County. In general, a variety of land uses are permitted in agricultural zones either by right, subject to limitations, or by issuance of a conditional use permit" (County of San Diego 2007, p. 43, footnote 20). A variety of land uses are permitted in agricultural zones A70 and A72, including minor impact utilities (i.e., electric utilities) (County of San Diego 2007). Therefore, there is no impact under the criterion of conflict with existing zoning.

The construction, operation, and maintenance of the Proposed Project will have little effect on future agricultural uses within the area, as grazing and farming could occur around the SVC without it conflicting with agricultural operations. The underground transmission line will have no land use conflicts as it will be placed under an existing roadway. No agricultural use is located on any adjacent parcels. Therefore, no impact related to agricultural resources will occur.

Impact AGR-3: The Proposed Project will not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Nor will the project result in the loss of forest land, conversion of forest land to non-forest use, or involve other changes that could result in conversion of forest land to non-forest use. (No Impact)

The Proposed Project does not occur on land zoned for forest land, timberland, or timberland zoned for Timberland Production. Implementation of the Proposed Project will not result in the loss of forest land or conversion of forest land to non-forest use. Further, the Proposed Project

will not adversely affect the forestry related strategies and goals of the nearby CNF lands. Therefore, no impacts to forest resources will occur as a result of the Proposed Project.

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4.3. AIR QUALITY AND GREENHOUSE GAS EMISSIONS

4.3.1. Introduction

This section describes the regulatory and environmental setting, expected project air and greenhouse gas (GHG) emissions, and potential impacts on air quality as a result of construction and operation of the Proposed Project. The Proposed Project's potential effects were evaluated using the significance criteria set forth in Appendix G of the State CEQA Guidelines, as shown in Table 4.3-1. The analysis determined that impacts will be less than significant. Implementation of the APMs described in Section 4.3.4.2 will ensure that impacts will remain less than significant.

Table 4.3-1. CEQA Initial Study Checklist for Air Quality and Greenhouse Gas Emissions

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
GREENHOUSE GAS EMISSIONS Would the project:				
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases?			X	

4.3.2. Existing Conditions

4.3.2.1. Air Quality Regulatory Background

Federal

Clean Air Act

Since 1963, the Clean Air Act (CAA), and subsequent amendments in 1970, 1977, and 1990, have provided the authority and framework for the regulation of air emission sources by the U.S. Environmental Protection Agency (EPA). Regulations have been promulgated pursuant to the CAA to serve as requirements for the monitoring, control, and documentation of activities that may increase the ambient concentrations of pollutants that may endanger public health or welfare.

Title I of the CAA requires the EPA to establish National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The EPA established NAAQS for six common, principal pollutants ("criteria" pollutants). The criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), lead (Pb), and particulate matter (PM), including PM equal to or less than 10 microns in diameter (PM_{10}) and 2.5 microns in diameter ($PM_{2.5}$).

The CAA identifies two types of NAAQS: primary and secondary. Primary standards provide public health protection, including protecting the health of sensitive populations such as people with respiratory disease, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. These standards are defined in terms of threshold concentration measured as an average for specified periods of time. Pollutants with acute health effects are given short-term standards and pollutants with chronic health effects are given long-term standards. Since the NAAQS were first established, revisions have been made that modify

which pollutants are regulated, the allowable ambient concentrations, and the time interval over which the pollutant is measured.

State

Under the provisions of the CAA, any state can have requirements that are more stringent than those of the national program. The California Clean Air Act (CCAA) includes additional ambient air quality standards in addition to the NAAQS. These state standards, the California Ambient Air Quality Standards (CAAQS), apply to the same criteria pollutants as the NAAQS, but also include sulfates, hydrogen sulfide (H_2S), visibility reducing particles, and vinyl chloride.

On the state level, air quality planning and control is overseen by the California Air Resources Board (CARB). CARB gathers air quality data for the state, ensures the quality of the data, designs and implements air models, sets ambient air quality standards for the state, and is responsible for ensuring California meets CAA requirements (CARB 2011a).

Local

San Diego Air Pollution Control District

San Diego County is a discrete air basin under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). SDAPCD regulates most sources of air pollutants in San Diego County, except for motor vehicles, aircraft, and other sources regulated by CARB or EPA. While legal authority to control various pollution sources is divided among agencies, the SDAPCD is the primary agency responsible for planning, implementing, and enforcing federal and state ambient standards in San Diego County. Therefore, the SDAPCD will be the agency responsible for enforcing air quality plans, rules, and regulations as they apply to the Proposed Project.

The SDAPCD air quality plans collectively provide an overview of the region's air quality and air pollution sources and identify the pollution-control measures needed to expeditiously attain and maintain air quality standards. The SDAPCD's air quality plans include the San Diego Regional Air Quality Strategy (RAQS), addressing state requirements, and the San Diego portion of the California State Implementation Plan (SIP), addressing federal requirements.

SDAPCD Regulation IV, Rule 55, Fugitive Dust Control. Rule 55 regulates construction and demolition activities that could generate fugitive dust.

4.3.2.2. Climate Change Policies and Regulations

Federal

Clean Air Act

On April 2, 2007, the Supreme Court found in *Massachusetts v. EPA* that GHGs are air pollutants under the CAA. The EPA, therefore, has the authority to regulate GHG emissions. The Court also directed EPA to declare whether there is enough scientific uncertainty to preclude EPA from making a decision that GHGs contribute to global warming or whether there is enough information for EPA to find that GHGs endanger public health or welfare.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHG sunder Section 202(a) of the CAA:

- **Endangerment Finding:** The current and projected concentrations of the six key well-mixed GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

SF_6 Emission Reduction Partnership for Electric Power Systems

In 1999, the EPA established the SF_6 Emission Reduction Partnership for Electric Power Systems, a collaborative effort between the EPA and industry to identify and implement cost-effective solutions to reduce sulfur hexafluoride emissions. Sulfur hexafluoride is a potent and long-lived greenhouse gas, often used as an insulator in the electric utility industry, with a global warming potential of 22,800. Membership in the Partnership is voluntary. Over 15 years, the Partnership's SF_6 emission rate has dropped significantly from 14% of total SF_6 capacity (in 1999) to 1.9% (in 2014).

State

Executive Order S-3-05

Signed by Governor Schwarzenegger on June 1, 2005, Executive Order S-03-05 requires the Secretary of the California Environmental Protection Agency (CEPA) to report the impacts of global warming on California to the Governor and state legislature every 2 years. Impacts to forestry, agriculture, the coastline, water supply, and public health are to be included in this report as well as mitigation and adaption plans to counter these impacts (Georgetown Climate Center 2005). This order also established statewide GHG emission reduction targets as follows:

- Reduce emissions to 2000 levels by 2010;
- Reduce emissions to 1990 levels by 2020; and,
- Reduce emissions to 80 percent below 1990 levels by 2050.

Executive Order B-30-15

In April 2015, Governor Brown signed Executive Order B-30-15 that added the intermediate target of reducing GHG emissions to 40% below 1990 levels by 2030.

Executive Order S-13-08

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08. This order required the development of a state Climate Adaptation Strategy by the California Natural Resources Agency. At the request of the Natural Resources Agency, the National Academy of Sciences established an independent panel to report on sea level rise in California and its

potential impacts. Furthermore, the State's Business, Transportation, and Housing Agency was directed to assess the impacts of sea level rise on state transportation systems. The order also directed the Governor's Office of Planning and Research to provide state land use planning guidance in relation to sea level rise and other impacts due to climate change (Georgetown Climate Center 2008).

Assembly Bill 32

Signed on September 27, 2006, this bill (known as the "California Global Warming Solutions Act of 2006") furthers the goals set by Executive Order S-3-05. It gave CARB the responsibility of monitoring and regulating sources of emissions of GHGs and enforcing compliance with GHG reduction targets (the same targets outlined in Executive Order S-3-05). This bill created the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. To monitor and enforce compliance with the established standards, CARB was required to adopt regulations that required the reporting and verification of statewide GHG emissions. Authorized by the bill, CARB also adopted a regulation to collect a program implementation fee from large sources of GHG emissions, such as oil refineries, power plants, and cement processors (CARB 2014a).

AB 32 required CARB to develop a "Scoping Plan"—the strategy for meeting the GHG reduction targets—and to update it every 5 years. An Environmental Justice Advisory Committee was formed to help develop and update this plan. CARB adopted the initial "Scoping Plan" in December 2008 and approved the first update to the plan in May 2014. The update discusses current GHG reduction progress, reviews the latest climate change science, and provides direction on achieving the long-term GHG emissions reduction goal set in Executive Order S-3-05 (CARB 2014a).

As required by AB 32, CARB adopted a regulation to establish market-based compliance mechanisms to help GHG emission sources meet the specified requirements. It also was required to form an Economic and Technology Advancement Advisory Committee. This committee provides recommendations for research, technology, and GHG reduction measures.

CARB also adopted an early action, as part of AB 32, to require reduction of SF_6 emissions from electricity transmission and distribution equipment. Regulations to reduce SF_6 emissions from gas-insulated switchgear include a maximum allowable SF_6 emission rate for gas-insulated switchgear that decreases annually to a final level of 1% in the year 2020. Gas-insulated switchgear includes switches, stand-alone gas-insulated equipment, and any combination of electrical disconnects, fuses, electrical transmission lines, transformers and/or circuit breakers used to isolate gas-insulated electrical equipment. Gas-insulated switchgear owners must also conduct an inventory of their equipment and SF_6 gas. There are also annual reporting requirements for SF_6 emissions (California Code of Regulations [CCR] Title 17, Section 95356).

Senate Bill 97

Senate Bill 97, signed on August 24, 2007, required the Governor's Office of Planning and Research to prepare amendments to the State CEQA Guidelines for the analysis and mitigation of GHG emissions. The Natural Resources Agency then adopted those amendments which

required a survey of existing climate change analyses and provided direction on how to determine the significance and mitigate the effects of GHG emissions.

Senate Bill 375

On September 30, 2008, Senate Bill 375 was signed into law by Governor Schwarzenegger with the goal of reducing GHG emissions from automobiles and light trucks. While SB 32 gave CARB authority over sources of GHG emissions, Senate Bill 375 directed CARB to set regional targets for reducing GHG emissions. To help meet those targets, the law ensures the involvement of cities and counties in developing effective regional plans. It also strengthens requirements for public involvement in regional planning.

Establishing collaboration between regional and state agencies to set regional GHG reduction targets was a primary goal of Senate Bill 375. This collaboration would use the regional transportation planning process to help achieve the reductions in GHG emissions consistent with the goals set forth in AB 32. Senate Bill 375 required metropolitan planning organizations to include a "Sustainable Communities Strategy" in the regional transportation plan to demonstrate how the region will meet the targets and prepare an alternative planning strategy if the "Sustainable Communities Strategy" was unable to meet the targets. The "Sustainable Communities Strategy" provides a basis for evaluating residential development and transportation projects. Projects found to be consistent with the Strategy qualified for CEQA incentives (Institute for Local Government 2015).

Subnational Global Climate Leadership Memorandum of Understanding

On May 19, 2015, Governor Brown, along with other international leaders, signed the "Subnational Global Climate Leadership Memorandum of Understanding," an agreement to limit the increase in global average temperature to below 2 degrees Celsius by setting a goal of limiting GHG emissions to 2 tons per capita by 2050. This limit is 80-95% below the 1990 GHG emission level (Under2Mou.org 2015).

4.3.2.3. Methodology

Federal, state, and regional policies and regulations were reviewed to determine applicable regulations, plans, and standards. Significance levels for both air pollutants and GHG emissions are published by San Diego County in the "Guidelines for Determining Significance and Report Format and Content Requirements" for both air quality and climate change (County of San Diego Land Use and Environment Group 2007). The CPUC's *Addition of GHG Guidance in the Working Draft of the PEA Checklist* was also utilized in this analysis (CPUC 2008).

Air quality impacts were analyzed with the aid of the California Emissions Estimator Model (CalEEMod) version 2013.2.2. CalEEMod was designed in collaboration with the South Coast Air Quality Management District (SCAQMD) and other California air districts to calculate air and GHG emissions associated with land use projects (CalEEMod 2013). This program analyzes both construction (short-term) and operational (long-term) emissions by utilizing both default values for specific geographic areas and typical land use projects as well as project-specific values such as construction schedules and equipment rosters. One exception to the use of CalEEMod for this analysis was for SF_6, a powerful GHG which is used to insulate industrial

circuit breakers. CalEEMod does not have the capacity to calculate SF_6 emissions from potential leaks and therefore these calculations were done separately based on EPA-approved methodology and vendor specifications. The CalEEMod report and the SF_6 calculations are included in Appendix C.

4.3.3. Environmental Setting

4.3.3.1. Climate

The climate of the San Diego area is characterized by warm, dry summers and mild, wet winters. A dominating factor in the weather of southern California is the Pacific high, a semi-permanent high-pressure area over the North Pacific Ocean. This pressure center moves northward in summer, holding storm tracks to the north. As a result, California receives little or no precipitation from this source during that period. In winter, the Pacific high weakens and moves southward, permitting storm centers to swing into and across California. These storms bring widespread moderate precipitation to the state. When changes in the circulation pattern permit storm centers to approach the Californian coast from a southwesterly direction, copious amounts of moisture are carried by the northeastward streaming air.

This high-pressure ridge over the West Coast creates a repetitive pattern of frequent early morning cloudiness, hazy afternoon shine, clean daytime onshore breezes, and little temperature change throughout the year. In the vicinity of the Proposed Project, the average temperatures in January range from 42 degrees Fahrenheit (°F) at night to 65°F during the day. The warmest month is August, when high temperatures average 91°F. The annual rainfall is approximately 16 inches (Western Regional Climate Center [WRCC] 2015a).

Representative meteorological conditions, including monthly and annual averages of maximum temperature, minimum temperature, total precipitation, and total snowfall in the vicinity of the Proposed Project are presented in Table 4.3-2.

Table 4.3-2. Representative Meteorological Conditions in the Proposed Action Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (°F)	65.4	66.3	67.8	72.2	76.3	83.3	90.0	90.6	88.1	80.5	71.5	65.3	76.4
Average Min. Temperature (°F)	42.4	42.8	43.8	46.4	50.0	54.6	60.1	61.4	59.5	53.5	46.7	42.1	50.3
Average Total Precipitation (in.)	2.91	3.18	2.97	1.38	0.45	0.14	0.12	0.16	0.30	0.76	1.74	2.04	16.15
Average Total Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: WRCC 2015a.

Note: Historical weather data for Alpine, California, NWS Co-op Station 040136 (approximately 6.2 miles (10 kilometers) west-northwest from the Proposed Project site) from 11/1/1951 to 1/20/2015. Annual averages are presented for minimum and maximum temperatures and annual totals for precipitation and snowfall.

°F = degrees Fahrenheit, Max. = maximum, Min. = minimum

From the nearest National Weather Service (NWS) Co-op wind speed monitor (Alpine, California), approximately 6.2 miles (10 kilometers) west-northwest of the Proposed Project, during the period from April 1, 2001, to March 29, 2015, the prevailing winds most frequently blew from the west-southwest (approximately 18% of the time when also including wind blowing from the southwest and west). The majority of the time the winds were calm (less than 1.3 miles per hour [mph]). The average wind speed for the period was approximately 2.4 mph (1.1 meters per second) (WRCC 2015b).

The atmospheric conditions which are typical for the region limit the atmosphere's ability to disperse air pollution. Precursor emissions, mainly hydrocarbons and oxides of nitrogen, are generated in the populated coastal plain and drift inland with the daily sea breeze. Occasionally, precursor emissions and/or ozone generated in Los Angeles can be carried out over the ocean during a mild Santa Ana Wind and then are picked up by the sea breeze which brings them back onshore and into San Diego (National Oceanic and Atmospheric Administration [NOAA] 2004). In addition, the sinking air within the offshore high-pressure system forms a temperature inversion, trapping polluted air and preventing it from rising and mixing with the air above. The plentiful sunshine and the trapped polluted air cause a number of reactive pollutants to undergo photochemical reactions. This forms smog which creates hazy conditions and can be harmful to human health. Air pollution programs help control air pollutant emissions, and regional air quality has improved since the 1960s and 1970s when air quality was at its worst. However, parts of the San Diego area still struggle to meet clean air standards, especially in regards to ozone.

4.3.3.2. Ambient Air Quality

The EPA established NAAQS for six criteria pollutants. A brief description of the six criteria pollutants as well as several other pollutants is given below.

- **Ozone** is a colorless gas produced by photochemical reactions between the sun and precursor emissions such as nitrogen oxides and hydrocarbons. These precursor emissions are generated in large part by motor vehicles. Ground level ozone can aggravate asthma, cause lung damage, and reduce lung function.
- **Lead** is a heavy metal that can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits and lowered IQ. Historically, most airborne lead emissions were attributable to the combustion of leaded fuel in automobiles. As an effect of the EPA's regulatory efforts to remove lead from gasoline, levels of lead in the air were reduced 94% from 1980 to 1999 (EPA 2014a).
- **Sulfur dioxide** is a highly reactive gas mainly caused by fossil fuel combustion. It can cause an array of adverse respiratory effects including bronchoconstriction and increased asthma symptoms.
- **Carbon monoxide** is an odorless, colorless gas caused by the incomplete combustion of fuel. The primary source of carbon monoxide is vehicle exhaust. Carbon monoxide in high concentrations causes asphyxiation due to replacing oxygen in the blood stream.

- **Nitrogen oxides** (NO_x) are typically formed as a byproduct of combustion. NO_2, a subset of NO_x, is a reddish-brown gas that causes adverse respiratory effects including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. It is also a precursor emission that reacts with sunlight to form ozone.
- **Particulate matter smaller than ten microns in diameter** is referred to as PM_{10}. These microscopic solids and liquids suspended in the air occur from a variety of causes such as soil and dust, soot, vehicles, construction, chemical reactions such as combustion, and other industrial sources. PM_{10} can affect the heart and lungs and cause serious health effects. In addition, it can also reduce visibility.
- **Particulate matter that is smaller than 2.5 microns in diameter** is referred to as $PM_{2.5}$. This particulate matter is so small it can reach the deepest corners of the lungs and can cause lung and cardiovascular damage. $PM_{2.5}$ is a byproduct of combustion such as in diesel vehicles and can also be formed from the photochemical reaction of precursor pollutants (SDAPCD 2013a).
- **Volatile organic compounds** (VOCs) are vapors emitted from certain solids or liquids. Examples of products containing VOCs include gasoline, paint thinner, industrial solvents, sealants, and adhesives. Incomplete combustion of gasoline is a source of VOCs as are industrial facilities such as oil refineries. While not a criteria pollutant, VOCs can have adverse health effects and are also a precursor to ozone.
- **Toxic air contaminants** (TACs), also known as hazardous air pollutants (HAPs) on the federal level, are compounds that may cause cancer or other adverse health effects when people are exposed to them (SDAPCD 2013a). Some VOCs are TACs, but not all TACs are VOCs. The CAA lists 187 official HAPs and CARB lists over 700 compounds to be assessed under the Air Toxics "Hot Spots" program (SDAPCD 2013b). Examples of TACs include benzene, methylene chloride, carbon tetrachloride, formaldehyde, acetaldehyde, 1-3 butadiene, hexavalent chromium, paradichlorobenzene, and diesel particulate matter.

The EPA designates areas as meeting ("attainment") or not meeting ("non-attainment") the NAAQS. Areas that cannot be classified on the basis of available information as meeting or not meeting the NAAQS are designated as "unclassifiable." The current NAAQS are presented in Table 4.3-3.

Table 4.3-3. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Averaging Time	Level	Averaging Time	Level
CO	1 hour [a] 8 hour [a]	35 ppm 9 ppm	- -	- -
Pb	3 months (rolling) [b]	0.15 µg/m^3	3 months (rolling) [b]	Same as Primary
NO_2	1 hour [d] Annual [c]	100 ppb 53 ppb	Annual [c]	Same as Primary
O_3	8 hour [e]	0.075 ppm	8 hour [e]	Same as Primary

PM_{10}	24 hour [f]	150 µg/m^3	24 hour [f]	Same as Primary
$PM_{2.5}$	24 hour [g] Annual [h]	35 µg/m^3 12 µg/m^3	24 hour [g] Annual [h]	Same as Primary 15 µg/m^3
SO_2	1 hour [i]	0.075 ppm	3 hour [j]	0.5 ppm

Source: EPA 2014a.

[a] Not to be exceeded more than once per year.

[b] Not to be exceeded.

[c] Annual mean.

[d] The 3-year average of the 98th percentile of the daily maximum 1-hour average must not exceed this standard.

[e] The 3-year average of the 4th highest daily maximum 8-hour average O_3 concentration measured at each monitor within an area over each year must not exceed this standard.

[f] Not to be exceeded more than once per year on average over 3 years.

[g] The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed this standard.

[h] The 3-year average of the annual arithmetic mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed this standard.

[i] The 3-year average of the annual 99th percentile of the 1-hour daily maximum must not exceed this standard.

[j] Not to be exceeded more than once per year.

µg/m^3 = microgram per cubic meter, ppb = parts per billion, ppm = parts per million.

The CAA requires each state to produce and regularly update a SIP. A SIP is a plan developed by the state to meet federal air quality standards. The EPA has approved California's SIP. The California SIP includes the CAAQS. The CAAQS are codified in CCR Title 17, Section 70200, Table of Standards, and are shown in Table 4.3-4.

Table 4.3-4. California Ambient Air Quality Standards

Pollutant	Averaging Time	Level
CO	1 hour [a] 8 hour [a]	20.0 ppm 9.0 ppm
Pb	30 day [b]	1.5 µg/m^3
NO_2	1 hour [a] Annual [a]	0.18 ppm 0.030 ppm
O_3	1 hour [a] 8 hour [a]	0.09 ppm 0.070 ppm
PM_{10}	24 hour [a] Annual [a]	50 µg/m^3 20 µg/m^3
$PM_{2.5}$	24 hour [a] Annual [a]	No Separate State Standard 12 µg/m^3
SO_2	1 hour [a] 24 hour [a]	0.25 ppm 0.04 ppm
Hydrogen Sulfide (H_2S)	1 hour [b]	0.03 ppm
Sulfates	24 hour [b]	25 µg/m^3
Vinyl Chloride	24 hour [b]	0.01 ppm

Source: CCR, Title 17, Section 70200.
[a] Not to be exceeded.
[b] Not to be equaled or exceeded.
µg/m^3 = microgram per cubic meter, ppm = parts per million.

CARB gathers air quality data for the state, ensures the quality of this data, and sets the ambient air quality standards for the state (CARB 2011a). There are over 327 air monitoring stations across the state of California (CARB 2014b). These stations are operated by CARB, local Air Pollution Control Districts, Air Quality Management Districts, private contractors, and the National Park Service (NPS) (CARB 2011b). The SDAPCD operates 10 air monitoring stations in the basin.

A representative background concentration monitor, the Alpine Monitoring Station, is located approximately 6 miles west-northwest of the Proposed Project. Due to its proximity to the Proposed Project, the data from the Alpine Monitoring Station located at 2300 Victoria Drive, Alpine, California, 91901, was used for the following criteria pollutants: O_3, NO_2, and $PM_{2.5}$. The Alpine Monitoring Station does not monitor for CO, PM_{10}, or SO_2, so the next closest monitoring station, the El Cajon Monitoring Station located at 1155 Redwood Avenue, El Cajon, California, 92019 (approximately 16 miles west of the Proposed Project), was used for those pollutants. The data collected at these monitoring stations is representative of the air quality experienced on-site from 2011 through 2013; refer to Table 4.3-5.

Table 4.3-5. Local Air Quality Levels

Pollutant	Standard		Year	Maximum Concentration	Number of Days State/Federal Standard Exceeded
	California	Federal Primary			
1-Hour Ozone (O_3) [1]	0.09 ppm	NA	2011	0.114	4/NA
			2012	0.101	1/NA
			2013	0.095	2/NA
8-Hour Ozone (O_3) [1]	0.070 ppm	0.075 ppm	2011	0.093	30/10
			2012	0.084	22/7
			2013	0.083	27/6
8-Hour Carbon Monoxide (CO) [2]	9.0 ppm	9.0 ppm	2011	1.46	0/0
			2012	1.86	0/0
			2013	1.2	0/0
1-Hour Nitrogen Dioxide (NO_2) [1]	0.18 ppm	0.100 ppm	2011	0.04	0/0
			2012	0.047	0/0
			2013	0.04	0/0
24-Hour Fine Particulate Matter ($PM_{2.5}$) [1]	No Separate Standard	35 µg/m^3	2011	25.5	NA/NM
			2012	19.3	NA/0
			2013	20.1	NA/0
24-Hour Particulate Matter (PM_{10}) [2]	50 µg/m^3	150 µg/m^3	2011	41.9	0/0
			2012	48.0	0/0
			2013	41.1	0/0
24-Hour Lead (Pb) [2]	1.5 µg/m^3	0.15 µg/m^3	2011	NM	NM/NM
			2012	0.01	0/0
			2013	0.024	0/0
1-Hour Sulfur Dioxide (SO_2) [2]	250 ppb	75 ppb	2011	1.2	0/0
			2012	1.6	0/0
			2013	6.5	0/0
24-Hour Sulfur Dioxide (SO_2) [2]	40 ppb	--	2011	0.5	0/NM
			2012	0.5	0/NM
			2013	0.6	0/NM

Source: EPA 2014b, CARB 2015.

[1] Data from Alpine Monitor in Alpine, CA for the years 2011-2013.

[2] Data from El Cajon monitor in El Cajon, CA for the years 2011-2013.

µg/m^3 = micrograms per cubic meter, ppm = parts per million

NA = not applicable, NM = not measured

Violations of the NAAQS and CAAQS for O_3 and violations of the CAAQS for PM_{10} and $PM_{2.5}$ have occurred historically in the vicinity of the Proposed Project (SDAPCD 2013). Table 4.3-6, below, shows the attainment status of the area in regards to federal and state standards.

Table 4.3-6. Federal and State Attainment Status

Pollutant	Federal Designation	State Designation
O_3 (8-Hour -- 2008)	Nonattainment (Marginal)	Nonattainment
CO	Attainment (Maintenance)	Attainment
PM_{10}	Unclassifiable*	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified
Visibility-Reducing Particles	(No Federal Standard)	Unclassified

Source: CARB 2015

* At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

Potential Sensitive Receptors

According to the CARB *Air Quality and Land Use Handbook: A Community Health Perspective*, "sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time include schools and school yards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses)." The table below lists potential sensitive receptors within 1 mile of the Proposed Project.

Table 4.3-7. Potential Sensitive Receptors within 1 Mile of the Proposed Project

Type	Distance from Proposed Project	Direction from Proposed Project
Residences (< 5)	0.81 mile	Southeast

4.3.4. Applicant-Proposed Measures and Potential Impacts

The following sections present the impact of the Proposed Project on air resources. First, a criterion for determining significant impacts is proposed based on existing laws and regulations. Then, impacts from the Proposed Project are determined according to the described

methodology. Finally, the impacts from the Proposed Project are compared against the criteria to determine if the impacts are significant.

4.3.4.1. Significance Criteria

Air Quality

Significance criteria are used to evaluate the effects of a project on air quality. Appendix G of the State CEQA Guidelines lists the following significance criteria for determining the impact to air quality. The impacts to air quality resulting from the Proposed Project would be considered significant if they:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or,
- Create objectionable odors affecting a substantial number of people.

A project's air quality impact is considered significant if the project generates construction or operational emissions that exceed the screening-level thresholds (SLTs) found in the SDAPCD Regulations for Stationary Sources (Regulation II, Rule 20.2). The SLTs are listed in Table 4.3-8.

Table 4.3-8. SDAPCD Screening-Level Thresholds for Air Quality Impact Analysis

Pollutant	Emission Rate		
	Pounds/Hour	Pounds/Day	Tons/Year
Carbon Monoxide (CO)	100	550	100
Oxides of Nitrogen (NO_X)	25	250	40
Particulate Matter (PM_{10})	--	100	15
Oxides of Sulfur (SO_X)	25	250	40
Lead and Lead Compounds	--	3.2	0.6
Particulate Matter, 2.5 microns ($PM_{2.5}$)[1]	--	55	10
Volatile Organic Compounds (VOCs)	--	75[2]	13.7[3]

Source: SDAPCD Regulation II, Rule 20.2, 1998; County of San Diego Land Use and Environment Group 2007.

[1] EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published November 1, 2005. Also used by the SCAQMD.

[2] Threshold for VOCs based on the threshold of significance for VOCs from the SCAQMD for Coachella Valley.

[3] 13.7 Tons Per Year threshold based on 75 pounds/day multiplied by 365 days/year and divided by 2000 pounds/ton.

Greenhouse Gases

Significance criteria are also used to evaluate the effects of a project on GHG emissions. The impacts to resulting from the Proposed Project would be considered significant if they:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

GHG emissions commonly consist of CO_2 and methane (CH_4). The global impacts of these emissions contribute to greenhouse effects and the global emissions inventory. While GHG emissions do not affect the areas where a project is located directly, they contribute to the overall global impacts. As such, GHG emissions are potentially significant to cumulative global impacts.

> *"The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data" (14 CCR Section 15064(b)). While thresholds of significance are not required by the CEQA, it does encourage each public agency "…to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which normally means the effect will be determined to be less than significant."* (14 CCR Section 15064.7)

The County of San Diego Land Use and Environment Group finalized *California Environmental Quality Act Guidelines for Determining Significance (Guidelines) and Report Format and Content Requirements (Report Formats) for Climate Change*, effective November 9, 2013. These guidelines include a threshold of 10,000 metric tons (MT) (11,023 tons) of carbon dioxide equivalent (CO_2e) per year for stationary sources. This would generally apply to the operational GHG emissions from industrial facilities, such as boilers, stationary engines, and power generation facilities and this threshold will be used to assess the impact of the operational GHG emissions from the Proposed Project. Additionally, it will be used to assess the construction related GHG emissions from the Proposed Project that occur during any given year of construction. SCAQMD has also adopted an interim threshold of 10,000 MT CO_2e per year (total construction emissions amortized over 30 years added to operational GHG emissions). Construction related GHG emissions are temporary and typically far larger than the operational GHG emissions.

4.3.4.2. Applicant-Proposed Measures

The APMs described in Table 4.3-9 are intended to avoid or minimize potential impacts to air quality and greenhouse gas emissions (AIR) to ensure impacts remain less than significant. The significance of each project impact is first considered prior to application of APMs. The

implementation of APMs is then considered part of the project when determining whether impacts would be significant and thus would require mitigation.

Table 4.3-9. Applicant Proposed Measures for Air Quality and Greenhouse Gas Emissions

APM No.	Description
	AIR QUALITY AND GREENHOUSE GAS EMISSIONS
APM AIR-1	**Fugitive Dust Control.** During construction, water or non-toxic soil stabilizers will be applied in sufficient quantities on access roads, staging areas, work areas, and on stockpiles to control fugitive dust.
APM AIR-2	**Speed Limits.** During construction, vehicle speeds will be limited to 15 mph on unpaved roads or work areas and vehicles should be turned around in established or designated areas only.
APM AIR-3	**Vehicle Use and Idling Time.** To the extent feasible construction vehicle use and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following startup. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The Proposed Project will apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
APM AIR-4	**Construction Equipment Emissions.** Low-emission construction equipment will be utilized during construction of the Proposed Project. Construction equipment will be maintained per manufacturer specifications. All off-road construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program shall meet at a minimum the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in CCR Title 13, Section 2423(b)(1).
APM AIR-5	**Loss of SF_6.** In operation of the SVC, NEET West will maintain the 230 kV circuit breaker so that the loss of SF_6 is less than 0.5% per year. To assess the loss of SF_6, NEET West will conduct monthly inspections and maintain the records of such inspections. NEET West will also participate in EPA's voluntary SF_6 Emission Reduction Partnership for Electric Power Systems.

4.3.4.3. Potential Impacts

Air Quality Potential Impacts

Impact AQ-1: The Proposed Project will have a less than significant impact on applicable air quality plans because its emissions will not exceed SDAPCD threshold levels for criteria pollutants. (Less than Significant)

The first of the air quality significance criteria established by the State CEQA Guidelines is if the Proposed Project will "conflict with or obstruct implementation of the applicable air quality plan" (CCR Title 14, Appendix G). The Proposed Project must be consistent with the RAQS and the San Diego portion of the California SIP. The impacts of the Proposed Project can be determined by whether or not the emissions exceed the criteria pollutant threshold levels established by the SDAPCD.

Emissions from the Proposed Project can be divided into construction emissions and operational emissions.

Construction Impacts

Construction is targeted to start September 2016 and be complete March 2017, approximately 6.5 months from initial site disturbance until the SVC is ready for testing. Testing and commissioning of the Proposed Project will take approximately 2.5 months between March and May 2017, at which point the SVC will be fully operational and ready for energization. Restoration and cleanup will take another 2 months following energization. The estimated construction equipment type and quantity expected to be used for the Proposed Project are presented in Table 3-4 of Chapter 3.0, Project Description.

Heavy hauling trucks will be used to deliver materials and equipment from a source approximately 30 miles away. Concrete trucks will be used for about 12 weeks during construction, commuting approximately 65 miles per round-trip. An estimated peak maximum number of 64 construction worker commuters are assumed to commute an average distance of 65 miles round-trip per day. The anticipated worker roster is listed in Table 3-4 of Chapter 3.0, Project Description.

Construction activities were modeled based on a 10-hour workday, 6-day workweek. The Proposed Project was modeled using CalEEMod. Emissions from the construction of the Proposed Project are expected to be temporary. The sources of construction-related emissions are grouped as construction equipment engine exhaust (NO_x, So_x, CO, VOCs, PM_{10}, and $PM_{2.5}$), emissions from worker vehicle commuting trips, materials delivery, and fugitive dust (PM_{10} and $PM_{2.5}$) from earthmoving activities. Exhaust emission factors for typical diesel-powered heavy equipment are based on the CalEEMod program defaults. Variables factored into estimating the total construction emissions include:

- the amount of land cleared for the Proposed Project;
- the duration of construction periods;
- quantities and types of equipment used (see Table 3-4);
- site characteristics;
- weather conditions;
- the number of workers and their commute distance (see Table 3-4); and,
- the number and length of material delivery trips.

Tables 4.3-10 and 4.3-11 show a summary of daily and annual construction related emissions.

Table 4.3-10. Construction-Related Daily Maximum Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Pounds/Day)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Uncontrolled Emissions	24.1	271.6	137.7	0.36	17.3	11.2
Controlled Emissions	8.13	223.2	137.7	0.32	8.90	6.33
SDAPCD Thresholds	75	250	550	250	100	55
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2 and are presented for maximum emitting day per pollutant. The reductions for controlled construction emissions are based on assumptions included in the CalEEMod computer model. An additional 10% was subtracted from controlled emissions to account for the vehicle idling program (APM AIR-3). For PM_{10} and $PM_{2.5}$, the 10% was only subtracted from exhaust-related emissions. See Appendix C for detailed report.

Table 4.3-11. Construction-Related Annual Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Tons/Year)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Uncontrolled Emissions	1.39	15.5	8.27	0.02	0.99	0.72
Controlled Emissions	0.48	12.7	8.27	0.02	0.58	0.40
SDAPCD Thresholds	13.7	40	100	40	15	10
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2 and are presented for maximum emitting year per pollutant. The reductions for controlled construction emissions are based on assumptions included in the CalEEMod computer model. An additional 10% was subtracted from controlled emissions to account for the vehicle idling program (APM AIR-3). For PM_{10} and $PM_{2.5}$, the 10% was only subtracted from exhaust-related emissions. See Appendix C for detailed report.

As can be seen in the above tables, the emissions from the Proposed Project will not exceed any SDAPCD thresholds and therefore the impacts will be less than significant. Implementation of APM AIR-1 (fugitive dust control) and AIR-2 (vehicle speed limits) will reduce airborne dust generated by earthmoving activities and vehicle movement.

With regard to TACs, diesel exhaust particulate matter will be emitted from heavy equipment and trucks used in the construction process. Because diesel exhaust particulate matter is considered to be carcinogenic, long-term exposure to diesel exhaust emissions could result in adverse health impacts. The Proposed Project will result in short-term, temporary emissions of diesel exhaust from construction equipment. The emissions will not occur continuously but will be more likely to occur during daytime working hours in the immediate vicinity of the Proposed Project. Because of the temporary, short-term nature and frequency of construction emissions and the distance to the nearest sensitive receptors, the impacts of diesel exhaust particulate matter will be less than significant. APM AIR-3 will further reduce impacts by application of a "common-sense" approach to idling times for diesel-fueled equipment and vehicles.

Operation and Maintenance Impacts

Once the Proposed Project becomes operational, the emissions will drop considerably. The largest source of operational emissions will be one maintenance truck for an assumed 3 weeks per year. Tables 4.3-12 and 4.3-13 show a summary of daily and annual operational and maintenance related emissions.

Table 4.3-12. Operation- and Maintenance-Related Daily Maximum Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Pounds/Day)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Uncontrolled Emissions	2.85	1.01	3.55	0.01	0.59	0.18
SDAPCD Thresholds	75	250	550	250	100	55
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2. See Appendix C for detailed report.

Table 4.3-13. Operation- and Maintenance-Related Annual Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Tons/Year)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Uncontrolled Emissions	0.52	0.18	0.63	0.001	0.10	0.03
SDAPCD Thresholds	13.7	40	100	40	15	10
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2. See Appendix C for detailed report.

As can be seen in Tables 4.3-12 and 4.3-13, the operational emissions from the Proposed Project will not exceed any SDAPCD thresholds and therefore impacts will be less than significant.

Impact AQ-2: The Proposed Project will have a less than significant impact on air quality standards and will not contribute substantially to an existing or projected air quality violation because its emissions will not exceed SDAPCD threshold levels for criteria pollutants. (Less than Significant)

As with the first significance criterion, the second significance criterion can be evaluated against the SDAPCD thresholds. As can be seen in Tables 4.3-10, 4.3-11, 4.3-12, and 4.3-13, the construction and operational emissions from the Proposed Project will not exceed any SDAPCD thresholds and, therefore, impacts will be less than significant. With the addition of APMs AIR-1 through AIR-4, air quality impacts will be further reduced.

Impact AQ-3: The Proposed Project will have a less than significant impact on creating a cumulatively considerable net increase of any criteria pollutant for

which the Proposed Project region is non-attainment under an applicable federal or state ambient air quality because its emissions will not exceed SDAPCD threshold levels for criteria pollutants. (Less than Significant)

The third air quality significance criterion is only applicable to those pollutants for which the project area is non-attainment. Whether a "considerable net increase" will occur is measured against the SDAPCD thresholds. As demonstrated for the first significance criterion, the Proposed Project will not exceed any SDAPCD thresholds, regardless of the attainment status of the area; therefore, the impact of the Proposed Project will be less than significant.

Impact AQ-4: The Proposed Project will have a less than significant impact on exposing sensitive receptors to substantial pollutant concentrations because its emissions will not exceed SDAPCD threshold levels for criteria pollutants. (Less than Significant)

The Proposed Project is in an unincorporated area in the south central portion of San Diego County, approximately 3.78 miles southwest of the community of Descanso and approximately 3.36 miles southeast of the community of Alpine. The Proposed Project is immediately bound in all directions by undeveloped vegetated lands. Low-density rural residential developments are present approximately 0.81 mile to the southeast. Potentially sensitive receptors have been identified within a 1-mile radius of the site; however, impacts will be less than significant as the emissions from the Proposed Project will not exceed any SDAPCD thresholds. With the addition of APMs AIR-1 through AIR-4, air quality impacts will be further reduced.

Impact AQ-5: The Proposed Project will have a less than significant impact on creating objectionable odors affecting a substantial number of people. (Less than Significant)

Construction Impacts

The construction of the Proposed Project may generate odors from the construction equipment exhaust. Any odors from construction will be temporary in nature since construction equipment will not be located in any one area for an extended duration. The possibility of the odors affecting a "substantial number of people" is further limited by the relatively low population density of the area. Therefore, impacts due to odor during construction will be less than significant.

Operation and Maintenance Impacts

Operational activities at the Proposed Project will not cause detectable odors. The vehicles used for maintenance might generate exhaust odors in the immediate vicinity, but this will be temporary and will not affect a "substantial number of people." Therefore, impacts will be less than significant.

Greenhouse Gas Potential Impacts

Impact GHG-1: The Proposed Project will have a less than significant impact on the generation of GHG emissions because its GHG emissions will not exceed the County of San Diego's threshold levels. (Less than Significant)

As discussed, the County of San Diego Land Use and Environment Group has established a threshold of 10,000 metric tons per year for CO_2e for use in establishing whether a project has a significant impact on GHG emissions.

GHG emissions from the Proposed Project can be divided into construction emissions and operational emissions.

Construction Impacts

CO_2 from diesel fuel combustion is the overwhelming contributor to total GHG emissions from construction. Table 4.3-14 provides a summary of annual construction-related GHG emissions from the Proposed Project.

Table 4.3-14. Total Estimated Greenhouse Gas Construction Emissions

Emissions Source	Total ($MTCO_2eq$/Year)
Uncontrolled Emissions	2,138
Controlled Emissions	1,924
Greenhouse Gas Significance Threshold [1]	10,000
Is Threshold Exceeded?	No
Controlled Emissions, amortized over 30 years	**64.1**

Note: Emissions were calculated using CalEEMod version 2013.2.2 and are presented for maximum emitting year. An additional 10% was subtracted from controlled emissions to account for the vehicle idling program (APM AIR-3). See Appendix C for detailed report.

[1] GHG emissions threshold is based on the County of San Diego Land Use and Environment Group Nov. 2013.

$MTCO_2eq$/Year = Metric Tons CO_2 Equivalent per Year

Construction of the Proposed Project will result in emissions of up to 1,924 metric tons of CO_2 equivalent in 2016. This is below the significance threshold and, therefore, the impact of GHG emissions due to construction will be less than significant.

Operation and Maintenance Impacts

SF_6 will be emitted during operations. SF_6 is a colorless, odorless, non-flammable gas with excellent cooling, insulating, and arc-quenching capabilities for potentially high-temperature applications such as electrical circuit breakers. It has a global warming potential 22,800 times that of CO_2. The 230 kV circuit breaker needed for the Proposed Project will contain 162 pounds of SF_6 gas. The allowable manufacturer leakage limit for the breaker is 0.5% per year, which is equivalent to 0.81 pounds of SF_6 per year (8.4 metric tons CO_2 equivalent/year). Additionally, CO_2 will be emitted as vehicle exhaust during the annual 3-week maintenance period and when electric energy is used on-site. Table 4.3-15 provides a summary of annual operations- and maintenance-related GHG emissions from the Proposed Project.

Table 4.3-15. Total Estimated Greenhouse Gas Operation & Maintenance Emissions

Emissions Source	Total ($MTCO_2eq$/Year)
Mobile Source	117
Circuit Breaker	8.4
On-Site Energy Usage	322
Total	**447**
Greenhouse Gas Threshold ($MTCO_2eq$/Yr)[1]	10,000
Is Threshold Exceeded?	No

Note: Emissions were calculated using CalEEMod version 2013.2.2. See Appendix C for detailed report.
[1] GHG emissions threshold is based on The County of San Diego Land Use and Environment Group Nov. 2013.
$MTCO_2eq$/Year = Metric Tons CO_2 Equivalent per Year

Operation and maintenance of the Proposed Project will potentially result in emissions of 447 metric tons of CO_2 equivalent per year. This is below the significance threshold. Thus, the impact of GHG emissions due to operation and maintenance will be less than significant. APM AIR-5 would further minimize GHG emissions from operation and maintenance.

Impact GHG-2: The Proposed Project will have a less than significant impact on any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs because its greenhouse gas emissions will not exceed the County of San Diego's threshold levels. (Less than Significant)

As with the first GHG significance criterion, the second significance criterion can be evaluated against the County of San Diego Land Use and Environment Group's threshold of 10,000 metric tons per year for CO_2e. As shown in Table 4.3-15, the Proposed Project's total GHG emissions equal 447 metric tons per year CO_2e, well below the significance threshold. Therefore, the impact of the Proposed Project will be less than significant.

4.3.5. References

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4.4. BIOLOGICAL RESOURCES

4.4.1. Introduction

This section describes the biological resources that occur within the vicinity of the Proposed Project and identifies potential impacts to biological resources that may result from construction, operation, and maintenance of the Proposed Project. Biological resources considered include sensitive and common plants and animals, habitats and sensitive natural communities, wildlife movement corridors, and water features subject to State or federal jurisdiction. This section also provides a description of the regulatory and environmental setting related to biological resources, including federal, State, and local policies, ordinances, plans, and agreements. This section analyzes the potential impacts of the Proposed Project, as well as how these impacts may be avoided and/or minimized. The analysis concludes that impacts will be less than significant and will be further reduced through implementation of the APMs described in this section.

Table 4.4-1. CEQA Initial Study Checklist for Biological Resources

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and [Wildlife] or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and [Wildlife] or U.S. Fish and Wildlife Service?			X	

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

4.4.2. Existing Conditions

4.4.2.1. Regulatory Background

Federal

The Proposed Project is located on private land within the administrative boundary of the CNF. While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, NEET West has considered relevant elements of the plan during the design of the Proposed Project.

Federal Endangered Species Act

The Proposed Project does not have a federal nexus and, therefore, reference to the Endangered Species Act (ESA) and other federal laws is provided here for informational purposes only.

The U.S. Congress passed the ESA in 1973 to protect endangered species and species threatened with extinction (federally listed species). The ESA operates in conjunction with the National

Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. Section 9 of the ESA prohibits the "take" of endangered or threatened wildlife species. The legal definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. 1532(19)). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (Code of Federal Regulations [CFR] Title 50, Section 17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR 17.3). Actions that result in take can result in civil or criminal penalties.

In addition to listing species and distinct population segments, the ESA defines critical habitat for listed species, which is habitat deemed essential to the survival of a federally listed species. Under Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat. Critical habitat requirements do not apply to activities on private land that do not involve a federal nexus.

Actions that result in take of listed species typically require authorization from the USFWS under either Section 7 or Section 10 of the ESA. The Proposed Project is not expected to result in any impacts to ESA-listed species or critical habitat.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), first enacted in 1918, prohibits any person, unless permitted by regulations, to:

> *"…pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention … for the protection of migratory birds ... or any part, nest, or egg of any such bird."* (16 U.S.C. 703)

The list of migratory birds includes nearly all bird species native to the United States. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under MBTA to directly kill, or destroy a nest of, nearly any native bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA. Removal of unoccupied nests, and bird mortality resulting indirectly from disturbance activities, are not considered violations of the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668–668c), enacted in 1940 and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior,

from "taking" bald eagles (*Haliaeetus leucocephalus*), including their parts, nests, or eggs. In 1962, Congress amended the act to cover golden eagles (*Aquila chrysaetos*).

The act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

On November 10, 2009, the USFWS implemented new rules under the existing Bald and Golden Eagle Protection Act, requiring all activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity to receive permits from the USFWS.

Under USFWS rules (16 U.S.C. 22.3; 72 Federal Register 31,132, June 5, 2007), "disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

Clean Water Act

The Proposed Project will not result in impacts to "waters of the United States" and, therefore, reference to the Clean Water Act (CWA) is provided here for informational purposes only. The CWA (33 U.S.C. 1251 et seq.) is the primary federal legislation that addresses water quality, pollution, and protection of the chemical, physical, and biological integrity of most waters in the United States. The CWA chiefly addresses the quality of surface waters, while groundwater contamination is addressed by other legislation, including the Resource Conservation and Recovery Act (RCRA).

On June 29, 2015, the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) published Federal Register Volume 79, Number 76 (April 21, 2014), a final rule (Clean Water Rule) defining the scope of waters protected under the CWA, in light of the U.S. Supreme Court cases in U.S. v. Riverside Bayview, Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC), and Rapanos. The new rule will enhance protection for the nation's public health and aquatic resources, and increase CWA program predictability and consistency by increasing clarity as to the scope of "waters of the United States" protected under the CWA. The final rule is effective as of August 28, 2015, and the USACE and the EPA will make similar changes in the CWA Rule at 33 CFR 328.3 and 40 CFR 110.0, 112.2, 116.3, 117.1, 122.2, 232.2, 300.5, part 300 App. E, 302.3, and 401.11.

In this final rule, the agencies clarify the definition of "waters of the United States" to include eight categories of jurisdictional waters. The first three types of jurisdictional waters, traditional navigable waters, interstate waters, and the territorial seas, are jurisdictional by rule in all cases. The fourth type, impoundments of jurisdictional waters, is also jurisdictional by rule. The next

two types of waters, "tributaries" and "adjacent" waters, are jurisdictional by rule, as defined, because the science confirms that they have a significant nexus to traditional navigable waters, interstate waters, or territorial seas. For waters that are jurisdictional by rule, no additional analysis is required.

The final two types of jurisdictional waters are those waters found after a case-specific analysis to have a significant nexus to traditional navigable waters, interstate waters, or the territorial seas, either alone or in combination with similarly situated waters in the region. Justice Kennedy acknowledged the agencies could establish more specific regulations or establish a significant nexus on a case-by-case basis, "Rapanos at 782," and for these waters the agencies will continue to assess significant nexus on a case-specific basis.

Clean Water Act Section 401

Section 401 of the CWA provides states and authorized tribes the opportunity to protect water quality by requiring that any applicant for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the state in which the discharge originates (33 U.S.C. 1341). This authority ensures that federally permitted activities comply with the CWA and State water quality laws. Section 401 is implemented through a review process that is conducted by the Regional Water Quality Control Board (RWQCB), or in the case of when multiple jurisdictions have authority from the SWRCB. The Proposed Project is within the jurisdiction of the San Diego RWQCB (SDRWQCB).

Clean Water Act Section 404

Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the USACE. The term "waters of the United States" as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands (Wetlands are defined by the federal government [CFR Section 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.);

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of waters identified in paragraphs (1) through (4);

6. Territorial seas; and,

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA (33 CFR 328.3[a][8] added 58 CFR 45035, August 25, 1993).

Executive Order 11990 Protection of Wetlands

Executive Order Number 11990 was issued in May 1977 as a furtherance of NEPA providing protection of wetlands. Pursuant to the Executive Order, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands.

State

California Endangered Species Act

The Proposed Project will not result in take of species protected under the California Endangered Species Act and, therefore, a discussion of this law is provided here for informational purposes only. The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the "taking" of listed species except as otherwise provided in State law. Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under certain circumstances, the CESA applies these take prohibitions to species petitioned for listing (State candidates). Pursuant to the requirements of the CESA, State lead agencies (as defined under CEQA PRC Section 21067) are required to consult with the CDFW to ensure that any action or project is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. The CESA requires the CDFW to maintain a list of threatened and endangered species. The CDFW also maintains a list of candidates for listing under the CESA and of species of special concern (or watch list species).

California Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists protected amphibians and reptiles, and Section 3515 prohibits take of fully protected fish species. Eggs and nests of fully protected birds are protected under Section 3511. Migratory non-game birds are protected under Section 3800, and mammals are protected under Section 4700. Except for take related to scientific research, all take of fully protected species is prohibited.

Nesting Birds and Raptors and Migratory Bird Protections

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 provides protection for all birds of prey, including their eggs and nests. Take or possession any migratory non-game bird as designated in the MBTA is prohibited by Section 3513 of the Fish and Game Code.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code Section 1900-1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protected endangered and rare plants from take. The NPPA thus includes measures to preserve, protect, and enhance rare and endangered native plants.

CESA has largely superseded NPPA for all plants designated as endangered by the NPPA. The NPPA nevertheless provides limitations on take of rare and endangered species as follows: "...no person will import into this state, or take, possess, or sell within this state" any rare or endangered native plant, except in compliance with provisions of the CESA. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

Inventory of Rare and Endangered Plants

Operating under a Memorandum of Understanding with the CDFW, the California Native Plant Society (CNPS) maintains an inventory of plants believed or known to be rare in the State of California. This list includes species not protected under federal or State endangered species legislation (CNPS 2015). Plants in the inventory are assigned a California Rare Plant Ranking (CRPR). The major categories of plants under the CNPS scheme are:

- List 1A – Plants presumed extinct
- List 1B – Plants rare, threatened, or endangered in California and elsewhere
- List 2 – Plants rare, threatened, or endangered in California, but more common elsewhere
- List 3 – A review list of plants for which the CNPS requires more information
- List 4 – A watch list of plants of limited distribution

Plants on CNPS List 1 or 2 generally meet the CEQA Section 15380 definitions of rare or endangered. These plants also all meet the definitions of the CESA, and are eligible for State listing.

California Desert Native Plants Act

The California Desert Native Plants Act (CDNPA) protects non-listed California desert native plants from unlawful harvesting on public and private lands in the counties of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego (California Food and

Agriculture Code, Sections 80001-80006, Division 23). A number of desert plants are protected under this act, including all species in the agave and cactus families. Harvest, transport, sale, or possession of specific native desert plants is prohibited unless a person has a valid permit, or wood receipt, and the required tags and seals.

This provision excludes any plant that is declared to be a rare, endangered, or threatened species by federal or State law or regulations, including, but not limited to, the code. The fee for the permit to remove any of these plants will not be less than $1 per plant, except for Joshua trees (*Yucca brevifolia*), which will not be less than $2 per plant.

The CDNPA was taken into consideration in this evaluation due to the presence of yuccas, which are in the agave family, at the Proposed Project and to provide guidance to NEET West with regard to the removal of yuccas during implementation of the Proposed Project.

Porter-Cologne Water Quality Control Act

The Proposed Project will not result in impacts to "waters of State" and, therefore, reference to the Porter-Cologne Water Quality Control Act is provided here for informational purposes only. The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides guidance for the protection of water quality and beneficial uses of water throughout the State and, along with the CWA, provides the overarching legislation governing the SWRCB and RWQCBs. Waters of the State are defined as any surface water or groundwater, including saline waters, which are within the boundaries of the State (California Codes: PRC Section 71200). This differs from the CWA definition of waters of the United States by its inclusion of groundwater and waters outside the ordinary high water mark (OHWM) in its jurisdiction.

The act requires that each regional board adopt a water quality control plan (basin plan) for their region. Pursuant to Porter-Cologne, these basin plans become part of the California Water Plan, when such plans have been reported to the Legislature (Section 13141, California Water Code). The Proposed Project is located within the jurisdiction of the SDRWQCB (Region 9) and is, therefore, subject to the SDRWQCB's Basin Plan.

In 1972, amendments to the Porter-Cologne Act gave California the authority and ability to operate the federal NPDES permits program. Before a permit may be issued, Section 401 of the CWA requires that the local RWQCB, or, in the case of when multiple jurisdictions have authority, the SWRCB, certify that the discharge will comply with applicable water quality standards. In addition, under Porter-Cologne, the RWQCB or SWRCB may also issue waste discharge requirements that set conditions on the discharge of a waste. These requirements must be consistent with the water quality control plan for the body of water that receives the waste discharge, as well as protect the beneficial uses of those receiving waters.

California Fish and Game Code (Sections 1601-1607)

The Proposed Project will not result in alteration or substantial disturbance of any lake or streambed and, therefore, reference to the California Fish and Game Code, Sections 1601-1607) is provided here for informational purposes only. Sections 1601 through 1607 prohibit alteration of any lake or streambed under CDFW jurisdiction, including intermittent and seasonal channels and many artificial channels, without execution of a Lake and Streambed Alteration Agreement

through CDFW. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the Proposed Project.

Sections 1601 through 1607 of the California Fish and Game Code require that "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" be subject to a Lake and Streambed Alteration Agreement with CDFW. CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the Proposed Project.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to biological resources. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County General Plan

The County of San Diego's General Plan includes a Conservation and Open Space Element which addresses habitats and species diversity within the county, as well as wildlife corridors and habitat linkages. To that end, the General Plan includes the following goals, and policies within those goals, that are applicable to biological resources:

Goal COS-1: Inter-connected Preserve System

- **COS-1.1, Coordinated Preserve System:** Identify and develop a coordinated biological preserve system that includes Pre-Approved Mitigation Areas, Biological Resource Core Areas, wildlife corridors, and linkages to allow wildlife to travel throughout their habitat ranges.
- **COS-1.2, Minimize Impacts:** Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.
- **COS-1.3, Management:** Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

- **COS-1.4, Collaboration with Other Jurisdictions:** Collaborate with other jurisdictions and trustee agencies to achieve well-defined common resource preservation and management goals.
- **COS-1.5, Regional Funding:** Collaborate with other jurisdictions and federal, state, and local agencies to identify regional, long-term funding mechanisms that achieve common resource management goals.
- **COS-1.6, Assemblage of Preserve Systems:** Support the proactive assemblage of biological preserve systems to protect biological resources and to facilitate development through mitigation banking opportunities.
- **COS-1.7, Preserve System Funding:** Provide adequate funding for assemblage, management, maintenance, and monitoring through coordination with other jurisdictions and agencies.
- **COS-1.8, Multiple-Resource Preservation Areas:** Support the acquisition of large tracts of land that have multiple resource preservation benefits, such as biology, hydrology, cultural, aesthetics, and community character. Establish funding mechanisms to serve as an alternative when mitigation requirements would not result in the acquisition of large tracts of land.
- **COS-1.9, Invasive Species:** Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.
- **COS-1.10, Public Involvement:** Ensure an open, transparent, and inclusive decision-making process by involving the public throughout the course of planning and implementation of habitat conservation plans and resource management plans.
- **COS-1.11, Volunteer Preserve Monitor:** Encourage the formation of volunteer preserve managers that are incorporated into each community planning group to supplement professional enforcement staff.

Goal COS-2: Sustainability of the Natural Environment

- **COS-2.1, Protection, Restoration and Enhancement:** Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.
- **COS-2.2, Habitat Protection through Site Design:** Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.

Goal COS-3: Protection and Enhancement of Wetlands

- **COS-3.1, Wetland Protection:** Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.

- **COS-3.2, Minimize Impacts of Development:** Require development projects to:
    1) Mitigate any unavoidable losses of wetlands, including its habitat functions and values; and
    2) Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydro-modification, land and vegetation clearing, and the introduction of invasive species.

San Diego County Multiple Species Conservation Program

Approved in 1997, the San Diego Multiple Species Conservation Program (MSCP) is an agreement between the County, USFWS, and CDFW. The MSCP preserves a network of habitat and open space throughout San Diego County and covers locally sensitive plant and animal species in each subarea as identified in the applicable list of covered species. The MSCP has established a Mitigation Banking Policy, a Biological Mitigation Ordinance (BMO), and Design Criteria for Linkages and Corridors. Compliance with the BMO allows the County to issue Incidental Take Permits for projects that impact sensitive habitats. Projects that are exempt from the BMO include activities that are exempt from CEQA and other categories.

As of May 2015, the MSCP has been implemented for southwestern San Diego County. The area east of the community Alpine, including the Proposed Project location, has not been incorporated into the MSCP at this time, although preliminary planning documents have been drafted. While this program is currently not applicable to the Proposed Project, provisions regarding MSCP-covered species have been evaluated for consistency.

4.4.2.2. Methodology

A combination of literature review and field surveys was used to document the biological resources at the Proposed Project.

Literature and Records Review

SWCA biologists reviewed available regional and local natural resources information including published and unpublished documents, publicly available data sets, and herbarium records. Database searches included the nine USGS 7.5-minute quadrangles at and surrounding the Proposed Project: El Cajon Mountain, Tule Springs, Cuyamaca Peak, Alpine, Viejas Mountain, Descanso, Dulzura, Barrett Lake, and Morena Reservoir. Site-specific information reviewed is included in the Biological Resources Technical Report provided in Sections 3.1 and 6.0.

Biological resources geospatial data were collected from a variety of sources to develop a project-specific GIS database. This was the first analysis level, and it provided reviewers with essential sensitive species location data, preliminary habitat information, potential drainages and other jurisdictional waters, and designated critical habitat for federally listed species. The data were compiled in ArcGIS Desktop 10 and were subsequently uploaded to a Trimble® handheld global positioning system (GPS) unit for field verification.

Many biological surveys were conducted at and around the Proposed Project as part of the studies completed for SDG&E's Sunrise Powerlink. Almost all of the Proposed Project lies

within the construction footprint of the Sunrise Powerlink. Components of the Sunrise Powerlink that overlap with the Proposed Project are 1) the Suncrest Substation; 2) the Wilson Laydown Area, which served as a materials and equipment stockpiling and organizational area; and 3) Bell Bluff Truck Trail, which was paved and widened. The results of many of the surveys conducted for Sunrise Powerlink were reviewed during consideration of the biological resources at the Proposed Project.

Sensitive Biological Resources

For the purposes of this study, sensitive plants and animals were defined to include species, subspecies, varieties, and populations recognized by CDFW or USFWS, and which have been classified into one or more of the following categories:

- Species, subspecies, and populations listed or proposed for listing as threatened or endangered pursuant to the federal ESA, and species that are candidates for such listing.
- Species and subspecies listed or proposed for listing by the State of California as threatened or endangered pursuant to the CESA.
- Plants included in the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2015).
- Plants assigned CRPRs 1 or 2 by CNPS.
- Animals listed on the California Special Animals List as Species of Special Concern, Fully Protected, or Watchlist, and for invertebrates, all species regardless of the reason for inclusion.

In addition, natural communities recognized by the CDFW as being of special concern were considered, along with riparian habitats and water bodies under the jurisdiction of the USACE, CDFW, and/or RWQCB.

Throughout this document, species, subspecies, varieties, and populations are broadly referred to throughout this document as "species," a term which is used here to indicate whichever pertinent taxonomic levels are recognized by the state and federal authorities with jurisdiction over plants and animals.

Species occurrences from the CDFW California Natural Diversity Database (CNDDB) RareFind5 (CDFW 2015) and the CNPS Online Inventory of Rare and Endangered Plants (CNPS 2015) were queried for relevant sensitive species data. Records of sensitive plants, animals, and natural communities from the nine USGS topographic 7.5-minute quadrangles including and adjacent to the Proposed Project were queried from both the CNDDB and CNPS databases. The results of the records search were used as the basis of the list of species considered for having the potential to occur at the Proposed Project, as informed by the professional judgment of SWCA biologists. This list was then reviewed to determine whether habitat for the species occurs at the Proposed Project, and to identify each species' likelihood of occurrence.

Field Surveys

SWCA biologists conducted an initial site reconnaissance in May 2014. Additional field studies to document existing plant, wildlife, and wetlands were performed by the biologists on February 24 and 25, March 25 and 26, May 1 and 13, and June 25, 2015. SWCA biologists spent approximately 120 hours conducting the field surveys. The surveys included plant and wildlife inventories, vegetation mapping, and a delineation of waters, wetlands, and riparian areas potentially subject to the jurisdiction of the USACE, CDFW, and/or RWQCB. Surveyors noted and recorded all wildlife species encountered directly through direct observation, sign (scat, remains, or tracks), and for birds, by their species-specific vocalizations. The use of binoculars also facilitated wildlife identification. Similarly, surveyors recorded plant species encountered in the field, although, in some instances, plants were collected and subsequently identified using dichotomous keys.

Vegetation, Cover Types, and Jurisdictional Waters

Mapping and location data were collected using ESRI ArcPad 8.0 software installed on Trimble® GPS units with sub-meter accuracy. The software allowed biologists to superimpose the Proposed Project alignment on aerial imagery and create vegetation polygons in the field. Vegetation types were mapped in the vicinity of the Proposed Project based on the combined aerial maps as adjusted by the biologists who conducted field surveys. Then, using the field-verified vegetation maps, the vegetation alliances were extrapolated to the larger vicinity of the Proposed Project based on comparison with aerial and infrared (Normalized Difference Vegetation Index [NDVI]) imagery. Vegetation alliances were mapped based on *A Manual of California Vegetation* (Sawyer, Keeler-Wolf and Evens 2009), as further modified for the County of San Diego (Evens and San 2005; AECOM et al. 2011). It is important to note that vegetation types usually intergrade from one to another without abrupt edges. Mapping vegetation communities in the field relies on the biologist's professional experience to identify the boundaries. The minimum mapping unit used in creating these maps was 0.1 acre.

Potential jurisdictional waters were preliminarily mapped in-house using available data from NWI and USGS topographic maps and aerial photographs. Field verification was conducted in the spring of 2015 to refine the water feature maps, and to determine what features met the criteria for jurisdiction by USACE, CDFW, and/or RWQCB.

Nomenclature Conventions

Vegetation alliance nomenclature follows *A Manual of California Vegetation* (Sawyer, Keeler-Wolf and Evens 2009), as further modified for San Diego County (Evens and San 2005; AECOM et al. 2011). Taxonomic conventions follow *The Jepson Manual: Higher Plants of California* (Baldwin et al. 2012) for plants, the American Ornithologists' Union (AOU) *Checklist of North and Middle American Birds* (AOU 2015) for avifauna, a *Complete List of Amphibian, Reptile, Bird and Mammal Species in California* (CDFW 2008) for other vertebrate wildlife, and the CDFW Special Animals List for invertebrates.

4.4.3. Environmental Setting

The Proposed Project is located approximately 30 miles from the Pacific Ocean, and situated in the Laguna Mountains of the Peninsular Ranges. Topography in the vicinity of the Proposed Project is undulating, with steep hills interspersed by narrow valleys and deep canyons with steeply incised drainage corridors. Elevations in the vicinity of the Proposed Project range between approximately 3,000 and 3,200 feet above mean sea level.

San Diego County has a Mediterranean climate with warm to hot, dry summers, and mild to cool, wet winters. The coastal climate is generally mild with average temperatures of 65°F. Inland temperatures are typically cooler with an average temperature of 57°F in the Laguna Mountain Area. Mean monthly temperatures in the vicinity of the Proposed Project range from a low of 54°F in December to a high of 76°F in August. Precipitation in the region also varies spatially and temporally, with increasing precipitation typically occurring from the coast landward toward the western rim of the Peninsular Range. Average annual rainfall in the vicinity of the Proposed Project is 14.7 inches with approximately 90% of the rain falling between November and April. Average monthly rainfall drops substantially during summer months with less than 0.7 inches per month between May and October. Temperature and precipitation data are based on mean monthly data from the NOAA Alpine, California climate station (GHCND:USC00040136) located approximately 6.7 miles west of the Proposed Project for the period between 1953-2014 (NOAA 2015).

4.4.3.1. Soils

Soil types in the vicinity of the Proposed Project, listed below, include primarily sandy loams (refer to Section 4.6, Geology and Soils, Figure 4.6-3, Soil Units Map):

- Cieneba coarse sandy loam, 15 to 30 percent slopes, eroded
- Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded
- Fallbrook sandy loam, 9 to 15 percent slopes, eroded
- Fallbrook rocky sandy loam, 9 to 30 percent slopes

4.4.3.2. Habitats and Natural Communities

Wildlife Corridors

The Proposed Project is located in the Laguna Mountains of the Peninsular Ranges, which is primarily open space with small, widely spaced residential areas. Although no specific wildlife corridors have been mapped in the immediate vicinity of the Proposed Project, natural open space and low-density development in the survey area is contiguous with off-site habitats to the north and south, providing free movement for wildlife in the area. Open space adjacent to the Proposed Project provides opportunities for movement of mammals with large home ranges, such as mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), and mountain lion (*Puma concolor*). The Peninsular Ranges serve, on a large scale, as a connection between the

Transverse Ranges to the north and the Baja Peninsula to the south, and thus the region serves as an important wildlife connectivity area, although no corridors have been mapped within more than 15 miles of the Proposed Project (Spencer et al. 2010; South Coast Wildlands 2008). The Proposed Project does not include any major streams, rivers, or canyons that would serve as a conduit for wildlife traveling long distances, and therefore concentrations of wildlife movement are not expected within the Proposed Project.

Critical Habitat

There is no federally designated critical habitat for ESA-listed species within or immediately adjacent to the Proposed Project. The nearest critical habitat, which is designated for arroyo toad (*Anaxyrus californicus*) is located 0.5 mile north of the Proposed Project along Sweetwater River. Within 10 miles of the Proposed Project there is federally designated critical habitat for a total of five species: San Diego thornmint (*Acanthomintha ilicifolia*), arroyo toad, Quino checkerspot butterfly (*Euphydryas editha quino*), coastal California gnatcatcher (*Polioptila californica californica*), and Laguna Mountains skipper (*Pyrgus ruralis lagunae*) (Figure 4.4-1).

Vegetation and Cover Types

The footprint of the Proposed Project and the surrounding habitats consist of undeveloped chaparral scrub and oak woodlands, with pockets of disturbance dominated by non-native grasses and forbs. Table 4.4-2 provides acreages of land cover and vegetation types in the study area, while the sections that follow provide descriptions of these classifications. Figure 4.4-2 illustrates the vegetation types traversed by the project. Of the vegetation types present, only one (Engelmann Oak-Coast Live Oak/Poison Oak/Grass Association) is considered a sensitive natural community by CDFW.

While the Engelmann Oak-Coast Live Oak/Poison Oak/Grass Association is considered a sensitive natural community, a substantial portion of the Proposed Project area immediately south of Bell Bluff Truck Trail (where the SVC facility would be sited) has been subject to repeated human-caused disturbance since at least 1994, based on examination of aerial photographs (Figure 4.4-2). Specifically, this area has been disked several times and appears to have been used for grazing. These types of disturbances limit the growth of trees and long-lived woody shrubs, and generally favor fast-growing species and grasses. Portions of the *Quercus engelmannii-Q. agrifolia*/*Toxicodendron diversilobum* Association, the *Eriogonum fasciculatum* Association, the Non-native grasslands, and the Ruderal cover type are included in this disturbed area.

A subsection of this same area was heavily disturbed in 2012 to support the construction of Sunrise Powerlink. The site was stripped of vegetation, topsoil and graded, and the site is now an active restoration project. Portions of the *Eriogonum fasciculatum* Association and the Non-native grasslands are included in these recently disturbed areas. More recently, a 1.7-acre area on the northwest side of the SVC was bladed by the property owner and has been mapped as ruderal vegetation.

Table 4.4-2. Land Cover/Vegetation Types in the Project Area (Acres)*

Project Components	Land Cover / Vegetation Types**						
	Engelmann Oak-Coast Live Oak/ Poison Oak/ Grass Association (*Quercus engelmannii-Quercus agrifolia/ Toxicodendron diversilobum*/ Grass Association)* **	**Chamise Chaparral (*Adenostoma fasciculatum* Alliance)**	**California Buckwheat Scrub *** (*Eriogonum fasciculatum* Association)**	**Bigberry Manzanita – Chamise Chaparral Association (*Arctostaphylos glauca – Adenostoma fasciculatum* Association)**	**Non-native Grassland*** **	**Ruderal*** **	**Urban Developed*** **
SVC Facility and Access Driveways	0.3	--	4.5	--	1.1	1.7	0.1
Underground Transmission Line and Vaults	< 0.1	< 0.1	< 0.1	--	--	--	3.1
Riser Pole Area and Tie-in	--	0.4	--	--	--	--	0.1

*Acreage includes both temporary and permanent impacts

** Vegetation types follow the California Manual of Vegetation (Sawyer, Keeler-Wolf and Evens 2009) as modified for San Diego County (Evens and San 2005, AECOM et al. 2011)

*** These land cover and vegetation types within the Proposed Project have been subject to repeated disturbance over the past two decades.

Figure 4.4-1. Critical Habitat Areas

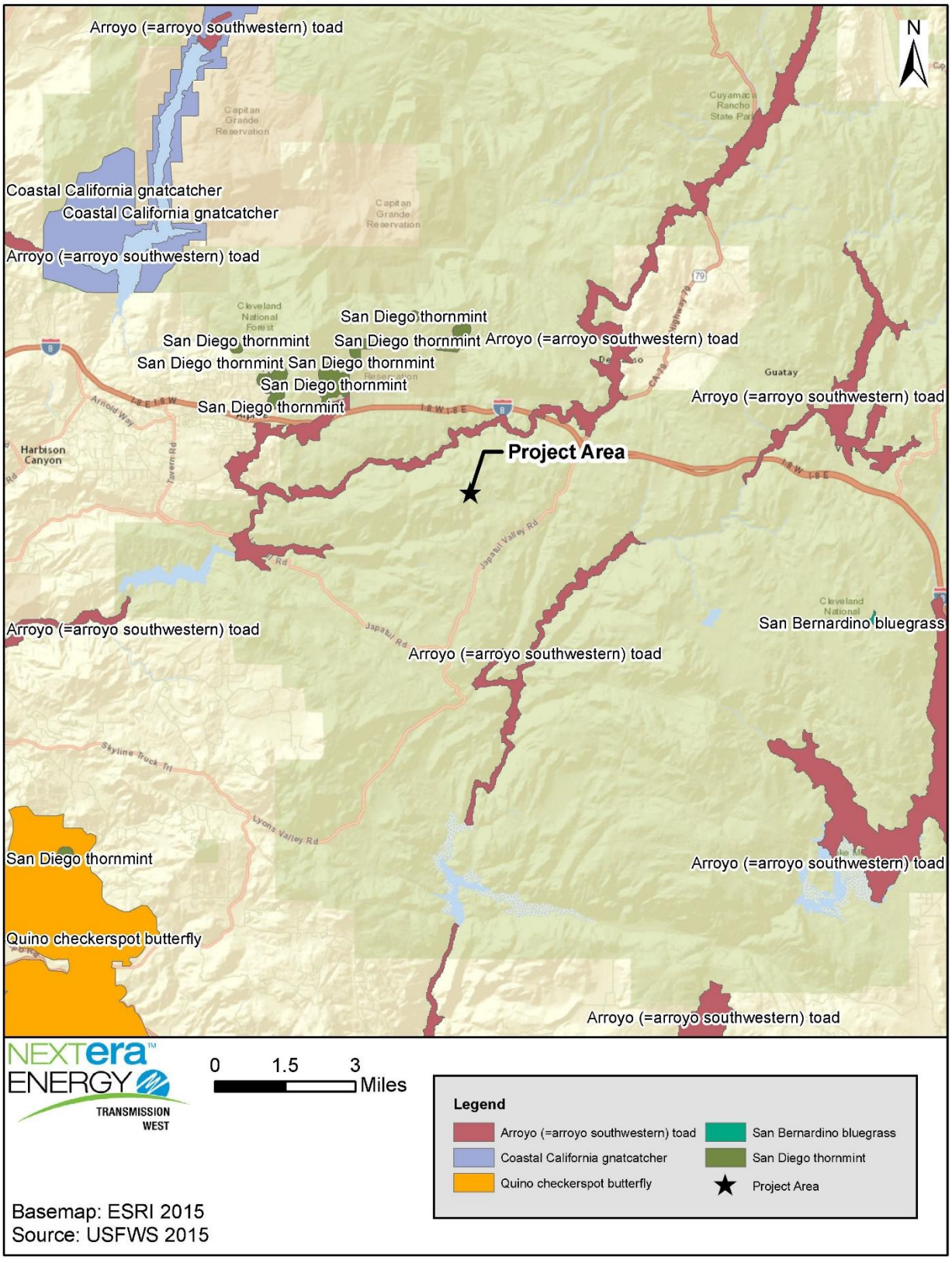
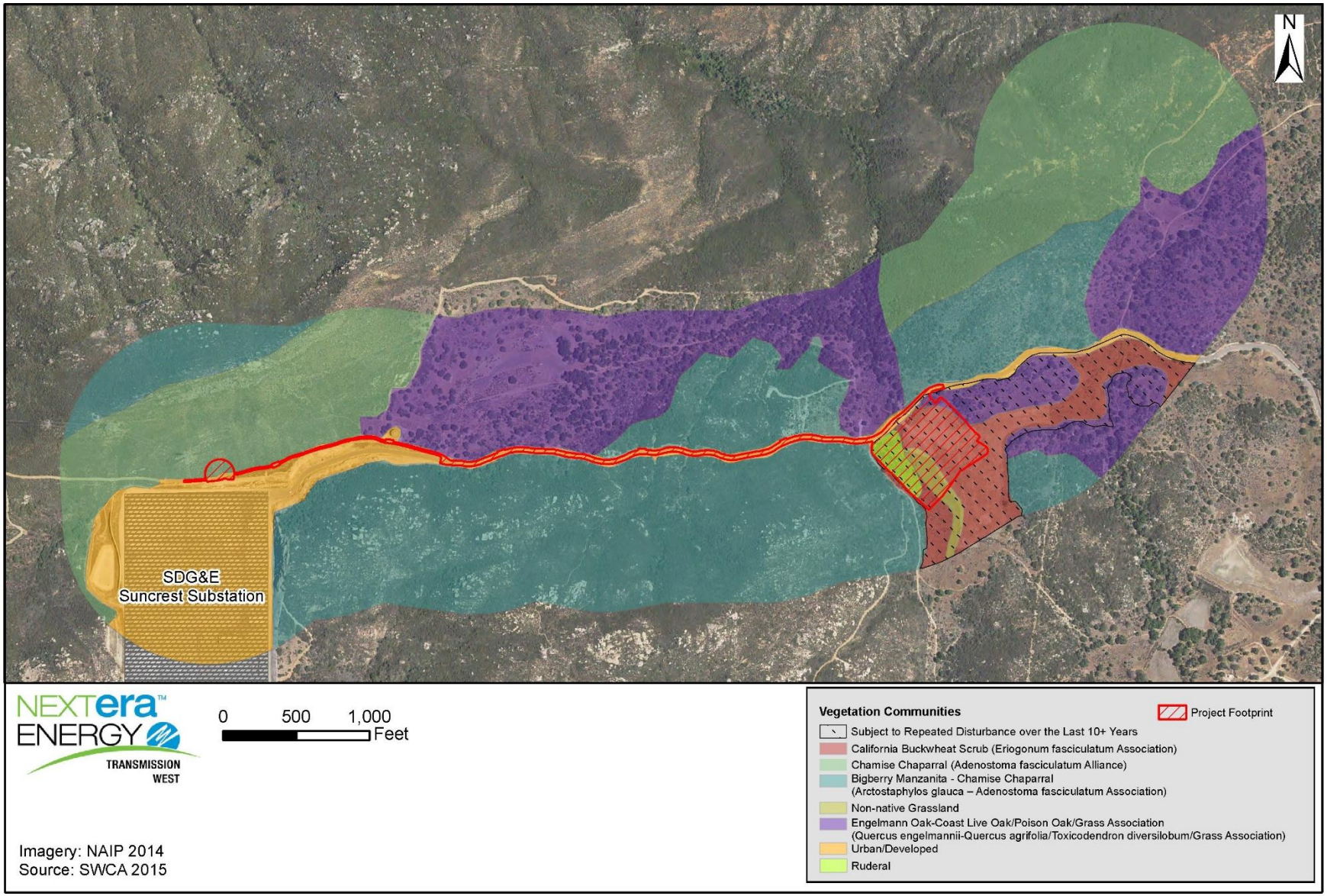


Figure 4.4-2. Vegetation Types



Engelmann Oak-Coast Live Oak/Poison Oak/Grass Association (Quercus engelmannii-Q. agrifolia/Toxicodendron diversilobum Association*)*

Stands of Engelmann oak (*Quercus engelmannii*) and coast live oak (*Q. agrifolia*) occupy the north central and eastern portions of the study area, particularly along streams or in moist declivities. Engelmann and coast live oak woodlands are generally a late successional or climax community in terms ecological succession. Engelmann and coast live oak trees occur as co-dominants forming a sometimes closed tree canopy with poison oak (*Toxicodendron diversilobum*) in the shrub canopy, and grasses and other herbs forming the herbaceous understory. Common grasses in this association include the non-native slender wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), cheatgrass (*B. tectorum*), red brome (*B.madritensis* ssp. *rubens*), and ripgut brome (*B. diandrus*); native grasses include purple needlegrass (*Stipa pulchra*) and muhly grasses (*Muhlenbergia* spp.). Subdominant shrubs vary by location, and often include coastal sage scrub species such as black sage (*Salvia mellifera*), white sage (*S. apiana*), California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), and bush monkey flower (*Mimulus aurantiacus*).

This association is considered a sensitive plant community by CDFW. However, the portions of this plant community located immediately south of Bell Bluff Truck Trail (where the SVC facility would be sited) have been subject to repeated disturbance since at least 1994. (Figure 4.4-2). The understory of the woodland at the eastern edge of the SVC facility location is not fully developed and not typical of this association; it more closely matches the neighboring California Buckwheat Association.

Chamise Chaparral (Adenostoma fasciculatum Alliance*)*

The *Adenostoma fasciculatum* Alliance (chamise chaparral) occurs in the northwestern and northeastern study area limits within the footprint of the Proposed Project. Chamise chaparral is dominated by sometimes monotypic (single species) stands of the dominant species, chamise (*Adenostoma fasciculatum*). This is the dominant dark green scrub of dry slopes, where soils occur over bedrock, forming a dense canopy layer up to 12 feet tall. Generally devoid of an herbaceous layer, other shrubs that typically grow in this alliance include manzanitas (*Arctostaphylos* spp.), chaparral yucca (*Hesperoyucca whipplei*), white sage, laurel sumac, black sage, Mexican elderberry (*Sambucus nigra* ssp. *caerulea*), California buckwheat (*Eriogonum fasciculatum*), and deerweed (*Acmispon glaber*). This association is not a sensitive natural community.

California Buckwheat Scrub (Eriogonum fasciculatum Association*)*

There is a stand of California buckwheat south of Bell Bluff Truck Trail that consists of a mix of occasionally disturbed and highly disturbed/planted scrub species heavily dominated by California buckwheat (*Eriogonum fasciculatum*). The planted species are for restoration of a laydown yard used during construction of the SDG&E Sunrise Powerlink. The planting area is located within the Proposed Project.

The highly disturbed area of California buckwheat scrub that was used as a laydown yard is currently actively managed as part of the restoration to exclude non-native species, such as

slender wild oats, soft chess, cheatgrass, red brome, ripgut brome, short-pod mustard, and black mustard (*Brassica nigra*). It does not meet the definition of a Diegan or Riversidean coastal sage scrub (which are sensitive communities) due to the almost complete absence of California sagebrush (*Artemisia californica*) at this location. The *Eriogonum fasciculatum* Association has a State sensitivity ranking of S4 on a scale of 1 to 6, with communities ranked 1, 2, and 3 considered sensitive. Therefore, this association is not considered a sensitive natural community.

Bigberry Manzanita – Chamise Chaparral (Arctostaphylos glauca – Adenostoma fasciculatum Association*)*

On granitic slopes within the study area, chamise sometimes associates with bigberry manzanita (*Arctostaphylos glandulosa*) to form dense, closed canopy, scrub. Scrub oak (*Quercus berberidifolia*), chaparral yucca, and ceanothus species (*Ceanothus* spp.) also grow as subdominant shrubs in this association. Herbaceous layers are uncommon in chamise-dominated scrub, except following fires. The association is not within the Proposed Project footprint, but it is included here because it is immediately adjacent. This association is not a sensitive natural community.

Non-native Grassland

Non-native Grasslands are annual grasslands once dominated by a host of native species that now form continuous herbaceous layers dominated by non-native grasses and herbs including slender wild oats, soft chess, cheatgrass, red brome, ripgut brome, red-stemmed filaree (*Erodium cicutarium*), and short-pod mustard (*Hirschfeldia incana*). Native species may include western ragweed (*Ambrosia psilostachya*), lupines (*Lupinus* spp.), doveweed (*Croton setigerus*), and Parish's bluecurls (*Trichostema parishii*).

Within the study area, Non-native Grassland occurs in small patches where past disturbance created favorable conditions for the associated invasive non-native and tolerant native species; a large patch of Non-native Grassland occurs in the laydown yard used during construction of the SDG&E Sunrise Powerlink, where the SVC facility is proposed. This area is being actively managed to promote native vegetation growth. This association is not a sensitive natural community.

Ruderal

Ruderal areas are highly disturbed areas, usually defined as occurring along road edges. Ruderal areas are typically dominated by species that have high rates of seed dispersal, fast growth, and are able to quickly colonize disturbed areas. These areas are usually dominated by non-native species, but a few native species also can survive and thrive. In the vicinity of the Proposed Project, non-native grasses would typically quickly colonize ruderal areas. Bare earth and ruderal land occurs on the northwest side of the SVC site where vegetation has been cleared and the area graded by the property owner for the installation of a temporary water tank.

Urban Developed

The Urban Developed category is reserved for portions of the study area no longer covered by vegetation. It includes roads, permanent facilities, and other sites paved or built upon that

exclude plants. This cover type occurs along the paved road (Bell Bluff Truck Trail) between the SVC facility and the SDG&E Suncrest Substation.

4.4.3.3. Drainages and Water Features

Localized drainages in the immediate vicinity of the Proposed Project flow toward several high-gradient ephemeral drainages along valley or canyon bottomlands that eventually flow to the Sweetwater River. Due to the Proposed Project's siting along a ridgeline, waters from the area drain both northward and southward from the Proposed Project. Surface waters flowing northward join unnamed streams that eventually flow into the Sweetwater River. Surface waters flowing southward flow into Taylor Creek and several unnamed drainages to the south, all of which eventually flow into the Sweetwater River.

Jurisdictional Waters

In the vicinity of the Proposed Project, three natural drainages, as well as manmade ditches and culverts, were identified during reconnaissance-level field assessments (Figure 4.4-3). A formal jurisdictional delineation report has not been prepared because the Proposed Project has been designed to avoid impacts to all potentially jurisdictional water features; therefore, no impacts would result from the Project and no permitting for jurisdictional waters is required.

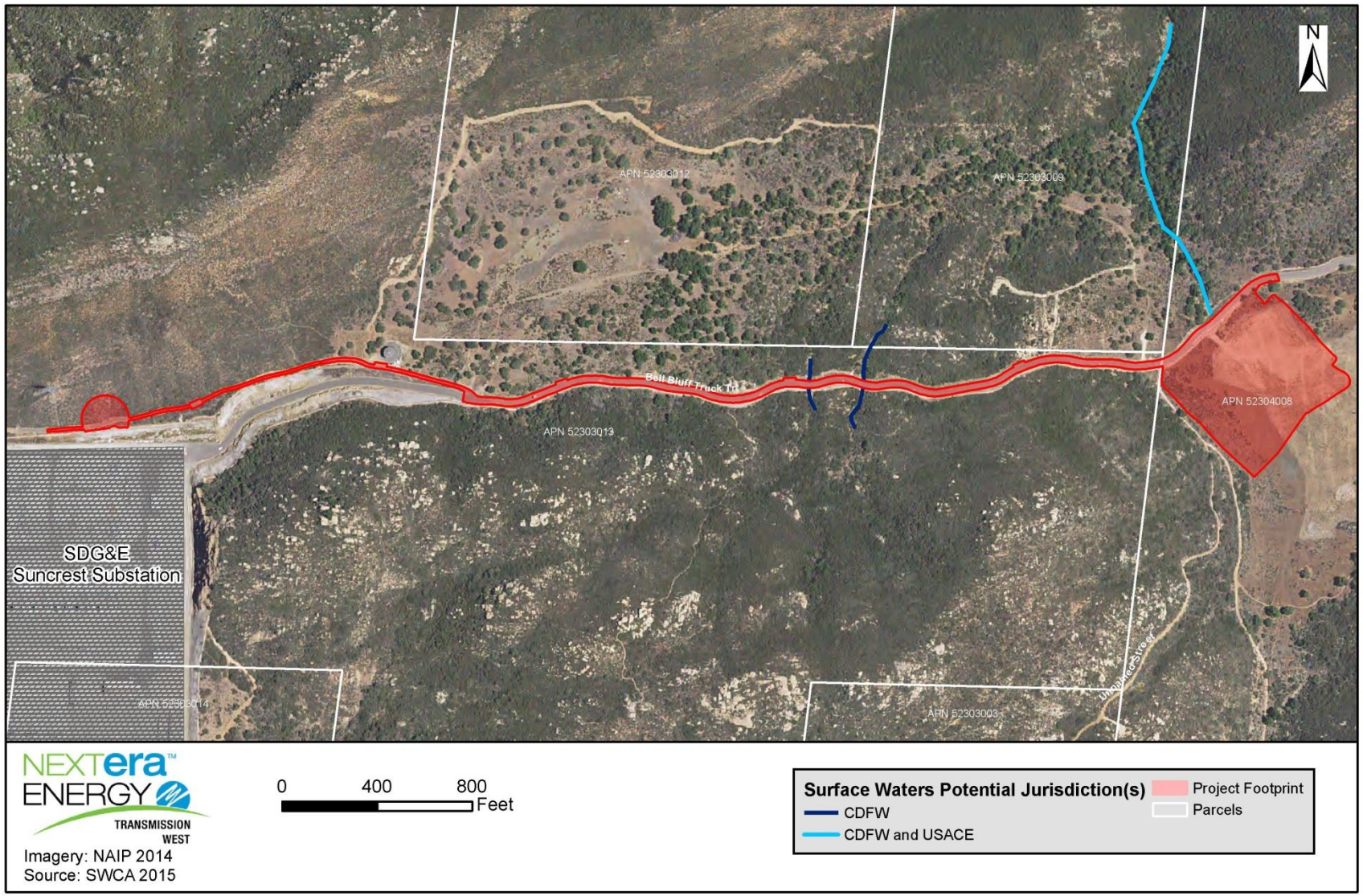
USACE Jurisdictional Waters

One unnamed ephemeral drainage, which flows north from Bell Bluff Truck Trail, may be subject to USACE jurisdiction (Figure 4.4-3). This seasonal stream flows north, then west, and eventually into the Sweetwater River. An OHWM is apparent. The Proposed Project will avoid this feature. Other natural drainage features observed in the vicinity of the proposed project either: a) did not exhibit an OHWM, or b) did not have an apparent connection to downstream waters of the United States, and therefore are not generally considered jurisdictional by the USACE.

Field verifications were conducted in the spring of 2015 to refine the water feature maps, and to determine if any features met the criteria for jurisdiction by the USACE, CDFW, and/or RWQCB. Potential wetlands were investigated based on aerial imagery and literature research. Based on the soils and vegetation observed during field verifications, no wetlands are present within the Proposed Project.

The manmade ditches are located along the Bell Bluff Truck Trail and Avenida de los Arboles, and serve to convey runoff from along the roads. They are all concrete lined, and are wholly excavated in uplands. Because of these characteristics, they are not considered waters of the United States by the USACE.

Figure 4.4-3. Potentially Jurisdictional Waters



CDFW Jurisdictional Waters and Riparian Habitats

Along with the unnamed stream north of the Proposed Project that may be subject to the jurisdiction of the USACE, the two other natural drainages on either side of the paved Bell Bluff Truck Trail, under which the transmission line will be placed, are potentially subject to CDFW jurisdiction, along with the riparian-influenced habitats along these drainages. Excavation for the underground transmission line will occur under these culverts and no impacts to natural bed, bank, or riparian vegetation will occur. The culverts will be shored and left undisturbed if possible. If culverts need to be temporarily removed (e.g., in the event blasting was required at the culvert location), work will not occur within 48 hours of a forecasted rain event of 0.5 inches or greater and temporary piping will be onsite to maintain any unexpected water flow. Based on the current design, the connectivity of the waters conveyed by the culverts will remain unchanged during implementation of the Proposed Project.

4.4.3.4. Common and Special-Status Species

Common Wildlife

Biologists conducting surveys at the Proposed Project recorded all vertebrate wildlife encountered, and did not observe any sensitive animals. A complete list of species observed is included in the Biological Resources Technical Report (Appendix D).

Reptiles observed at the Proposed Project included side-blotched lizard (*Uta stansburiana*) and southwestern speckled rattlesnake (*Crotalus mitchellii pyrrhus*).

More than 20 species of birds were recorded, none of which were sensitive. These included year-round residents such as common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), California thrasher (*Toxostoma redivivum*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), oak titmouse (*Baelophus inornatus*), wrentit (*Chamaea fasciata*), and western scrub-jay (*Aphelocoma californica*). Neotropical migrants that breed in summer at the Proposed Project include ash-throated flycatcher (*Myiarchus cinerascens*), black-headed grosbeak (*Pheucticus melanocephalus*), house wren (*Troglodytes aedon*), lesser goldfinch (*Spinus psaltria*), Anna's hummingbird (*Calypte anna*), and western kingbird (*Tyrannus verticalis*). Migrating species could include a wide array of species for short- and long-distance migratory travel such as raptors and passerines.

Common mammal species observed, detected through sign (burrows, dens, tracks, or scat) or observed directly include coyote (*Canis latrans*), mule deer, and California ground squirrel (*Spermophilus beecheyi*).

Sensitive Species

SWCA biologists reviewed the species with recorded occurrences in the records search area, and evaluated their potential for occurrence at the Proposed Project.

Special-Status Plants

No special-status plants were detected within the Proposed Project during biological surveys conducted in 2014 or 2015 (Appendix D, Biological Resources Technical Report). However, rare plant surveys conducted on June 25, 2015, detected a single population of approximately 25 felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*) plants off Bell Bluff Truck Trail. Of 91 special-status plants with occurrence records within the nine USGS 7.5-minute topographic quadrangles at and surrounding the Proposed Project, 19 have overlapping ranges with and suitable habitat at the Proposed Project (Table 4.4-3). Only those species with the potential for occurrence within the project area have been carried forward into this analysis. A full list is provided in Section 4.4.1 of the Biological Resources Technical Report in Appendix D.

Table 4.4-3. Sensitive Plant Species Potential for Occurrence at the Proposed Project

Common Name *Scientific Name*	Status Federal / State / CRPR	Habitat Associations	Likelihood of Occurrence
Jacumba milk vetch *Astragalus douglasii* var. *perstrictus*	--/--/ 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, pinyon and juniper woodland, riparian scrub. Stony hillsides and gravelly or sandy flats in open oak woodland. ~2,950–4,500 ft.	Moderate potential
San Diego milk vetch *Astragalus oocarpus*	--/--/ 1B.2	Chaparral, cismontane woodland. Openings in chaparral or on gravelly flats and slopes in thin oak woodland. ~1,000–5,000 ft.	High potential
long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	--/--/ 1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. ~100–5,020 ft.	Low potential
delicate clarkia *Clarkia delicata*	--/--/ 1B.2	Cismontane woodland, chaparral. Often on gabbro soils. ~770–3,280 ft.	Low potential
Tecate tarplant *Deinandra floribunda*	--/--/ 1B.2	Chaparral, coastal scrub. Often in little drainages or disturbed areas. ~230–4,000 ft.	Moderate potential
San Diego gumplant *Grindelia hallii*	--/--/ 1B.2	Meadows, valley and foothill grassland, chaparral, lower montane coniferous forest. Frequently occurs in low moist areas in meadows; associated genera commonly include *Wyethia, Ranunculus,* and *Sidalcea*. ~610–5,725 ft.	Moderate potential
felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	--/--/ 1B.2	Chaparral, cismontane woodland. Occurs in understory in mixed chaparral, chamise chaparral, and southern oak woodland; sandy soil. ~985–5,170 ft.	High potential
Hall's monardella *Monardella macrantha* ssp. *hallii*	--/--/ 1B.3	Broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. ~2,400–7,200 ft.	Moderate potential
chaparral nolina *Nolina cismontana*	--/--/ 1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. ~460–4,185 ft.	Low potential
Moreno currant *Ribes canthariforme*	--/--/ 1B.3	Chaparral, riparian scrub. Among boulders in oak-manzanita thickets; shaded or partially shaded sites. ~1,115–3,940 ft.	High potential (adjacent to the Proposed Project)

Common Name *Scientific Name*	Status Federal / State / CRPR	Habitat Associations	Likelihood of Occurrence
Munz's sage *Salvia munzii*	--/--/ 2B.2	Coastal scrub, chaparral. Rolling hills and slopes, in rocky soil. ~377–3,495 ft.	Moderate potential
Parry's tetracoccus *Tetracoccus dioicus*	--/--/ 1B.2	Chaparral, coastal scrub. Stony, decomposed gabbro soil. ~541–3,280 ft.	Moderate potential

Status Codes:
-- = No status

Federal: FE = Federal Endangered; FT = Federal Threatened; **State:** SE = State Endangered; ST = State Threatened; SC = State Candidate; SR = State Rare

California Rare Plant Ranks: 1 = Rare in California and elsewhere; 2 = Rare in California, but not elsewhere; 3 = Plants about which we need more information – a review list; 4 = Plants of limited distribution - a watch list; A = Presumed extirpated or extinct; B = Rare, threatened, or endangered; .1 = seriously threatened in California; .2 = fairly threatened in California; .3 = not very threatened in California

Jacumba Milk Vetch

Jacumba milk vetch (*Astragalus douglasii* var. *perstrictus*) occurs in chaparral, cismontane woodland, valley and foothill grassland, pinyon and juniper woodland, and riparian scrub. It is often associated with stony hillsides and gravelly or sandy flats in open oak woodland from approximately 2,950–4,170 feet above mean sea level. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat for this species, and the species has moderate potential to occur.

San Diego Milk Vetch

San Diego milk vetch (*Astragalus oocarpus*) occurs in chaparral and cismontane woodland. It is often associated with openings in chaparral or on gravelly flats and slopes in thin oak woodland from approximately 1,000–5,000 feet above mean sea level. Rare plants surveys have not detected this species. There is suitable habitat for this species at the Proposed Project, and this species has a high potential to occur.

Long-Spined Spineflower

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) occurs in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. It is often associated with clay soil from approximately 100–5,020 feet above mean sea level. Rare plants surveys have not detected this species. There is marginally suitable habitat for this species at the Proposed Project, and the species has low potential to occur.

Delicate Clarkia

Delicate clarkia (*Clarkia delicata*) occurs in cismontane woodland and chaparral. It is often associated with gabbro soil from approximately 770–3,280 feet above mean sea level. Rare plants surveys have not detected this species. There is marginally suitable habitat for this species at the Proposed Project, and the species has low potential to occur.

Tecate Tarplant

Tecate tarplant (*Deinandra floribunda*) occurs in chaparral and coastal scrub from approximately 230–4,000 feet above mean sea level. Although rare plants surveys have not detected this species, there is suitable habitat for this species at the Proposed Project, and the species has moderate potential to occur.

San Diego Gumplant

San Diego gumplant (*Grindelia hallii*) occurs in chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland from approximately 600–5,725 feet above mean sea level. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat present. This species has moderate potential to occur at the Proposed Project.

Felt-Leaved Monardella

Felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*) occurs in chaparral and cismontane woodland. It is often associated with sandy soil in the understory of mixed chaparral, chamise chaparral, and southern oak woodland from approximately 985–5,167 feet above mean sea level. Rare plant surveys conducted in 2010 detected this species at the Proposed Project prior to the construction of the Sunrise Powerlink and Suncrest Substation (RECON Environmental, Inc. 2010b). Rare plant surveys conducted on June 25, 2015 detected a single population of approximately 25 felt-leaved monardella plants adjacent to Bell Bluff Truck Trail in an area outside of the Proposed Project footprint. Figure 4.4-4 shows the locations of the historical and observed monardella plants. There is suitable habitat for this species at the Proposed Project, and this species has been determined to be present adjacent to the Proposed Project.

Hall's Monardella

Hall's monardella (*Monardella macrantha* ssp. *hallii*) occurs in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from approximately 2,400–7,200 feet above mean sea level. Although rare plant surveys have not detected this species, there is suitable habitat for this species at the Proposed Project, and the species has moderate potential to occur.

Chaparral Nolina

Chaparral nolina (*Nolina cismontana*) occurs in chaparral and coastal scrub. It is often associated with sandstone and shale substrates and gabbro soil from approximately 460–4,200 feet above mean sea level. Rare plant surveys have not detected this species. There is marginally suitable habitat for this species at the Proposed Project, and the species has low potential to occur.

Figure 4.4-4. Felt-leaved Monardella Populations within the Proposed Project Vicinity

Moreno Currant

Moreno currant (*Ribes canthariforme*) occurs in chaparral and riparian scrub. It is often found among boulders in oak-manzanita thickets or in shaded or partially shaded sites from approximately 1,100–4,000 feet above mean sea level. Rare plants surveys have not detected this species. There is suitable habitat for this species adjacent to the Proposed Project, and this species has a high potential to occur on the north-facing slopes along Bell Bluff Truck Trail.

Munz's Sage

Munz's sage (*Salvia munzii*) occurs in chaparral and coastal scrub from approximately 370–3,500 feet above mean sea level. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat. This species has moderate potential to occur.

Parry's Tetracoccus

Parry's tetracoccus (*Tetracoccus dioicus*) occurs in chaparral and coastal scrub from approximately 540–3,280 feet above mean sea level. Although rare plant surveys have not detected this species at the Proposed Project, there is suitable habitat. This species has moderate potential to occur at the Proposed Project.

Special-Status Animals

Based on the literature and database search, a total of 35 special-status animals were determined to have recorded occurrences in the area around the Proposed Project, specifically within one or more of the nine USGS 7.5-minute topographic quadrangles surrounding the Proposed Project. These included five invertebrates, three amphibians, eight reptiles, nine birds, and 10 mammals. Each of these species was evaluated for its potential to occur at the Proposed Project (Table 4.4-4). Only those species with the potential for occurrence within the project area have been carried forward into this analysis. A full list is provided in Section 4.4.2 of the Biological Resources Technical Report in Appendix D.

Table 4.4-4. Sensitive Wildlife Species Potential for Occurrence at the Proposed Project

Common Name *Scientific Name*	Status Federal/State	Habitat Associations	Likelihood of Occurrence
Invertebrates			
Hermes copper butterfly *Lycaena hermes*	FC/--	Chaparral, coastal scrub. Dependent on spiny redberry (*Rhamnus crocea*), which is common in cismontane California coastal sage scrub and chaparral vegetation communities.	Moderate potential
Reptiles			
orange-throated whiptail *Aspidocelis hyperythrya*	--/SSC	Occurs in chaparral, cismontane woodland, and coastal scrub habitats. Generally prefers washes and sandy areas.	Moderate potential
red-diamond rattlesnake *Crotalus ruber*	--/SSC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and	High potential

Common Name *Scientific Name*	Status Federal/State	Habitat Associations	Likelihood of Occurrence
		dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	
coast horned lizard *Phrynosoma blainvillii*	--/SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects. Found at elevations from sea level to 8,000 ft. (2,438 meters).	High potential
Coronado Island skink *Plestiodon skiltonianus interparietalis*	--/SSC	Grassland, chaparral, pinyon-juniper and juniper sage woodland, pine-oak and pine forests in Coast Ranges of Southern California. Prefers early successional stages or open areas. Found in rocky areas close to streams and on dry hillsides. From sea level up to around 8,300 ft. (2,530 meters).	Moderate potential
coast patch-nosed snake *Salvadora hexalepis virgultea*	--/SSC	Brushy or shrubby vegetation in coastal southern California. Requires small mammal burrows for refuge and overwintering sites. Occurs at elevations from below sea level to around 7,000 ft. (2,130 meters).	Moderate potential
Birds			
golden eagle *Aquila chrysaetos*	BGEPA/FP	Grasslands, deserts, savannas, and early successional stages of forest and shrub habitats. Broad expanses of open country are required for foraging while nesting is primarily restricted to rugged mountainous areas with large trees or on cliffs.	Moderate potential for foraging; Low potential for breeding
Swainson's hawk *Buteo swainsoni*	--/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or rows of trees.	Low potential during migration, none during breeding
Mammals			
pallid bat *Antrozous pallidus*	--/SSC	Chaparral, coastal scrub, desert wash, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland.	Low potential for foraging; Not Expected for roosting
Dulzura pocket mouse *Chaetodipus californicus femoralis*	--/SSC	Variety of habitats including coastal scrub, chaparral, and grassland in San Diego County. Tends to occur in grass-chaparral edges.	Moderate potential
northwestern San Diego pocket mouse *Chaetodipus fallax*	--/SSC	Chaparral, coastal scrub, grasslands, sagebrush, and other habitats in western San Diego County, from sea level to 6,000 feet. Typically in areas with rocks or coarse gravel.	Low potential
Townsend's big-eared bat *Corynorhinus townsendii*	--/SC, SSC	Broadleaved upland forest, chaparral, chenopod scrub, Joshua tree woodland, lower montane coniferous forest, meadow and seep, Mojavean desert scrub, riparian forest, riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, upper montane coniferous forest, valley and foothill grassland.	Low potential for foraging; Not Expected for roosting
western mastiff bat *Eumops perotis californicus*	--/SSC	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Low potential for foraging; Not Expected for

Common Name *Scientific Name*	Status Federal/State	Habitat Associations	Likelihood of Occurrence
			roosting
western red bat *Lasiurus blossevillii*	--/SSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodlands. Strongly associated with riparian areas.	Low potential for foraging; Not expected for roosting
San Diego desert woodrat *Neotoma lepida intermedia*	--/SSC	Coastal scrub with moderate to dense canopies.	High potential
pocketed free-tailed bat *Nyctinomops femorosaccus*	--/SSC	Joshua tree woodland, pinyon and juniper woodlands, riparian scrub, Sonoran desert scrub.	Low potential for foraging; Not Expected for roosting
American badger *Taxidea taxus*	--/SSC	Occurs at low density in many natural and agricultural habitats where soils are friable for digging; in forested areas requires openings or meadows.	Low potential

Status Codes:
-- = No status

Federal: FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; MBTA = Protected by Migratory Bird Treaty Act; BGEPA = Bald and Golden Eagle Protection Act; **State:** SE = State Endangered; ST = State Threatened; SC = State Candidate; SSC = California Species of Special Concern; FP = Fully Protected.

Based on an assessment of the habitat requirements of the sensitive species with recorded occurrences in the larger vicinity, a total of 17 sensitive animals were determined to have the potential to be present at the Proposed Project. These included one invertebrate, five reptiles, two birds, and nine mammals. Each of these species is discussed individually below.

No special-status wildlife species were positively identified during biological surveys conducted in 2014 or 2015. However, there are CNDDB records of red-diamond rattlesnake near the Proposed Project. In addition, woodrat houses were observed approximately 820 feet north of Bell Bluff Truck Trail (well outside the area that may be directly impacted by the Proposed Project), which could belong to either the special-status San Diego desert woodrat (*Neotoma lepida intermedia*) or the dusky-footed woodrat (*Neotoma fuscipes*), which does not have any special status; these are discussed below.

Invertebrates

Hermes Copper Butterfly

Hermes copper butterfly (*Lycaena hermes*) occurs in chaparral and coastal scrub. Larvae are dependent on spiny redberry (*Rhamnus crocea*), a plant species common in cismontane California coastal sage scrub and chaparral vegetation communities, which is present at the Proposed Project. The historical range of Hermes copper butterfly is limited to San Diego County, California, south to Santo Tomas, in Baja California Norte, Mexico. Today, the butterfly is known to occur primarily in the southwest portion of San Diego County. The CNDDB includes records of reports of adults and juveniles within 2 miles of the Proposed Project from 2008. Although biological surveys have not detected this species, the Proposed Project provides suitable habitat for this species, and the species has moderate potential to occur at the Proposed Project.

Reptiles and Amphibians

Orange-throated Whiptail

The orange-throated whiptail (*Aspidocelis hyperythra*) occurs in coastal scrub, chamise chaparral, mixed chaparral, and valley-foothill hardwood habitats, usually where there is sandy soil, at elevations up to 3,400 feet above mean sea level. This species' U.S. range includes western San Diego and Riverside Counties, and southern Orange County. Most of the range is in Mexico, extending along the entire Baja California peninsula. The orange-throated whiptail is very active, preying on a wide range of invertebrates, especially termites. The Proposed Project provides suitable habitat for this species, although it has not been observed to date. This species has moderate potential to occur at the Proposed Project.

Red-diamond Rattlesnake

The red-diamond rattlesnake (*Crotalus ruber*) inhabits open scrub, chaparral, woodland, and grassland vegetation types. This species ranges from approximately Orange and San Bernardino Counties, California, south to Baja California, Mexico, at elevations from sea level to about 5,000 feet above mean sea level. Multiple CNDDB records of red-diamond rattlesnake indicate this species is present in the vicinity of the Proposed Project. The Proposed Project site provides potentially suitable habitat for the red-diamond snake, and this species has a high potential to occur.

Coast Horned Lizard

The coast (San Diego) horned lizard (*Phrynosoma blainvillii*) occurs in open or sparse scrub and chaparral communities and prefers loose soils for burrowing at elevations from sea level to approximately 8,000 feet above mean sea level. It forages mainly on native ant species, and has declined, at least in part, because of introduction of non-native ants, competition from which has resulted in declines in native ant populations. Collecting, development, and off-road vehicle use have also contributed to this species' decline. Multiple CNDDB records of coast horned lizard are present for the past two decades, with the most recent observation being closest to the Proposed Project (approximately 1.5 miles to the north). Suitable habitat occurs at the Proposed Project, and this species has a high potential to occur.

Coronado Island Skink

The Coronado Island skink (*Plestiodon skiltonianus interparietalis*) inhabits grassland, chaparral, pinyon-juniper and juniper sage woodland, and pine-oak and pine forests in the Coast Ranges of Southern California. This species prefers early successional stages or open areas. It is commonly found in rocky areas close to streams and on dry hillsides from sea level up to approximately 8,300 feet above mean sea level. A single CNDDB record from 1995-1999 data describes an occurrence of this species 3 miles south of the Proposed Project. The Proposed Project provides potentially suitable habitat for the Coronado Island skink, and it has a moderate potential to occur at the Proposed Project.

Coast Patch-Nosed Snake

The coast patch-nosed snake (*Salvadora hexalepis virgultea*) inhabits open sandy areas and rocky outcrops in scrub, chaparral, grassland, and woodland vegetation types from sea level to

about 7,000 feet above mean sea level. This species ranges along the coast of California from San Luis Obispo County south into Baja California, Mexico. A single CNDDB record from 1996 describes an occurrence of this species four miles west of the Proposed Project at Loveland Reservoir. The Proposed Project provides a limited amount of potentially suitable habitat for the coast patch-nosed snake, and it has a moderate potential to occur at the Proposed Project.

Birds

Golden Eagle

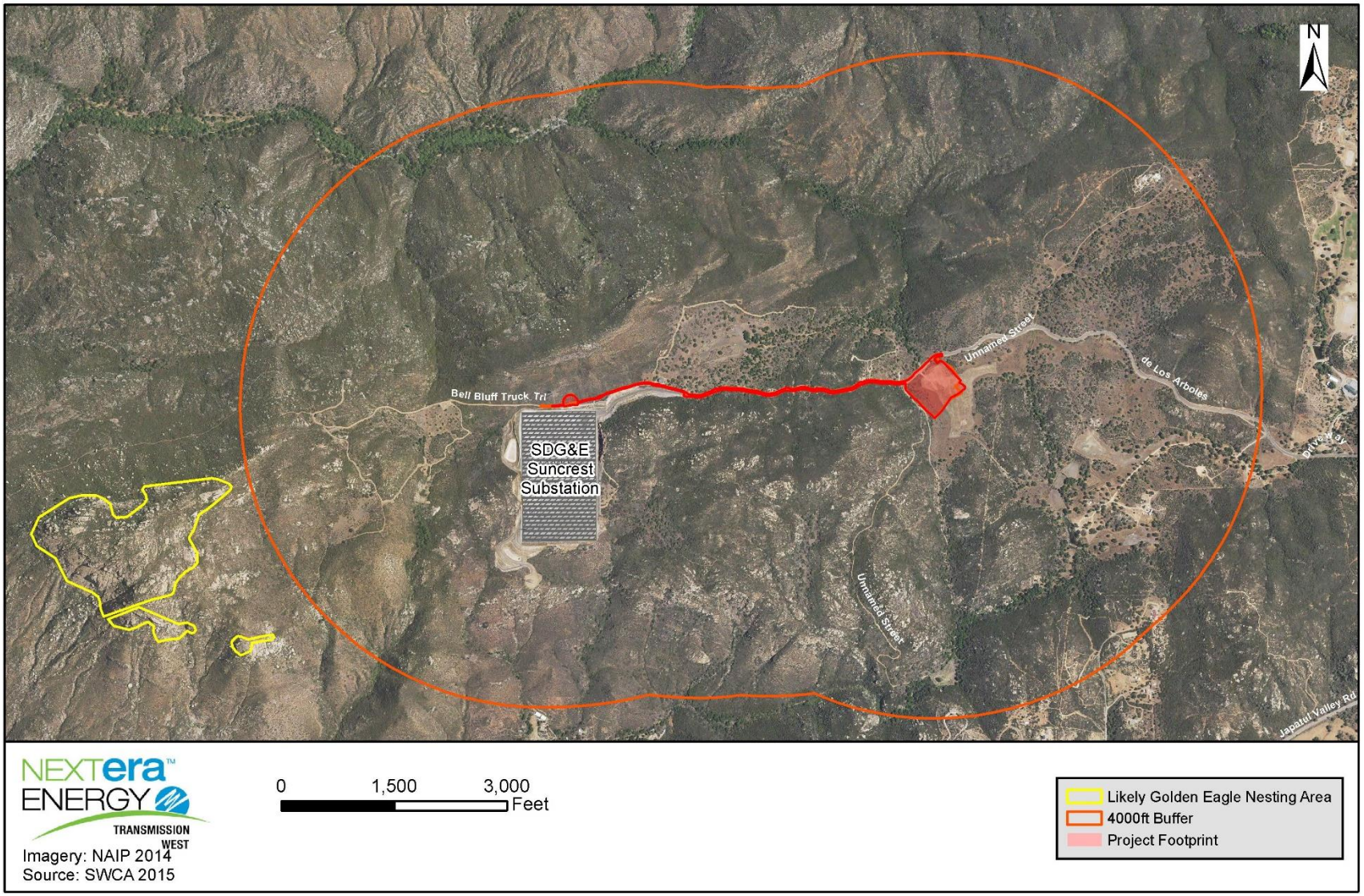
Golden eagles (*Aquila chrysaetos*) occur throughout California in a variety of habitats including grasslands, open scrublands, and woodlands. This species typically nests on cliff faces or in large trees or tall artificial structures such as electrical transmission towers. High-quality nest sites with appropriate temperature regimes and winds to provide lift are often a limited resource. Golden eagles are highly site faithful, and typically maintain one or more nests within a territory, often switching between nests from year to year. Active and inactive nests can persist for many years, even decades. Golden eagles typically prey on small to mid-sized mammals, birds, and reptiles.

eBird records have documented this species in the area since 1982 and, as recently as March 2015, approximately 4 miles northeast of the Suncrest Substation. Suitable foraging habitat exists for this species throughout the undeveloped areas at the Proposed Project. No nesting habitat occurs within the Proposed Project. Focused surveys conducted in 2010 and 2011 identified occupied golden eagle nests located approximately 5 miles and approximately 15 miles from the Proposed Project (Wildlife Research Institute 2010, 2011). Another territory has been previously recorded with breeding activity within 1 mile of the Proposed Project, but the nests at the site are believed to have been destroyed at least 8 years ago in wildfires; no nests have been detected in recent surveys of the area despite focused effort (Wildlife Research Institute 2010, 2011).

If golden eagles were to construct a new nest at Bell Bluff, the most suitable sites would be ledges on north-facing rocky outcrops or cliffs. The most likely nest sites have been identified based on inspection of aerial imagery and topographic maps; all are more than 4,000 feet from the Proposed Project (Figure 4.4-5). Given that the Suncrest Substation was constructed in 2011 and 2012, vehicle traffic and human activity at the substation and along Bell Bluff Truck Trail have increased due to security and maintenance needs associated with the substation. Therefore, any golden eagle nests constructed since the last survey would presumably be associated with golden eagles that are acclimated to the current level of normal activity in the area and, therefore, the operation of the Proposed Project would be a de minimis addition.

This species has a moderate potential to occur for foraging and a low potential to occur for nesting.

Figure 4.4-5. Potential Golden Eagle Nesting Habitat



Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) breeds in a wide range of open habitats with low vegetation throughout the western United States, including grasslands, riparian areas, savannahs, and agricultural and ranch lands. In California, Swainson's hawks breed primarily in the Central Valley, from Kern County northward, and no breeding has been recorded in San Diego County. Swainson's hawks migrate to South America for the winter season, and therefore migrants may occur transiently in many habitats in the western United States. The Proposed Project is outside this species' nesting range, and it is not expected to occur. However, migratory individuals could occur at any location, and, therefore, there is low potential for migrating Swainson's hawks to occur at the Proposed Project.

Mammals

Pallid Bat

The pallid bat (*Antrozous pallidus*), a California Species of Special Concern (SSC), most commonly occurs in mixed oak and grassland habitats. This large bat roosts in rock crevices and in cavities of trees, especially oaks. This species occurs throughout California except for the high Sierra Nevada from Shasta to Kern Counties and in the northwestern portion of the State (Zeiner et al. 1990). Pallid bat is very sensitive to disturbance at its roosting sites. A single CNDDB record reports this species 2 miles northeast of the Proposed Project. The Proposed Project provides potentially suitable foraging habitat but no suitable roosting habitat for the pallid bat. Therefore, it may occur only on the project site for foraging but is not expected to roost at the Proposed Project.

Dulzura Pocket Mouse

Dulzura pocket mouse (*Chaetodipus californicus femoralis*), a SSC, occurs in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County. This species is commonly attracted to grass-chaparral edges. During focused trapping surveys for Stephens' kangaroo rat (*Dipodomys stephensi*), Dulzura kangaroo rat was captured as close as 12 miles south of the Proposed Project (SJM Biological Consultants, Inc. and Chambers Group, Inc. 2010a, 2010b). The Proposed Project provides potentially suitable habitat for Dulzura kangaroo rat, and this species has a moderate potential to occur at the Proposed Project.

Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax*), a SSC, inhabits a variety of habitats with sandy areas with herbaceous vegetation and moderate canopy cover, at elevations up to 6,000 feet above mean sea level. Vegetation communities occupied include coastal scrub, chamise chaparral, mixed chaparral, sagebrush, pinyon-juniper woodlands, annual grasslands, and several desert habitat types. In San Diego County, this species is typically found in arid coastal and desert border areas. There is suitable habitat at the Proposed Project for the northwestern San Diego pocket mouse, and the species has a low potential to occur.

Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*), a SSC and candidate for CESA listing, occurs in a variety of habitats throughout California, but it is most commonly associated with desert scrub, mixed conifer forest, and pinyon- juniper or pine forest habitat. Townsend's big-eared bats hibernate throughout their range during winter months when cold temperatures prevail. Records of the species exist from throughout the State, but specific details on its distribution are poorly understood. Suitable foraging but no suitable roosting habitat for this species occurs throughout the Proposed Project. This species has a low potential to occur at the Proposed Project for foraging and is not expected for roosting.

Western Mastiff Bat

Western mastiff bat (*Eumops perotis californicus*), a SSC, is found in many open semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, desert scrub, and urban. The western mastiff bat is a very wide-ranging and high-flying insectivore that typically forages in open areas with high cliffs. This species roosts in small colonies in crevices on cliff faces. It occurs in the southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, and from the coast eastward to the Colorado Desert. Western mastiff bat has been detected as close as 10 miles south of the Proposed Project in Hauser Canyon (MSCP). The project site provides potentially suitable foraging habitat, but no suitable roosting habitat for the western mastiff bat. The western mastiff bat has low potential to forage but is not expected to roost at the Proposed Project.

Western Red Bat

The western red bat (*Lasiurus blossevillii*), a SSC, occurs throughout most of the non-desert areas of California. It breeds primarily in association with riparian areas, especially in the Central Valley. This species roosts in trees, usually near suitable open foraging areas. The oak woodlands at the Proposed Project are suitable roosting and foraging habitat for this species, although the potential for occurrence is considered low due to the lack of riparian habitats.

San Diego Desert Woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia)*, a SSC, occurs throughout coastal and desert areas of southern California. This species occurs in woodlands, chaparral, sagebrush, and desert habitats at elevations up to 8,500 feet above mean sea level. Houses are usually built against a rock crevice, at the base of a large plant, or in the lower branches of trees. The range of the dusky-footed woodrat, which is not a special-status species, also overlaps with the Proposed Project. Three woodrat houses, constructed of twigs and sticks, were observed in the oak woodlands approximately 820 feet north of Bell Bluff Truck Trail in May 2015. Both species build these houses, and the species present therefore could not be identified with certainty. The Proposed Project provides suitable habitat for both woodrat species, and there is high potential for occurrence of the San Diego desert woodrat.

Pocketed Free-Tailed Bat

Pocketed free-tailed bat (*Nyctinomops femorosaccus*) occurs primarily in pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases. It primarily roosts in crevices in rugged cliffs, slopes, and tall rocky outcrops. This species is known to occur in areas with ponds, streams, or arid deserts that provide suitable foraging habitats for this species. This bat occurs in the southwestern United States to south-central Mexico. Pocketed free-tailed bat has been detected as close as 10 miles south of the Proposed Project in Hauser Canyon (MSCP). The project site provides limited potentially suitable foraging habitat, but no suitable roosting habitat for this species; therefore, pocketed free-tailed bat has low potential to occur for foraging but is not expected to roost at the Proposed Project.

American Badger

American badger (*Taxidea taxus*), a SSC, is found in open woodlands, desert scrub, grasslands, and open communities generally. Agricultural fields are also suitable if there is a small mammal prey base. Badgers require friable soils for digging out their small mammal prey, and for constructing dens. This species is widespread but uncommon throughout North America. There is limited suitable habitat at the Proposed Project for American badger, and this species' potential for occurrence is low.

4.4.4. Applicant-Proposed Measures and Potential Impacts

4.4.4.1. Significance Criteria

Appendix G of the State CEQA Guidelines provides thresholds to evaluate whether impacts are considered significant. Based upon these guidelines, impacts to biological resources would be considered significant if the project:

- Has 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;
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by CDFW or USFWS;
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites; or,
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

An evaluation of whether an impact to biological resources would be significant must consider both the resource itself and how that resource fits into a regional or local context. Significant impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with federal, State, or local resource conservation plans, goals, or regulations. The evaluation of impacts considers direct impacts, indirect impacts, and cumulative impacts, as well as temporary and permanent impacts.

4.4.4.2. Applicant Proposed Measures

The APMs described in Table 4.4-5 are intended to avoid or minimize potential impacts to biological resources (BIO) to ensure impacts to remain less than significant.

Table 4.4-5. Applicant Proposed Measures

APM No.	Description
	BIOLOGICAL RESOURCES
APM BIO-1	**Biological Monitor.** A qualified biologist or environmental inspector who is familiar with the biological resources and issues at the Proposed Project will conduct monitoring during all construction-related ground-disturbing activities that may impact sensitive biological resources, including but not necessarily limited to: initial clearing and vegetation removal; perimeter fence installation and excavation; and movement of construction equipment and other activities outside of fenced/paved areas within wildlife habitat. The biological monitor/environmental inspector will flag or otherwise clearly mark environmentally sensitive areas with appropriate buffers, within which construction is not allowed. The monitor/inspector will have the authority to stop work activities upon the discovery of sensitive biological resources, and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to sensitive resources.
APM BIO-2	**Vehicle Use of Existing Roads.** Except when not feasible due to physical or safety constraints, all Proposed Project vehicle movement will be restricted to existing roads as a part of the Proposed Project. When it is not feasible to keep vehicles on existing access roads or avoid construction of access driveways during the nesting, breeding, or migration season, NEET West will perform a site survey in the area where the work is to occur. This survey will be performed to determine presence or absence of special-status nesting birds or other special-status species in the work area. Parking or driving on unpaved areas underneath oak trees will not be allowed in order to protect root structures. In addition, a 15-mile-per-hour speed limit will be observed on dirt access roads to reduce dust and allow reptiles and small mammals to disperse.
APM BIO-3	**Debris and Litter Removal.** Littering will not be allowed in the Proposed Project area. Proposed Project personnel will deposit all debris and litter into covered garbage containers which will be disposed of when full. Garbage containers will not be allowed to overflow and lids will be secured to prevent wildlife from removing garbage from containers. No food or waste will be left on the ground in the Proposed Project area, and no biodegradable or non-biodegradable debris will remain in the right-of-way following completion of construction.
APM BIO-4	**Delineating Sensitive Plant Populations.** The Proposed Project does not directly impact any sensitive plant populations, although felt-leaved monardella has been observed immediately adjacent to the Proposed Project. To ensure proper protection of these plants on or near the Proposed Project alignment, a qualified botanist will flag plant populations to be protected and avoided prior to Proposed Project implementation. The flagging will remain in place until work has ceased and the potential for impacts to the populations has abated. Flagging and demarcation will be updated as necessary. The botanist will also map populations using GPS/GNSS to update Proposed Project designs for avoidance in the field. If any sensitive plants are encountered during construction, buffers will be established for avoidance. A minimum buffer of 50 feet will be established from an identified special-status plant species unless consultation with a qualified biologist determines a reduced buffer would suffice to avoid impacts to the species. If plants cannot be avoided, seed will be collected and used during revegetation efforts following construction.
APM BIO-5	**Vegetation Trimming and Removal.** Vegetation trimming and removal will not be conducted during the bird breeding season (February through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the on-site biological resource monitor will

Table 4.4-5. Applicant Proposed Measures

APM No.	Description
	ensure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, tree removal/trimming or brush clearing work would be avoided within a buffer determined by the on-site biologist. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance-level survey, soil in the vegetation trimming or removal area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present. Whenever feasible, trees in environmental sensitive areas, such as areas of riparian or native scrub vegetation, will be scheduled for trimming during non-sensitive (i.e., outside breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, NEET West will perform a site survey, or more as appropriate, to determine presence or absence of nesting bird species in riparian or native scrub vegetation. Only the minimum amount of vegetation necessary for the construction of structures and facilities will be removed. **Nesting Bird Buffers and Management Plan.** If active nests of non-special-status species birds or common raptors are found, a suitable buffer shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of a qualified biologist. If bird nesting is initiated during active construction, the birds will be assumed acclimated to the disturbance and no buffer will be applied; however, direct impacts to active nests will be avoided. Prior to construction, NEET West shall prepare a Nesting Bird Management Plan. The plan shall include at a minimum: the types of birds that may occur in the Proposed Project area; the proposed management strategy for nesting birds; the proposed buffer distances for nesting birds; monitoring, field survey requirements and reporting standards; and nest deterrence strategies.
APM BIO-6	**Harming or Feeding Wildlife.** No wildlife, including rattlesnakes, will be harmed except to protect life and limb. Firearms and pets will be prohibited in all Proposed Project areas. In addition, feeding of wildlife will not be allowed. This includes keeping trash bins covered and secured at all times until they are removed from the Proposed Project site.
APM BIO-7	**Inspect Excavations for Trapped Wildlife.** All steep-walled trenches or excavations used during construction will be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in a trench or excavation, the on-site biological resource monitor will be contacted immediately to remove them if they cannot escape unimpeded. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency may be employed to remove the wildlife and transport them safely to other suitable habitats. Steep-walled trenches and excavations will be fenced and/or covered at the end of each workday to the extent practicable, to prevent wildlife from becoming entrapped and for safety purposes. Alternatively, escape ramps will be installed in trenches or excavation to allow wildlife to exit on their own volition.
APM BIO-8	**Emergency Repairs.** Emergency repairs may be required during the construction and maintenance of the Proposed Project to address situations (e.g., slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the Proposed Project facilities. During emergency repairs, APMs will be followed to the fullest extent practicable.
APM BIO-9	**Structures Constructed to Minimize Impacts to Raptors.** Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc. 1981) to minimize impacts to raptors. NEET West will construct all aboveground power transmission lines to the Avian Power Line Interaction Committee (APLIC) Guidelines recommendations: Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, and Reducing Avian Collisions with Power Lines: State of the Art in 2012.
APM BIO-10	**Restoration and Revegetation.** NEET West will develop a Restoration and Revegetation Plan to guide restoration activities on the Proposed Project that promotes locally appropriate native plant growth and eliminates non-native and invasive species. The Restoration Plan will identify measures and success criteria specific to each impacted plant community at the Proposed Project. The total area to be planted, and species composition, will be tailored for each impacted plant community based on existing standards and precedents. The Restoration Plan will identify success criteria for each habitat type and develop monitoring measures to ensure that success criteria will be met. Disturbed soils will be revegetated with an appropriate weed-free, native seed mix. All areas designated for temporary impacts will be revegetated with a seed blend that includes native grasses, forbs, and shrub

Table 4.4-5. Applicant Proposed Measures

APM No.	Description
	species characteristic of the plant community receiving the temporary impact. Revegetation activities will be undertaken as soon as construction activities have been completed to minimize colonization by non-native weedy species and to ensure compliance with the Proposed Project's SWPPP. Herbicides, if required during the restoration period, will be applied using hand-held applicators for spot-treatment and will not be used within 100 feet of drainages or sensitive plant populations.
APM BIO-11	**Night Lighting.** NEET West will minimize construction night lighting on adjacent habitats. Exterior lighting within the Proposed Project area adjacent to habitat will be the lowest illumination allowed for human safety and security, selectively placed, shielded, and directed downward to the maximum extent practicable. Vehicle traffic associated with Proposed Project activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species moving about.
APM BIO-12	**Implementation of Best Management Practices.** The plans and specifications for the Proposed Project will require the construction contractor to comply with the Proposed Project's SWPPP and reduce the transport of fugitive dust particles related to construction activities through the use of soil stabilization, watering, or implementation of comparable measures. In addition, construction materials and stockpiled soils will be covered or treated in accordance with the SWPPP to ensure that they do not become a source of fugitive dust or sediment. Fugitive dust management areas, including stockpiled soils, will be inspected weekly by the on-site biologist to ensure that they are adequately managed to prevent the generation of fugitive dust. Erosion controls that comply with county, State, and federal standards will be applied, including the implementation of best management practices. Practices such as installation of silt fences, straw wattles, and check dams will be implemented near disturbed areas to minimize and control erosion and sedimentation. Erosion management areas will be inspected and maintained regularly in accordance with the Proposed Project's SWPPP. To minimize potential impacts to the environment from accidental fuel spills, the plans and specifications for the Proposed Project will specify that all refueling occur in a designated fueling area that includes a temporary berm to limit the spread of any spill; drip pans will be used during refueling to contain accidental releases, and drip pans will be used under the fuel pump and valve mechanisms of any bulk fueling vehicles parked at the construction site; spills will be immediately addressed per the appropriate spill management plan, and soil cleanup and soil removal initiated if needed.
APM BIO-13	**Preconstruction Sweeps for Biological Resources.** Prior to initial vegetation clearance, grubbing, and ground-disturbing activities, a qualified biologist will conduct pre-construction sweeps of the Proposed Project for special-status wildlife and plants. During these surveys, the biologist will: a) Ensure that potential habitats become inaccessible to wildlife (e.g., burrows are removed that would otherwise provide temporary refuge); b) In the event of an unanticipated discovery of a special-status ground-dwelling animal, a biologist holding the appropriate State and/or federal permits will recover and relocate the animal to adjacent suitable habitat within the Proposed Project at least 200 feet from the limits of grading; and, c) In the event of the discovery of a previously unknown special-status plant, the area will be marked as an environmentally sensitive area, and avoided to the maximum extent practicable. If avoidance is not possible, NEET West will consult with USFWS and/or CDFW as appropriate given the species' status.
APM BIO-14	**Nesting Bird Surveys.** If construction is scheduled to commence during the non-nesting season (September 1 to January 31), no preconstruction surveys or additional measures with regard to nesting birds and other raptors are required. To avoid impacts to nesting birds in the Proposed Project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the Proposed Project, and within a 150-foot buffer if access allows, for Proposed Project activities that are initiated during the breeding season (February 1 to August 31). The survey for special-status raptors shall focus on potential nest sites on site and within a 500-foot buffer around the site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire Proposed Project at one time; they may be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. Active nests will be avoided and monitored, and the qualified biologists will have authority to stop-work should it be determined that a nest is being impacted by Proposed Project activity.

Table 4.4-5. Applicant Proposed Measures

APM No.	Description
APM BIO-15	**Dead or Injured Special-Status Wildlife**. If any dead or injured special-status wildlife, or birds protected by the MBTA, are discovered at the Proposed Project during construction, NEET West will stop work in the immediate vicinity. NEET West will notify CPUC, the on-call biologist, and the appropriate resource agency (USFWS and/or CDFW) before construction is allowed to resume.

4.4.4.3. Potential Impacts

Potential project impacts on biological resources were evaluated against the CEQA significance criteria and are discussed in further detail in the following paragraphs. Table 4.4-2 outlines the impacted acreages of vegetation communities anticipated by the implementation of the Proposed Project.

The impact analysis includes both temporary and permanent impacts associated with Proposed Project construction. Permanent impacts associated with Proposed Project construction will include the following components:

- A new SVC facility and two new access driveways (20 feet by 95 feet);
- An underground 230 kV single-circuit electric transmission line, which will be constructed under the existing Bell Bluff Truck Trail roadway (approximately 1 mile);
- A riser pole with an interconnection transmission span between the underground transmission line and the Suncrest Substation (approximately 300 feet); and,
- Up to five underground splice vaults located within the curb line of Bell Bluff Truck Trail. Each vault will be approximately 30 feet long by 7 feet wide by 8 feet deep.

Temporary and short-term impacts associated with project construction will include the following components:

- Temporary work areas needed to facilitate installation of the underground transmission line and underground splice vaults; and,
- The construction footprint surrounding the permanent fenced SVC facility and staging area.

Impact BIO-1: The Proposed Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Less than Significant)

Sensitive Plants

Three sensitive plants have high potential to occur in the Proposed Project: San Diego milk vetch (CRPR 1B.2), felt-leaved monardella (CRPR 1B.2), and Moreno currant (CRPR 1B.3). Six special-status plants have moderate potential to occur in the Proposed Project: Jacumba milk

vetch (CRPR 1B.2), Tecate tarplant (CRPR 1B.2), San Diego gumplant (CRPR 1B.2), Hall's monardella (CRPR 1B.3), Munz's sage (CRPR 2B.2), and Parry's tetracoccus (CRPR 1B.2). Three special-status plant species have low potential to occur in the Proposed Project: long-spined spineflower (CRPR 1B.2), delicate clarkia (CRPR 1B.2), and chaparral nolina (CRPR 1B.2).

To date, no special-status plants have been observed within the Proposed Project during surveys conducted between February and June 2015. A CNPS-listed 1B.2 plant population of felt-leaved monardella, a small herbaceous plant that blooms between June and August, has been previously recorded along Bell Bluff Truck Trail (adjacent to the Proposed Project). Surveys conducted in June 2015 confirmed the recorded population of felt-leaved monardella, and approximately 25 plants were observed. However, due to access restrictions on SDG&E property, the botanists were unable to survey more than 10 feet from the Bell Bluff Truck Trail, and therefore unable to confirm the full extent of this particular population. This population is outside of the Proposed Project footprint. Therefore, no impacts to this or any other sensitive plants are anticipated.

If the design of the underground transmission line changes and the loss of a population/stand of felt-leaved monardella is unavoidable, seed will be collected for use during restoration of temporary impact areas prior to construction activities. Restoration of this sensitive plant will occur within the Proposed Project, if possible. Plant establishment may be feasible for felt-leaved monardella because monardellas are normally easily propagated from seeds, and other perennial monardella species have been successfully restored when they are restored to their native parent soil and are carefully maintained in nurseries (Fiedler and Howald 1991; Schmidt 1980). To ensure successful propagation of the species, the following measures will be implemented:

- Seeds of the felt-leaved monardella will be collected from the project impact area prior to construction activities and during the appropriate developmental stage of the plants (June to August primarily), then broadcast in areas to be restored.
- Some of the seeds will be stored/germinated and grown for seed production in a nursery familiar with growing native plants, such as Rancho Santa Ana Botanical Garden.
- A Sensitive Plant Mitigation and Monitoring Plan will be developed to provide for the long-term protection of felt-leaved monardella populations established within the Proposed Project. The plan shall define procedures and provide guaranteed funding for seed collection, transplanting, and monitoring and achieving success criteria. Annual monitoring will occur for a minimum of 5 years.
- Contingency measures will be included in the plan to ensure plant establishment and success.

In addition, impacts to sensitive or special-status plants newly discovered prior to or during construction will be avoided and minimized by the implementation of APM BIO-5. Plants can be damaged or destroyed as a result of vegetation removal or trimming activities before construction, by staging project vehicles and equipment in work areas, and/or by drilling and pouring of foundations for new structures. Such impacts will be reduced and avoided by avoiding known populations of sensitive and special-status plants, by identifying any new populations during pre-construction sweeps and flagging and avoiding them (APMs BIO-4 and

BIO-13), as overseen by the biological monitor during construction (APM BIO-1), and through worker education and training (APM GEN-1).

Sensitive or special-status plants also can be indirectly affected by soil compaction and the spread of non-native invasive species from project vehicle and equipment travel and staging. These impacts will be avoided and minimized through worker awareness of the plants' locations (APMs GEN-1, BIO-1, BIO-4, and BIO-13). In addition, impacts to root systems of oak trees will be avoided by prohibiting parking underneath trees (APM BIO-2).

APMs that benefit both common and special-status plants include minimization of impacts to vegetation (APM BIO-2), and revegetation of temporary impact areas (APM BIO-10).

Special-Status Animals

No special-status wildlife species were recorded at the Proposed Project as a result of the surveys conducted in 2015. However, several special-status animals do have some potential to occur, and the red-diamond rattlesnake, a SSC, has been recorded close to the Proposed Project and has a high potential to occur. Two additional species have a high potential to occur at the Proposed Project: coast horned lizard and San Diego desert woodrat—both are SSCs. Six special-status animals have a moderate potential to occur: Hermes copper butterfly (federal candidate for ESA listing), orange-throated whiptail (SSC), Coronado Island skink (SSC), Coast patch-nosed snake (SSC), golden eagle when foraging (protected by the Bald and Golden Eagle Protection Act and State Fully Protected), and the Dulzura pocket mouse (SSC). Species with a low potential to occur at the Proposed Project include Swainson's hawk (State Endangered), pallid bat (SSC), northwestern San Diego pocket mouse (SSC), Townsend's big-eared bat (State Candidate and SSC), western mastiff bat (SSC), western red bat (SSC), pocketed free-tailed bat (SSC), and American badger (SSC).

Due to the lack of observations of special-status animals at the Proposed Project during surveys conducted in 2015, the limited number of special-status species that could occur, the small footprint of the project in relation to local and global ranges and populations of these species, and the undergrounding of the transmission line, impacts to special-status animals are anticipated to be less than significant.

Permanent effects to these species, except for the bats, could include mortality from construction traffic, vegetation removal/clearing, and soil grading and contouring. These will be avoided through environmental awareness training and avoidance of the locations of special-status animals, should they occur (APMs GEN-1, BIO-1, BIO-2, BIO-5, BIO-13, and BIO-15). Avoiding these locations (APMs BIO-1, BIO-5, BIO-13, and BIO-14) will avoid impacts. In addition, minimization of vegetation removal will diminish the potential for impacts (APM BIO-5).

Temporary impacts could include harm or injury during construction resulting from vehicles, litter, wildlife feeding, domestic pets, entrapment in excavations, all of which will be avoided (APMs GEN-1, BIO-1, BIO-2, BIO-3, BIO-7, and BIO-15). Temporary effects also include ground disturbance and night lighting which may affect the species' daily activity patterns, which will be minimized by APM BIO-11. Fugitive dust could impact habitat quality; this will be minimized by APM BIO-12. Vegetation removal could provide increased opportunity for

predation of special-status insects and small mammals; this will be minimized by APM BIO-5. No permanent effects are anticipated for bat species. Temporary effects include night lighting and vegetation removal that might affect foraging opportunities; these will be minimized by APMs BIO-5 and BIO-11.

Dulzura pocket mouse (a SSC) has moderate potential to occur in the Proposed Project. Permanent effects include loss of habitat, which will reduced by minimization of disturbance areas (APMs BIO-2 and BIO-5) and by site restoration (APM BIO-10). The chances of mortality from construction activity will be minimized by APMs GEN-1, BIO-1, BIO-2, BIO-13, and BIO-15. The effects of night lighting, which could affect the species' daily activity patterns, will be minimized by implementation of APM BIO-11.

Common Birds

The Proposed Project region is known to support a variety of State or federally protected bird species and suitable habitat for many birds protected under the MBTA and California Fish and Game Code Section 3503. Golden eagle (protected by the Bald and Golden Eagle Protection Act and Fully Protected by the State) may forage in the area, but is not expected to breed in the vicinity of the Proposed Project. Swainson's hawk (State Endangered) has a low potential to occur occasionally during migration, but the Proposed Project is outside the species' breeding and wintering ranges. The Proposed Project is anticipated to have less than significant impacts to nesting and breeding birds.

Golden eagles are known to occur in the region and have been observed foraging near the Proposed Project. These birds can have extremely large home ranges (i.e., over 160 square miles) and would be expected to prey on many of the small mammal species that occur in the Proposed Project. SWCA biologists did not identify golden eagles in the vicinity of the Proposed Project during surveys. The Proposed Project does not support suitable nesting habitat for this species. Potential foraging habitat occurs throughout the Proposed Project, although foraging opportunities are limited at the SVC facility and the riser pole due to the proximity of development and human activity.

The Proposed Project has the potential to permanently impact these species through loss of habitat. Permanent impacts will be decreased by minimizing vegetation disturbance during construction (APMs BIO-2 and BIO-5), and restoration (APM BIO-10). In addition, permanent electrocution and collision hazards that can be posed by transmission infrastructure will be minimized through design elements (APM BIO-9).

Temporary direct impacts to nesting birds include ground-disturbing activities associated with construction of the Proposed Project, increased noise levels from heavy equipment, increased human presence, potential nest destruction or removal during vegetation removal or trimming, and exposure to fugitive dust. Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. Adult birds can leave the Proposed Project to avoid direct harm, but active nests could be impacted. Impacts to nests will be avoided and minimized by APMs GEN-1, BIO-1, BIO-2, BIO-5, BIO-14, and BIO-15.

Impact BIO-2: The Proposed Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)

To minimize environmental impacts, the proposed SVC has been sited in an area that was previously used as a staging area during construction of Sunrise Powerlink. In this PEA, the staging area is referred to as the Wilson Laydown Area (WLA). It was highly disturbed and completely graded at that time. In addition to the recent grading of the WLA, all of the lands south of the Bell Bluff Truck Trail, including the WLA, have been subject to repeated disturbance dating back to at least 1994, prior to Sunrise Powerlink. Figure 4.4-2 depicts the extent of disturbance from a review of historic aerial photography.

The proposed SVC will impact up to 0.3-acre of previously-disturbed Engelmann Oak-Coast Live Oak/Poison Oak/Grass Association that is adjacent to the WLA and immediately adjacent to, and south of, Bell Bluff Truck Trail which was widened and paved as part of Sunrise Powerlink. This association is classified as a sensitive natural community. However, as stated earlier, the area where impacts are planned has been subject to repeated disturbance since at least 1994 and the understory at this location is not fully developed and not typical of this association, more closely matching the neighboring California Buckwheat Association. Additionally with regard to mitigation for impacts, the Sunrise Powerlink Final EIR/EIS states on page E.4.2-5:

"Impacts to non-native vegetation, developed areas, and disturbed habitat would be adverse but less than significant (Class III), and no mitigation is required." (CPUC 2008)

As a result of this area's repeated disturbance, impacts to this vegetation community within the northeast portion of the SVC site will be less than significant.

Two streams that are potentially subject to CDFW jurisdiction are present on either side of Bell Bluff Truck Trail with culverts located under the paved road where the underground transmission line will be installed. It is anticipated that the underground transmission line will be installed underneath these culverts, with the culverts left in place and shored. However, in the unlikely event that blasting is required at the culvert location, temporary culvert removal may occur. Based on preliminary geotechnical analysis, localized, low-energy blasting may be required for transmission line and splice vault excavations on less than 10% of the transmission line. If culverts need to be temporarily removed, work would not take place within 48 hours of a forecasted rain event of 0.5 inches or greater, temporary piping would be maintained onsite as a backup precaution to maintain any unexpected flows per APM WQ-6, and no work would take place in the potentially jurisdictional features on either side of the road. Based on the current design, the connectivity of the waters conveyed by the culverts will remain unchanged during implementation of the Proposed Project and impacts will be less than significant.

Impact BIO-3: The Proposed Project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (No Impact)

By locating the underground transmission line under an existing paved roadway, the Proposed Project has been designed to avoid impacts to waterways and wetlands. There is one ephemeral stream that is likely USACE-jurisdictional on the north side of Bell Bluff Truck Trail; the Proposed Project would avoid this area. Therefore, there will be no impact.

Impact BIO-4: The Proposed Project will not 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)

The Proposed Project is located adjacent to and within existing roads and outside of any established migratory corridors. Terrestrial animals, such as mule deer and coyote, may use the Proposed Project for local migratory activity. Temporary disturbance of any local migratory activity may occur during project construction as a result of increased vehicular traffic, noise, and human presence. Permanent disturbance of local migratory activity will be limited to occasional operation and maintenance of the Proposed Project. Maintenance of the SVC facility will not go beyond what is already occurring to operate and maintain the nearby existing SDG&E Suncrest Substation. Therefore, the project will not interfere substantially with the movement of any native resident wildlife species, nor impede the use of any wildlife nursery sites. The project will not include any in-water construction and, therefore, will not interfere with the movement of migratory fish. Therefore, impacts are anticipated to be less than significant.

Impact BIO-5: The Proposed Project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (No Impact)

The San Diego County General Plan provides several policies related to preservation of habitat and resource protection. Relevant policies are provided below.

- **COS-2.1, Protection, Restoration and Enhancement:** Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.
- **COS-2.2, Habitat Protection through Site Design:** Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.
- **COS-1.9, Invasive Species:** Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.
- **COS-3.1, Wetland Protection:** Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.
- **COS-3.2, Minimize Impacts of Development:** Require development projects to:

1) mitigate any unavoidable losses of wetlands, including its habitat functions and values; and,
2) Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydro-modification, land and vegetation clearing, and the introduction of invasive species.

Environmental factors have been considered and incorporated into the siting and design of the Proposed Project. To avoid new resource impacts, the Proposed Project has been co-located in areas that have been subject to prior disturbance. In addition, the size of the SVC facility has been minimized and the transmission line installed underground within an existing road to reduce loss of natural habitat, which will also be promoted by the implementation of APM BIO-5. Following construction, any temporary work areas will be returned to pre-construction conditions and native seed mixes appropriate for the site-specific project area will be utilized to revegetate disturbed areas and minimize the potential for invasive species (APM BIO-10). Impacts to wetlands, streams, lakes, and riparian areas have been avoided by project design.

Overall, implementation of the Proposed Project is anticipated to have no conflict with local policies or ordinances relating to biological resources, and therefore no impacts are anticipated.

Impact BIO-6: The Proposed Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. (No Impact)

There are no adopted plans applicable to the Proposed Project. The Proposed Project is located within the San Diego County MSCP area, but the MSCP has not been implemented for eastern San Diego County; however, it is in the planning stages. No special-status species were observed in the Proposed Project area during 2015 surveys, including MSCP-covered species. In addition, APMs would further reduce impacts to wildlife and their habitats. Therefore, no conflicts with the MSCP are anticipated.

4.4.5. References

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4.5. CULTURAL RESOURCES

4.5.1. Introduction

This section describes the existing conditions in the Proposed Project area as they relate to cultural resources, analyzes the Proposed Project's potential impacts to these resources, and concludes that any impacts will be less than significant.

The information in this section is based on the Phase I cultural resources study conducted by SWCA (Hoffman and Treffers 2015) and documented in the Cultural Resources Technical Report, included in Appendix E. The checklist below summarizes the significance of the potential impacts to cultural resources using the significance criteria contained in Appendix G of the State CEQA Guidelines (Table 4.5-1). Paleontological resources are discussed in Section 4.6, Geology and Soils.

Table 4.5-1. CEQA Initial Study Checklist for Cultural Resources

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
CULTURAL RESOURCES Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X (see Section 4.6)
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	

4.5.2. Existing Conditions

4.5.2.1. Regulatory Background

Federal

National Historic Preservation Act of 1966

The Proposed Project does not have a federal nexus and, therefore, reference to the NHPA and other federal laws is provided here for informational purposes only. Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) instituted a multifaceted program, administered by the Secretary of the Interior, to encourage sound preservation policies of the nation's cultural resources at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer, provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the goals of the NHPA, assisted Native American tribes in preserving their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP). Projects that involve federal funding or permitting (i.e., have a federal nexus) must comply with the provisions of the NHPA, as amended (16 U.S.C. 470f).

Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as NEPA. Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the NHPA. Section 106 states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in or eligible for inclusion in the NRHP, and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations, in Title 36 CFR Part 800, on such undertakings.

Other federal laws pertaining to cultural resources include the Archaeological Data Preservation Act of 1974, American Indian Religious Freedom Act of 1978, Archaeological Resources Protection Act of 1979, and Native American Graves Protection and Repatriation Act of 1989.

United States Forest Service, Cleveland National Forest

The CNF Land Management Plan includes goals and objectives regarding cultural resources, including Native American traditional use of resources. The Plan discusses the importance of balancing the protection of cultural resources and Native American concerns with managing the CNF. The CNF aims to promote conservation education as well as provide heritage site protection, and to maintain the national forest in a condition so that Native Americans can exercise and retain traditional connections to the land and to foster both traditional and contemporary cultural uses of the national forests.

The Proposed Project is located on private property within the administrative boundary of the USFS CNF; however, the Proposed Project does not traverse any CNF or other federal lands and is therefore not subject to USFS jurisdiction. While the Proposed Project is not subject to the

policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, NEET West has considered relevant elements of the plan during the design of the Proposed Project.

State

The policies of the NHPA are implemented at the State level by the California Office of Historic Preservation (OHP), a division of the California Department of Parks and Recreation (DPR). The OHP is also tasked with carrying out the duties described in the California PRC and maintaining the California Historic Resources Inventory and California Register of Historical Resources (CRHR). The state-level regulatory framework also includes CEQA, which requires the identification and mitigation of substantial adverse impacts that may affect the significance of eligible historical and archaeological resources.

California Environmental Quality Act

CEQA requires a lead agency to analyze whether historic and/or archaeological resources may be adversely impacted by a proposed project. Under CEQA, a "project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment" (California PRC Section 21084.1). Determining if a project will cause such a change is a two-part process: first, the determination must be made as to whether the proposed project involves cultural resources that are eligible or potentially eligible for the CRHR; second, if eligible or potentially eligible cultural resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of those resources.

Historical Resources

According to State CEQA Guidelines Section 15064.5, for the purposes of CEQA, historical resources are:

- a resource listed in, or formally determined eligible for listing in, the CRHR (PRC Section 5024.1; 14 California Code of Regulations [CCR], Section 4850 et seq.);
- a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significance in a historic resources survey meeting the requirements of PRC Section 5024.1(g);
- any building, structure, object, site, or district that the lead agency determines eligible for national, state, or local landmark listing; generally, a resource shall be considered by the lead agency to be historically significant (and therefore a historic resource under CEQA) if the resource meets the criteria for listing on the CRHR (as defined in PRC 5024.1; 14 CCR 4852).

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity (as defined in previous section) does not meet NRHP criteria may still be eligible for listing in the CRHR.

According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude the lead agency from

determining that the resource may be an historical resource (PRC Section 5024.1). Pursuant to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (State CEQA Guidelines Section 15064.5(b)).

Substantial Adverse Change and Indirect Impacts to Historical Resources

The State CEQA Guidelines specify that "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (State CEQA Guidelines Section 15064.5). Material impairment occurs when a project alters in an adverse manner or demolishes "those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion" or eligibility for inclusion in the NRHP, CRHR, or local register. In addition, pursuant to State CEQA Guidelines Section 15126.2, the "direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects."

Pursuant to the State CEQA Guidelines (Section 15378), study of a project under CEQA requires consideration of "the whole of an action, which has the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." The State CEQA Guidelines (Section 15064d) further define direct and indirect impacts:

1. A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project.
2. An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment.
3. An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project.

Archaeological Resources

Archaeological resources can be historical resources as defined above; in addition, unique archaeological resources must also be considered by a lead agency under the State CEQA Guidelines. PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a proposed project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state (PRC Section 21083.2[c] and CCR Section 15126.4[b]). To the extent that it is not feasible to avoid a unique resource, mitigation measures are required (PRC Sections 21083.2[a], [b], and [c]). CEQA notes that if an archaeological resource is neither a unique archaeological resource nor an historical resource, the effects of the project on those resources shall not be considered to be a significant effect on the environment (State CEQA Guidelines Section 15064.5(c)(4)).

The disposition of burials falls first under the general prohibition on disturbing or removing human remains under California Health and Safety Code Section 7050.5. More specifically, remains suspected to be Native American are treated under CEQA in CCR Section 15064.5, which cites language found in PRC Section 5097.98 that illustrates the process to be followed in the event that remains are discovered. Further, if human remains are discovered during the construction of the Proposed Project, no further disturbance to the site shall occur, and the San Diego County Coroner must be notified (CCR Section 15064.5 and PRC Section 5097.98). If the County Coroner determines the remains to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC) within 48 hours. The NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of the deceased, and the MLD may then make recommendations as to the disposition of the remains.

Assembly Bill 52

This study complies with CEQA, including Assembly Bill (AB) 52 of 2014, which amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

Consultation with Native Americans

AB 52 formalizes the lead agency – tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. As the lead agency, the CPUC Energy Division is required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Tribal Cultural Resources

Section 4 of AB 52 adds PRC Sections 21074(a) and (b), which address tribal cultural resource and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if the California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3 [a]).

California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California PRC Sections 21083.2 and 21084.1). PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR.

According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it (i) retains "substantial integrity," and (ii) meets one or more of the following criteria, which are modeled on NRHP criteria:

1) It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) it is associated with the lives of persons important in our past;
3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4) it has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity does not meet NRHP criteria may still be eligible for listing in the CRHR.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects under CPUC jurisdiction, including the Proposed Project, are exempt from local land use and zoning regulations and permitting. However, Section III.C of CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities) requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As a result, NEET West has taken into consideration all State and local plans and policies as they relate to cultural resources. Although County and other local polices are provided below, they are provided for disclosure purposes only.

County of San Diego Municipal Code

The County Municipal Code, Section 396.7, San Diego County Local Register of Historical Resources, provides guidelines for the application, enforcement, and public awareness of the County's historic preservation regulations, as enforced by the County Planning and Development Services department. The purpose of the historic preservation ordinance is as follows: "The Local Register is an authoritative listing and guide to be used by local agencies, private groups, and citizens in identifying historical resources within the County. In addition, the listing shall also be used as a management tool for planning, and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (Subsection B).

Subsection E (2) of Section 396.7 of the Municipal Code provides the following criteria for the designation of historical resources in San Diego County:

A. Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;

B. Is associated with the lives of persons important to the history of San Diego County or its communities;

C. Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,

D. Has yielded, or may be likely to yield, information important in prehistory or history.

County of San Diego General Plan

Chapter 5, Conservation and Open Space Element, of the *San Diego County General Plan* (County of San Diego 2011a) includes goals and policies regarding cultural resources to ensure their protection and preservation. The goals and policies are intended to supplement NEPA, NHPA, and CEQA, and are listed below.

- **Goal COS-7, Protection and Preservation of Archaeological Resources:** Protection and preservation of the County's important archeological resources for their cultural importance to local communities, as well as their research and educational potential.
    - **Policy COS-7.1, Archaeological Protection:** Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.
    - **Policy COS-7.2, Open Space Easements:** Require development to avoid archeological resources whenever possible. If complete avoidance is not possible, require development to fully mitigate impacts to archaeological resources.
    - **Policy COS-7.3, Archaeological Collections:** Require the appropriate treatment and preservation of archaeological collections in a culturally appropriate manner
    - **Policy COS-7.4, Consultation with Affected Communities:** Require consultation with affected communities, including local tribes, to determine the appropriate treatment of cultural resources.
    - **Policy COS-7.5, Treatment of Human Remains:** Require human remains be treated with the utmost dignity and respect, and that the disposition and handling of human remains will be done in consultation with the MLD and under the requirements of federal, State, and County Regulations.
    - **Policy COS-7.6, Cultural Resource Data Management:** Coordinate with public agencies, tribes, and institutions in order to build and maintain a central database that includes a notation whether collections from each site are being curated, and if so, where, along with the nature and location of cultural resources throughout San Diego County.
- **Goal COS-8, Protection and Conservation of the Historical Built Environment:** Protection, conservation, use, and enjoyment of the County's important historic resources.
    - **Policy COS-8.1, Preservation and Adaptive Reuse:** Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process.
    - **Policy COS-8.2, Education and Interpretation:** Encourage and promote the development of educational and interpretive programs that focus on the rich multicultural heritage of San Diego County.

Alpine Community Plan

The *Alpine Community Plan* (a component of the *San Diego County General Plan*) (County of San Diego 2011b) was developed as a part of and in conjunction with the *San Diego County General Plan* to provide guidance for decisions regarding land use in the Alpine Planning Area. Chapter 9, Conservation, addresses cultural resources—Goal 1 is to "promote the well-planned management of all valuable resources, natural and man-made, and prevent the destruction and wasteful exploitation of natural resources, where feasible." The chapter discuses Resource Conservation Areas (RCAs) and localities identified as worthy of special efforts to protect

resources, and includes policies and recommendations to help meet conservation goals; those listed below pertain to cultural resources.

Conservation

- **Policies and Recommendations 1:** Encourage the protection and conservation of unique resources in the Alpine Planning Area.
- **Policies and Recommendations 2:** Important plant, animal, mineral, water, cultural, and aesthetic resources in the *Alpine Community Plan* area shall be protected through utilization of the RCA designations and appropriate land usage.
- **Policies and Recommendations 3:** Agencies regulating environmental reports and analyses required by CEQA may require supplemental studies for projects with land located in RCAs, if necessary.
- **Policies and Recommendations 4:** Promote conservation education in the community and schools.
- **Policies and Recommendations 26:** Support the preparation of an adequate inventory of significant historical landmarks in Alpine.
- **Policies and Recommendations 27:** Encourage cooperation with other jurisdictions for trading and otherwise negotiating land transfers to consolidate holdings for historical preservation.

Central Mountain Subregional Plan

The *Central Mountain Subregional Plan* (a component of the *San Diego County General Plan*) (County of San Diego 2011c) was developed as a part of and in conjunction with the *San Diego County General Plan* to provide guidance for decisions regarding land use in the Central Mountain Area. The Proposed Project area is west of the boundary for the *Central Mountain Subregional Plan*, but within several hundred feet of that Plan's coverage area. Although the Plan does not apply to the Proposed Project, due to the Proposed Project's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. Chapter 8, Conservation, is the primary section that addresses cultural resources and discuses RCAs. The goals and policies specific to cultural resources are listed below.

Conservation

Goals

- **Goal 1:** The preservation of known historical and archaeological resources, and the provision of adequate protection for new sites as they are discovered.
- **Goal 2:** The preservation of archaeological and historical resources through the identification of resources and regulatory review of development projects.

Policies

- **Policy 1:** Appropriate historical resources shall be nominated to the State and/or National Register of Historic Resources.

- **Policy 2:** Significant historic and prehistoric sites located within the Subregion shall be evaluated for Historic Landmark Status under Ordinance 7105 and, if qualified, shall be designated and rezoned in accordance with Section 7550 and regulated under Section 5700 of the Zoning Ordinance.
- **Policy 3:** Encourage public agencies and private property owners to make significant archaeological and historic resources available to the public for educational purposes.
- **Policy 4:** Create RCAs to protect unique or otherwise scientifically valuable archaeological sites that are identified in CEQA studies, scientific investigations, or from institutional records.
- **Policy 5:** Create management plans to protect archaeological sites from future land development and vandalism.

4.5.2.2. Methodology

SWCA refers to two different areas associated with the Proposed Project, as defined below and in Figure 4.5-1:

- **Proposed Project Area:** An approximately 12.21-acre area comprising the entire Project Footprint, including temporary and permanent disturbance areas.
- **Records Search Area:** An approximately 1-mile radius around the Proposed Project Area for which a California Historical Resources Information System (CHRIS) records search was conducted.

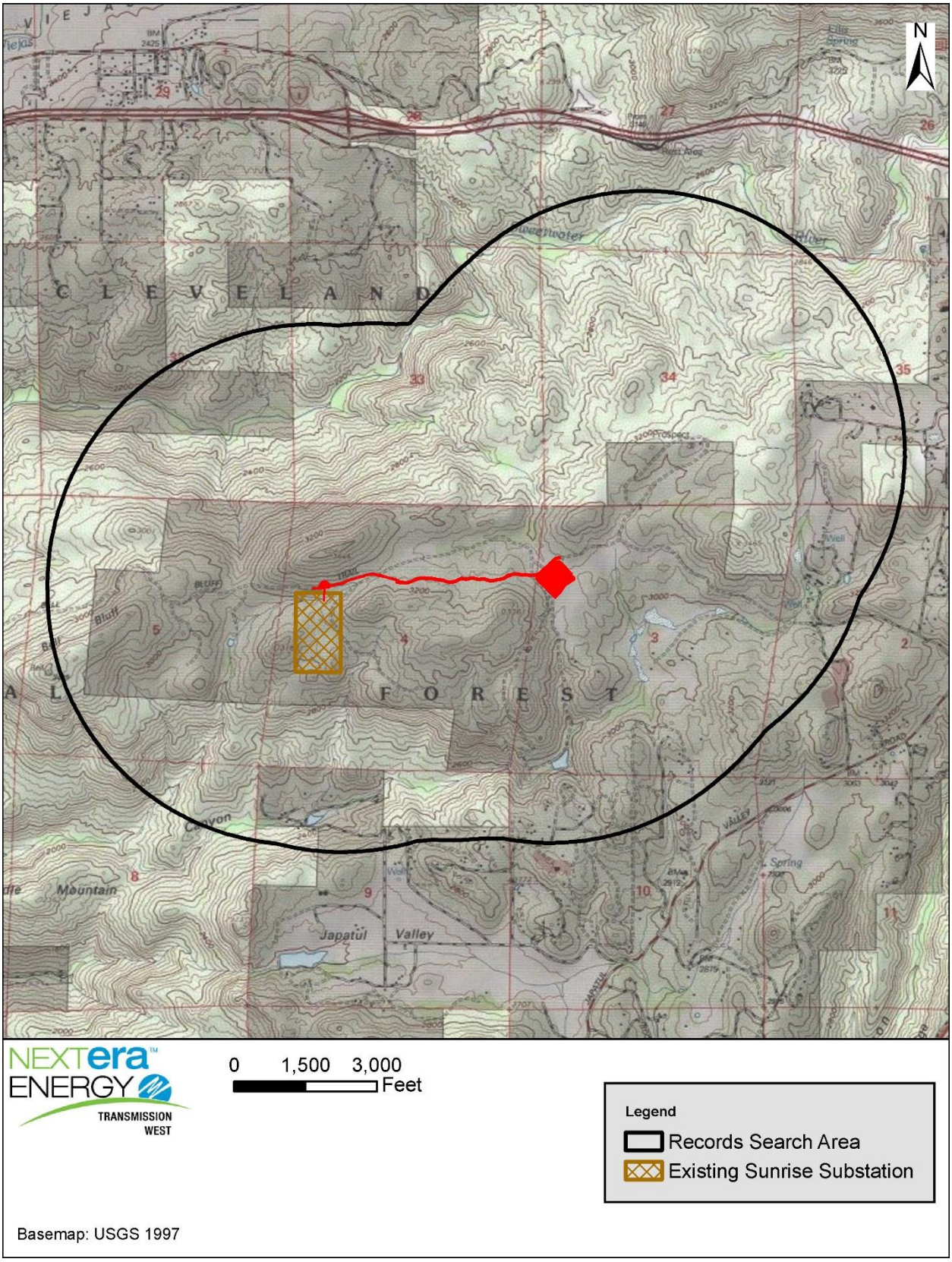
Records Search

On February 13, 2015, SWCA requested a search of the California Historical Resources Information System (CHRIS) from the South Coastal Information Center (SCIC) at San Diego State University; SCIC provided the results to SWCA on February 18, 2015. The search included any previously recorded cultural resources and investigations within the Records Search Area, defined as an approximate 1-mile radius around the Proposed Project Area. The CHRIS search also included a review of the historic maps, NRHP, CRHR, California Points of Historical Interest list, California Historical Landmarks list, Archaeological Determinations of Eligibility list, Historic Properties Directory, and California State Historic Resources Inventory.

Cultural Resources Survey

SWCA conducted intensive cultural resources pedestrian surveys in February, March, May, and August, 2015, in all areas that could be impacted by the Proposed Project. The intensive-level survey consisted of systematic surface inspection with transects walked at 15-meter (50-foot) intervals or less to ensure that all surface-exposed artifacts, sites, and built environment resources in the Proposed Project area could be identified. SWCA examined the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discoloration that might indicate the presence of a cultural midden, roads and trails, and depressions and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations).

Figure 4.5-1. Proposed Project Area and Records Search Area



4.5.3. Environmental Setting

The Proposed Project is located on the west side of the Peninsular Range within an unincorporated area of San Diego County. The topography of the region is characterized by steep hills interspersed by narrow valleys and deep canyons with incised high gradient drainage corridors that are home to waterways and ephemeral streams. The Sweetwater River is approximately 0.7 mile to the northwest, Japatul Valley is approximately 1.3 miles to the south, and Bell Bluff Peak is approximately 1.25 miles to the west-southwest. The vicinity is largely undeveloped, and consists of unpopulated, open space, with the notable exception of the SDG&E Suncrest Substation, which is located at the western terminus of the Proposed Project area, and infrastructure associated with the substation.

Nearly all of the Proposed Project Area is disturbed, most notably by recent improvements to Bell Bluff Truck Trail and the former Wilson Laydown Area, a temporary laydown yard for the Sunrise Powerlink project that is currently the site of biological habitat restoration and is proposed as the site for the SVC. The segment of Bell Bluff Truck Trail located within the Proposed Project area was widened, graded, and paved during construction associated with the Sunrise Powerlink. Within the former Wilson Laydown Area, construction activities associated with site preparation included brush clearing and grading in 2011–2012; removed native vegetation was incorporated into the topsoil, and topsoil salvage to a depth of 6 inches (15.24 cm) was conducted (AECOM and RECON 2012). After the location was no longer used as a materials storage and laydown area in late 2012, restoration efforts included re-contouring the land and mechanically ripping the ground, resulting in substantial movement of sediments. The yard was ripped and cross-ripped to a depth of 18 to 24 inches (46 to 61 cm) prior to being re-contoured to the original topography, and the salvaged topsoil was then re-distributed over the site and seeded (SDG&E 2015). Biological habitat restoration efforts, including restoration maintenance activities, weed control, and monitoring, are currently ongoing (SDG&E 2015).

The elevation in the Proposed Project area varies between 3,000 to 3,200 feet above MSL. The local climate is mild, with an annual mean temperature of 63.4°F (IDcide 2015). Summers are warm, with average maximum temperatures peaking at 76°F in August, and winters are cool, reaching the lowest average minimum temperatures in December at 54°F. The average annual precipitation in Alpine is 14.7 inches, with most of the rainfall occurring in the winter and spring (NOAA 2015). Vegetation in the vicinity consists of a mixture of chaparral scrub and oak woodlands, with pockets of disturbance dominated by non-native grasses and forbs. Dominant species include chamise (*Adenostoma fasciculatum*) and several varieties live oak (*Quercus* spp.), with smaller shrubs and various grasses, including manzanita (*Arctostaphylos manzanita*), red brome (*Bromus madritensis*), and buckwheat (*Fagopyrum esculentum*).

4.5.3.1. Ethnohistory

Prehistoric Overview

The prehistory of coastal and inland southern California is varied and rich, with occupations extending from at least 12,000 years ago to historic contact. Numerous chronological sequences have been devised to assess cultural changes within various areas of southern California in the past 75 years or more (Moratto 1984). The framework used here is divided into three major

periods: the Paleoindian Period (ca. 9000–6000 B.C.), Archaic Period (6000 B.C.–A.D. 500), and Late Prehistoric Period (A.D. 500–Historic Contact). Within these lengthy periods are refined ecological and chronological subdivisions (e.g., Sutton et al. 2007:229–245). These subdivisions help us better understand the dynamism and diversity of the archaeological record—the presence over time of a variety of technological features, economy and exchange systems, and social organization and complexity—as well as the timing of and responses to environmental shifts present within the southern coastal region (Orange, western Riverside, and San Diego Counties).

Paleoindian Period (~9000–6000 B.C. [11,500–8000/7500 B.P.]

Although occupation in California began as early as 8,000 to 11,000 years ago, evidence for the presence of humans prior to about 6000 B.C. (or 8,000 years Before Present [B.P.]) is relatively sparse and scattered throughout the state. The earliest accepted dates for human occupation of southern California come from sites along the coast, particularly from two of the Northern Channel Islands that are situated off the coast from Santa Barbara, and form part of a Paleo-Coastal Tradition dependent on marine resources (Jones 1991; Jones et al. 2002). However, an increasing frequency of radiocarbon dates show occupation of the Southern Channel Islands, as well as the coastal areas of Orange and San Diego Counties, as early as 9,000 to 10,000 years B.P. (Byrd and Raab 2007:219). Away from the coast in California were Western Pluvial Lakes Tradition Paleoindians who practiced a diverse mixture of hunting and gathering, but who were not dependent on large Pleistocene megafauna as in other parts of North America at the time. A major occupational emphasis by Western Pluvial Lakes Tradition peoples was on Pleistocene lakeshores in the now-arid areas of southern California, the western Great Basin, and along the Cascade–Sierra Nevada uplift that forms California's eastern border (see Moratto 1984:90–92).

Archaic Period (6000 B.C.–A.D. 500 [8000–1500 B.P.])

Subsistence patterns shifted around 6000 B.C., coincident with the gradual desiccation associated with the onset of the Altithermal, a warm and dry period that lasted about 3,000 years (Antevs 1955). The Archaic Period generally is characterized by an ecological adaptation to collecting, which resulted in an increased frequency of ground stone implements. The Early Archaic Period in southern California is generally referred to as the Milling Stone Period (Wallace 1955, 1978), with sites common in the southern California coastal region between Santa Barbara and San Diego, and at many near-coastal and inland locations. A distinction is made between coastal (La Jolla complex) and inland (Pauma complex) culture within San Diego County during the entirety of the Archaic Period (Moriarty 1966; Rogers 1939, 1945; True 1958). Considerable debate exists as to the relationship between the San Dieguito, La Jolla, and Pauma complexes within the San Diego County subregion (Gallegos et al. 1987; Jordan 2006:5; Smith 1987). Within the inland portion of northern San Diego County, Phase I of the San Luis Rey complex (Meighan 1954; True et al. 1974) appears by approximately 1000 B.C. during the Late Archaic Period.

Late Prehistoric Period (A.D. 500–Historic Contact [1500 B.P.–Historic Contact])

The Late Prehistoric Period in southern California is characterized by a number of changes in subsistence, foraging, and land use patterns, which begins to reflect the use pattern known from Historic Period Native American groups. Hallmarks of the Late Prehistoric Period include the dominance of small projectile points signifying use of the bow and arrow. The period also

witnessed an increased emphasis on plant collecting and processing, population size and settlement growth, permanent villages, expansion of trade networks, and rock art in some areas (Jordan 2006:5). Two cultural complexes have been defined for San Diego County during the Late Prehistoric Period: the San Luis Rey II complex in the north and the Cuyamaca complex in the south (Meighan 1954; True et al. 1974). The San Luis Rey II complex likely represents the forebears of the Takic-speaking Luiseño/Juaneño who inhabited northern San Diego County during the Ethnohistoric Period. The forebears of the Yuman-speaking Kumeyaay (Ipai and Tipai geographic divisions) of ethnographic and modern times may be represented by the Cuyamaca complex.

Ethnographic Overview

Diegueño/Kumeyaay

At the time of European contact, most of present-day Imperial and San Diego Counties were populated with Yuman-speaking peoples, collectively referred to today as the Kumeyaay, called Diegueño by the Spanish (Kroeber 1925; Luomala 1978). The Diegueño/Kumeyaay language consists of three main dialects—'Iipay, Kumeyaay, and Tiipay—that correspond to the geographic divisions of the Diegueño/Kumeyaay (the first and third terms from the word meaning "people") (Mithun 2004:577). The Ipai (formerly Northern or Western) inhabited the central portion of San Diego County, whereas the Kamia (formerly Eastern) occupied the remaining southern part of San Diego County and eastward into Imperial County and the California portion of the Colorado Desert. Tipai (formerly Southern) territory included Jamul in San Diego County, extending southward deep into Baja California. Today, many local groups have banded together as the Kumeyaay Nation or Kumeyaay-Diegueño Nation (Kumeyaay Information 2015).

Kumeyaay territory was divided among bands that generally controlled 10 to 30 miles within a drainage system (Shipek 1982:297). The entire band aggregated in winter villages, which were placed in sheltered valleys near reliable sources of water (Luomala 1978:597). All of the Ipai and many of the Tipai camped in coastal valleys during certain times of the year, when they gathered coastal resources. Land resources generally belonged to individual bands, with few areas considered "tribal" or open to anyone (Shipek 1982:301).

Several reservations were formed after the mid-1870s. These include Barona Ranch, Campo, Cuyapaipe, Inaja and Cosmit, Los Coyotes (shared with Mountain Cahuilla), Manzanita, Mesa Grande, Santa Ysabel, Sycuan, and Viejas (California Indian Assistance Program [CIAP] 2003). In the 1920s, many Kumeyaay became members of the Mission Indian Federation, which was organized to fight for self-rule on southern California reservations.

Historic Overview

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the

beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period, when California became a territory of the United States.

Spanish Period (1769–1822)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríguez Cabríllo stopped in 1542 at present-day San Diego Bay. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1886:96–99; Gumprecht 1999:35). Inland exploration and colonization of Alta California by Spain was not a priority for more than 200 years. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's "Historic Period." Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California.

In July 1769, Franciscan Friar Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California between 1769 and 1823. The series of 21 missions were situated paralleling California coastline between San Diego and Sonoma. A second mission in San Diego County, Mission San Luis Rey de Francia, was founded in 1798. All of the missions contained churches, workshops, storehouses, soldiers' barracks, and quarters for Native American neophytes, who were used as labor. In San Diego, 1,400 Native Americans were associated with the mission by 1797. The cattle and horses raised on the pastures adjacent to the first mission led to the eventual expansion of ranching to other areas and missions within San Diego County and beyond.

Mexican Period (1822–1848)

After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. Extensive land grants were established in the interior during the Mexican Period, in part to increase the population away from the more settled coastal areas where the Spanish had concentrated their colonization efforts. At the same time, the influence of the California missions waned in the late 1820s through the early 1830s. Following adoption of the Secularization Act of 1833, the Mexican government privatized lands owned by the California mission, redistributing them to private, non–Native American ranchers through several hundred land grants (Langum 1987:15–18).

During the Mexican Period, the large ranchos became important economic and social centers. These included Cuyamaca Rancho, San Felipe Rancho, and Santa Ysabel Rancho, which together comprised about 63,000 acres in today's central San Diego County. The Santa Rosa Rancho was located northeast of Rancho Santa Margarita y Los Flores, comprising more than 133,000 acres, and is now the Marine Corps Base at Camp Pendleton in northwestern San Diego County. The city of San Diego was organized under Mexico's laws as a pueblo (town) in 1834, bringing development of its own growing non-native population beyond the walls of the presidio in the area now known as Old Town (Pourade 1964).

American Period (1848–Present)

War in 1846 between Mexico and the United States ended with the Treaty of Guadalupe Hidalgo, signed in 1848, ushering California into its American Period. California became one of the United States with the Compromise of 1850. San Diego County, at first stretching from the bay east to the Colorado River, was designated upon statehood and formally organized in 1852 (Greenwood et al.1993:14). Later, portions of San Diego County were carved out to create part of Riverside County in 1893 and Imperial County in 1907.

The California Southern Railroad (a subsidiary of the Santa Fe Railway system) connected the Los Angeles area through Oceanside with San Diego in 1885 (Davidson 1955). Arrival of the Southern Pacific, Santa Fe, and connecting lines throughout southern California in the 1870s and 1880s brought economic opportunity and exponentially increased the state's population, a combined economic and cultural phenomenon widely identified as the Boom of the Eighties (Dumke 1944). The town of El Centro was linked directly with San Diego in 1919 with construction of the San Diego and Arizona Railway (Wee and Ferrell 2000).

San Diego County

Successful Gold Rush merchant and land speculator Alonzo E. Horton moved from San Francisco to San Diego in 1867, purchased 960 acres adjacent to the bay south of Old Town, and laid out an "addition" for San Diego's new town site. The fast-growing city was re-incorporated in 1872, and within a few years San Diego became the largest California city south of Los Angeles (Dumke 1944). Beginning in the 1870s, many residents of San Diego County commonly lived on farmsteads, often forming rural communities with clusters of other nearby farmsteads. Many of these farmsteads were built on land surrounding Horton's Addition, while his "South San Diego" rapidly developed into the new downtown San Diego and the Hillcrest area.

San Diego Bay first harbored U.S. Navy ships in 1898, and San Diego County thereafter hosted several major naval installations, accelerating after construction of the Pacific fleet's coaling station in 1907. The Navy added its first Naval Air Station on North Island in 1917, and during World War II the city and bay became a major center of the aircraft industry and naval aviation. At the northwestern extent of the county, Marine Corps Base Camp Pendleton was established on the coast in 1942 to train Marines for the war. After the war, many personnel that had been stationed in San Diego County returned to the area with their families to create the next population and housing boom (Davidson 1955).

Outside the city of San Diego, the earliest farmers and farming communities owned the most productive land and prospered well into the 1920s. Many of the county's smaller agricultural tracts disappeared in the 1920s and 1930s, and some were incorporated into a few large agricultural tracts. The associated decline in cattle ranching was further exacerbated by the creation of the CNF in 1908. Developed to protect the San Diego, Orange, and Riverside County watershed, the USFS placed strict guidelines on the number of cattle permitted to graze the forest lands and on burning vegetation to improve forage quality. Still, beef production remained one of the more important agricultural industries in San Diego throughout the 1930s and 1940s.

The key industries in the county include agriculture, the military and homeland defense industry, innovation technology (biomedical, software, telecommunications), international trade, manufacturing, and tourism (City-Data.com 2009). Of these, manufacturing, including shipbuilding and repair, production of toys and sporting goods, computers, metals, and industrial machinery, contributed the most to the county's gross national product in 2002. Agricultural production in the county now focuses on specialized crops (e.g., avocados, exotic flowers, nursery and decorative plants). San Diego County has the twelfth-largest farm economy in the U.S., with more small farms (less than 10 acres in size) than any other county (San Diego Farm Bureau 2015).

4.5.4. Native American Coordination

SWCA requested a search of the NAHC Sacred Lands Files for the Proposed Project area and vicinity. The NAHC response letter stated that the results of the Sacred Lands File search indicate that no Native American cultural resources are known in the immediate vicinity of the Proposed Project area. The NAHC also provided a list of 15 Native American groups and individuals who may have knowledge of cultural resources in the Proposed Project area. NEET West sent letters to each of the contacts listed by the NAHC plus four additional contacts NEET West identified independently, identifying an area of interest in which the Proposed Project will be located and requesting input. NEET West distributed the letters to the following contacts:

- Barona Band of Mission Indians, Mr. Adam Reyes, Councilman
- Barona Band of Mission Indians, Mr. Clifford LaChappa, Chairman
- Campo Kumeyaay Nation, Mr. Ralph Goff, Chairman
- Campo Kumeyaay Nation, Mr. Steven Cuero, Committee Member
- Ewiiaapaayp Tribal Office, Robert Pinto Sr., Chairperson
- Ewiiaapaayp Tribal Office, Will Micklin, Executive Director
- Iipay Nation of Santa Ysabel, Clint Linton, Director of Cultural Resources
- Iipay Nation of Santa Ysabel, Virgil Perez, Chairperson
- Inter-Tribal Cultural Resource Protection Council, Frank Brown, Coordinator
- Jamul Indian Village, Raymond Hunter, Chairperson
- Kumeyaay Cultural Historic Committee, Ron Christman
- Kumeyaay Cultural Repatriation Committee, Steve Banegas, Spokesperson
- Kumeyaay Cultural Repatriation Committee, Bernice Paipa, Vice Spokesperson
- Kumeyaay Diegueno Land Conservancy, Kim Bactad, Executive Director
- Kwaaymii Laguna Band of Mission Indians, Carmen Lucas
- Sycuan Band of the Kumeyaay Nation, Cody J. Martinez, Chairperson
- Sycuan Band of the Kumeyaay Nation, Lisa Haws, Cultural Resource Manager
- Viejas Band of Kumeyaay Indians, Anthony R. Pico, Chairperson

- Viejas Band of Kumeyaay Indians, Julie Hagen, Cultural Resources

As of August 21, 2015, NEET West has received two responses: Julie Hagen of the Viejas Band of Kumeyaay Indians requested a site visit and a copy of the cultural resources survey report when it is publicly available, and Carmen Lucas of the Kwaaymii Laguna Band of Mission Indians requested to review the cultural resources technical report and recommended that the Viejas Band of Kumeyaay Indians provide Native American Monitoring for the Proposed Project. NEET West responded to Hagen and Lucas, and arranged a site visit on August 4, 2015. Copies of the non-confidential cultural resources technical report will be provided to the two groups upon filing the PEA with the CPUC. Copies of the letters sent to the above groups are included in Appendix E.

4.5.5. Results

4.5.5.1. Records Search Results

Results of the cultural resources records search indicate that 21 previous cultural resource studies have been conducted within the Records Search Area, which is defined as approximately a 1-mile radius around the Proposed Project Area; five of these were conducted within the Proposed Project Area. In addition, the SCIC records search results identifies 21 previously recorded cultural resources within the Records Search Area: 17 prehistoric archaeological sites, one prehistoric isolate, and three historic archaeological sites. The historic archaeological sites consist of one refuse scatter and two sites with rock features. The prehistoric archaeological sites consist of four bedrock milling stations, five bedrock milling stations with lithic scatters, one bedrock milling station with a ceramic scatter, one ceramic scatter, five lithic scatters, and one lithic scatter with a rock alignment. Of these, one is within the Proposed Project area: prehistoric site P-37-031744/CA-SDI-20166, a prehistoric bedrock milling station.

4.5.5.2. Cultural Resources Survey Results

SWCA conducted an intensive-level survey of the Proposed Project Area and recorded three resources within the Proposed Project Area during the survey: one newly identified prehistoric archaeological site (SUN-S-1012), one previously recorded prehistoric archaeological site (P-37-031744/CA-SDI-20166), and one newly identified historic built environment resource (SUN-BSO-1002). Nearly all of the Proposed Project Area is disturbed, most notably by recent improvements to Bell Bluff Truck Trail and the former Wilson Laydown Area, a temporary laydown yard for the Sunrise Powerlink project that is currently the site of biological habitat restoration and is proposed as the site for the SVC. Most of the Proposed Project Area consists of a relatively flat, open area surrounded by slopes of varying steepness. Surrounding undisturbed areas are covered in dense vegetation, including brush, trees, and grasses. Ground visibility in the Proposed Project Area is variable though generally good to excellent (over 70 percent).

Prehistoric Archaeological Site SUN-S-1012

Prehistoric archaeological site SUN-S-1012 is a lithic scatter consisting of three pieces of flaked stone debitage (waste material) all manufactured from the same, metavolcanic material type

known as Santiago Peak. The site is in poor condition with significant disturbances associated with the past use of the area as a temporary construction laydown yard and current biological habitat restoration efforts. Ground disturbance in the vicinity of the site that occurred during site preparation, use as a materials storage and laydown area, and restoration efforts was significant (SDG&E 2015). Construction activities associated with site preparation included brush clearing and grading; removal of native vegetation and incorporation of vegetation into the topsoil, and topsoil salvage to a depth of 6 inches (15.24 cm) (AECOM and RECON 2012). After the location was no longer used as a materials storage and laydown area, restoration efforts included re-contouring the land and mechanically ripping the ground to alleviate compaction, resulting in substantial movement of sediments. The yard was ripped and cross-ripped to a depth of 18 to 24 inches (45.72 to 60.96 cm) prior to being re-contoured to the original topography. Salvaged topsoil was then re-distributed over the site and seeded (SDG&E 2015).

The ground surface surrounding site SUN-S-1012 is highly disturbed, with a visibly uneven surface consisting of a mixture of subsoil and topsoil. Information provided by SDG&E indicates that the disturbance related to the use of the area as a materials storage and laydown area for Sunrise Powerlink has thoroughly disrupted the horizontal position of materials and the stratigraphic relationships of the entire area to a depth of at least 45 cm, and as deep as 61 cm SDG&E 2015). The site is not known to contain buried deposits, but if these exist, they are highly unlikely to retain integrity. As part of the Phase I cultural resources study for the Proposed Project (Hoffman and Treffers 2015), SWCA evaluated prehistoric archaeological site SUN-S-1012 and found the resource not eligible for listing in the CRHR due to a lack of integrity. In addition, prehistoric archaeological site SUN-S-1012 does not meet the criteria for a "unique archaeological resource" under CEQA. No further cultural resources work, including further research, avoidance, or additional mitigation measures is necessary for this resource.

Prehistoric Archaeological Site P-37-031744/CA-SDI-20166

SWCA revisited and updated one previously recorded archaeological site, P-37-031744/CA-SDI-20166. This site is a prehistoric bedrock mortar site comprising two milling slicks (localities on an outcrop where grains were ground) located within and north of Bell Bluff Truck Trail. The site was originally recorded in 2011 as a prehistoric bedrock milling site consisting of a low granite outcrop with one partially exfoliated milling slick. The site was subsequently found ineligible for the CRHR and the NRHP by the CPUC and BLM and a portion of the bedrock outcrop was impacted during construction of the adjacent segment of Bell Bluff Truck Trail (Kyle and Williams 2013). SWCA updated the site, identified an additional milling slick feature located within the portion of site P-37-031744/CA-SDI-20166 that is outside of the Proposed Project Area, and expanded the site boundary. The newly identified feature is the same type of feature as was identified in the original site record and there is no evidence to suggest buried cultural deposits are present within the expanded site boundary. Thus, the new data does not change the previous finding that the site lacks the potential to yield important information (Criterion 4). In addition, there is no new data to suggest the site may be eligible under Criteria 1, 2, or 3. As part of the Phase I cultural resources study for the Proposed Project (Hoffman and Treffers 2015), SWCA found that this site remains ineligible for listing on the CRHR. No further cultural resources work is necessary for this resource, including further research, avoidance, or additional mitigation measures.

Historic Road SUN-BSO-1002/Bell Bluff Truck Trail

Historic road SUN-BSO-1002/Bell Bluff Truck Trail is an access road that has been realigned several times since initial development of the road circa in the early 20th century. The two segments within the Proposed Project area that were recorded as part of the current study are identified portions of the historic road alignment. As part of the Phase I cultural resources study for the Proposed Project (Hoffman and Treffers 2015), SWCA evaluated historic road SUN-BSO-1002/Bell Bluff Truck Trail and found that the resource is not eligible for listing on the CRHR. Historic road SUN-BSO-1002/Bell Bluff Truck Trail is not eligible for listing in the CRHR either individually or as a contributor to an eligible historic district for the following reasons:

- Research did not reveal any direct and important associations with historical events or persons (Criteria 1 and 2).
- It does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, nor possess high artistic values (Criterion 3).
- Research does not suggest the property has the potential to yield information important in history or prehistory (Criterion 4).

Further, the numerous modifications of the resource have significantly affected its integrity, such that it no longer conveys any potential significance as an early unpaved access road. Therefore, no further cultural resources work including further research, avoidance, or additional mitigation measures, is necessary for this resource.

4.5.6. Applicant-Proposed Measures and Potential Impacts

The subsequent sections describe the significance criteria for assessing the impacts to cultural resources, provide APMs for cultural resources, and discuss the potential of the Proposed Project to impact cultural resources.

4.5.6.1. Significance Criteria

According to Section 10564.5 of the State CEQA Guidelines and Section 21084.1 of CEQA, a project that may cause a significant impact to a historical resource or a unique archaeological resource is a project that may have a significant effect on the environment. Appendix G of the State CEQA Guidelines provides significance criteria for assessing impacts to cultural resources in the CEQA Environmental Checklist. According to Appendix G, a project would cause significant impacts to cultural resources if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 10564.5 of the CEQA Guidelines.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines.
- Disturb any human remains, including those interred outside of formal cemeteries.

A "substantial adverse change" is one that alters or destroys the characteristics of a resource that convey its historical significance. Conversely, if a cultural resource is found not to be significant as either a historical resource or a unique archaeological resource under CEQA, the effects of a project on that resource shall not be considered a significant effect on the environment and no further consideration of that resource is necessary under CEQA.

4.5.6.2. Applicant-Proposed Measures

The APMs described in Table 4.5-2 are intended to avoid or minimize potential impacts to cultural resources (CUL) and ensure impacts remain less than significant.

Table 4.5-2. Applicant Proposed Measures for Cultural Resources

APM No.	Description
	CULTURAL RESOURCES
APM CUL-1	**Retain a Qualified Principal Investigator.** A qualified principal investigator, defined as an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology, will be retained to carry out all applicant proposed measures related to archaeological and historical resources.
APM CUL-2	**Archaeological Construction Monitoring.** A qualified archaeological monitor will be retained to conduct periodic spot checking of initial ground disturbing activities. The archaeological monitor will work under the supervision of the principal investigator. Spot checking will include but not be limited to: excavations below 24 inches (60 cm) within the former Wilson Laydown Area (previously used as a materials storage and laydown area for the Sunrise Powerlink); and in locations wherein blasting will occur, both prior to and after blasting. The duration and timing of the monitoring will be determined by the CPUC, with recommendations provided by the principal investigator. If the principal investigator determines that periodic spot-checking is no longer warranted, he or she may recommend to the CPUC that monitoring cease entirely. In addition, if the principal investigator determines that an increase in the level of monitoring is warranted, he or she may recommend to the CPUC that full-time monitoring of ground disturbing activities be conducted in archaeologically sensitive areas.
APM CUL-3	**Inadvertent Discoveries.** In the event that unanticipated cultural materials are encountered during any phase of construction, all construction work within 50 feet of the deposit will cease, and the principal investigator will be consulted to assess the find. Construction activities may continue in other areas. Ground-disturbing impacts to any newly-discovered eligible or potentially eligible resources should be avoided to the extent feasible. If avoidance of these sites is not feasible, CPUC's Energy Division will ensure that potentially impacted cultural resources are assessed for significance, as defined by PRC Section 21083.2 or State CEQA Guidelines Section 15064.5(a), through implementation of Phase II investigations. Should such testing exhaust the data potential of these resources, impacts from the Proposed Project would be reduced to less than significant. Resources found to be not significant will not require additional treatment. Impacts to resources found to be significant will be reduced to less than significant through a Phase III data recovery program. Prior to any ground-disturbing activities, a detailed archaeological treatment plan will be prepared and implemented by a qualified archaeologist for the data recovery program. Data recovery investigations will be conducted in accordance with the archaeological treatment plan to ensure collection of sufficient information to address archaeological and historical research questions, and results will be presented in a technical report (or reports) describing field methods, materials collected, and conclusions. Additional testing and/or data recovery phases may involve additional excavation and/or more detailed recordation of resources or more comprehensive archival research. Any cultural material collected as part of an assessment or data recovery effort should be curated at a qualified facility. Field notes and other pertinent materials should be curated along with the archaeological collection.
APM-CUL-4	**Discovery of Human Remains:** If human remains are discovered, all work within 15 meters (50 feet) of the discovery shall cease and the San Diego County Coroner shall be notified. State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The San Diego County Coroner and the CPUC will be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a MLD. The MLD will complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

4.5.6.3. Potential Impacts

The following section addresses the significance criteria provided in Appendix G of the State CEQA Guidelines for the Proposed Project. The analysis determined that impacts will be less than significant. Implementation of APMs CUL-1 through CUL-4, as well as APM GEN-1, will ensure that impacts to cultural resources remain less than significant. APM CUL-1 will ensure all APMs related to cultural resources are supervised by an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology.

Impact CUL-1: The Proposed Project will not cause a substantial adverse change in the significance of a historical resource as defined in Section 10564.5 of the State CEQA Guidelines. (Less than Significant)

As part of the Phase I cultural resources study for the Proposed Project, SWCA evaluated historic era road SUN-BSO-1002/Bell Bluff Truck Trail and prehistoric archaeological sites P-37-031744/CA-SDI-02016620166 and SUN-S-1012 and found the resources not eligible for listing on the CRHR. Thus, they are not historical resources under CEQA and need not be considered further.

Ground visibility within the Proposed Project Area was generally good to excellent (over 70 percent). Further, nearly all sediments within the Proposed Project Area have been highly disturbed from construction activities associated with the Sunrise Powerlink, including road construction, the use of the proposed SVC site as a materials storage and laydown area (Wilson Laydown Area), and habitat restoration efforts. Nearly all of the Proposed Project Area that is located outside of the former Wilson Laydown Area, including the majority of the proposed underground transmission line, is located within the paved segments of Bell Bluff Truck Trail. Bell Bluff Truck Trail was widened, graded, and paved during construction associated with the Sunrise Powerlink.

Within the former Wilson Laydown Area, construction activities associated with site preparation included brush clearing and grading in 2011-2012; removed native vegetation was incorporated into the topsoil, and topsoil salvage to a depth of 6 inches (15.24 cm) was conducted (AECOM and RECON 2012). After the location was no longer used as a materials storage and laydown area in late 2012, restoration efforts included re-contouring the land and mechanically ripping the ground, resulting in substantial movement of sediments. The yard was ripped and cross-ripped to a depth of 18 to 24 inches (45.72 to 60.96 cm) prior to being re-contoured to the original topography, and the salvaged topsoil was then re-distributed over the site and seeded (SDG&E 2015). Biological habitat restoration efforts, including restoration maintenance activities, weed control, and monitoring, are currently ongoing (SDG&E 2015).

Based on survey results and the highly disturbed context of sediments within the Proposed Project Area, it is unlikely that previously unidentified cultural resources occur within the Proposed Project Area. Proposed construction activities will be limited to the Proposed Project Area, and potential blasting will be limited to areas wherein standard excavation methods are not feasible, such as within bedrock, which is highly unlikely to contain cultural resources. Further, the potential blasting will occur after other sediments have been mechanically removed with periodic spot-checking by a qualified cultural resources monitor, and will be minimized to

localize disturbances. Thus, proposed construction activities, including potential blasting, are unlikely to disturb previously unidentified cultural resources.

Implementation of APMs CUL-1 through CUL-4 and APM GEN-1 will ensure that impacts to historical resources will remain less than significant. The pre-construction worker training conducted under APM GEN-1 will ensure that construction personnel are aware of the applicable regulations and their responsibility to follow proper procedures should unanticipated cultural resources discoveries occur. APM CUL-1 will ensure all APMs related to historical resources are supervised by a qualified principal investigator and thus that all work conducted meets industry standards. Periodic spot checking by an archaeological construction monitor conducted in fulfillment of APM CUL-2 will ensure that eligible or potentially eligible archaeological resources are avoided and inadvertent discoveries are managed appropriately; the ability of the principal investigator to adjust the frequency and intensity of monitoring will result in an appropriate level of monitoring throughout the course of the project. APM CUL-3 will ensure that any newly-discovered CRHR-eligible or potentially eligible historical resources will be avoided or evaluated and, if necessary, that additional mitigation such as data recovery will be conducted to further reduce impacts. The requirement of APM CUL-3 and APM CUL-4 to halt work in the immediate vicinity of any inadvertent discoveries, including human remains, will make certain that unanticipated cultural materials encountered are treated appropriately to ensure impacts remain less than significant.

Impact CUL-2: The Proposed Project will not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. (Less than Significant)

As part of the Phase I cultural resources study for the Proposed Project, SWCA evaluated prehistoric archaeological sites P-37-031744/CA-SDI-20166 and SUN-S-1012 and found that these resources not eligible for listing on the CRHR and do not meet the criteria for a "*unique archaeological resource*" under CEQA. As such, the sites are not significant and need not be considered further.

Ground visibility within the Proposed Project Area was generally good to excellent (over 70 percent). Further, as described above, nearly all sediments within the Proposed Project Area have been highly disturbed from construction activities associated with the Sunrise Powerlink, including road construction, the use of the proposed SVC site as a materials storage and laydown area (Wilson Laydown Area), and habitat restoration efforts. Nearly all of the Proposed Project Area that is located outside of the former Wilson Area, including the majority of the proposed underground transmission line, is located within the paved segments of Bell Bluff Truck Trail. Bell Bluff Truck Trail was widened, graded, and paved during construction associated with the Sunrise Powerlink.

Based on survey results and the highly disturbed context of sediments within the Proposed Project Area, it is unlikely that previously unidentified cultural resources, including intact buried archaeological deposits, occur within the Proposed Project Area. Proposed construction activities will be limited to the Proposed Project Area, and potential blasting will be limited to areas where standard excavation methods are not feasible, such as within bedrock, which is highly unlikely to contain archaeological deposits. Further, the potential blasting will occur only after other

sediments have been mechanically removed through conventional excavation methods with periodic spot-checking by a qualified cultural resources monitor and will be minimized to localize disturbance. Thus, proposed construction activities, including potential blasting, are unlikely to disturb previously unidentified archaeological resources.

Implementation of APMs CUL-1 through CUL-4 and APM GEN-1 will ensure that impacts to archaeological resources remain less than significant. The pre-construction worker training conducted under APM GEN-1 will ensure that construction personnel are aware of the applicable regulations and their responsibility to follow proper procedures should unanticipated archaeological resources discoveries occur. APM CUL-1 will ensure all APMs related to archaeological resources are supervised by a qualified principal investigator and thus that all work conducted meets industry standards. Periodic spot checking by an archaeological construction monitor conducted in fulfillment of APM CUL-2 will ensure that any newly-discovered eligible or potentially eligible archaeological resources are avoided and inadvertent discoveries are managed appropriately; the ability of the principal investigator to adjust the frequency and intensity of monitoring will result in an appropriate level of monitoring throughout the course of the project.. APM CUL-3 will ensure that any newly-discovered CRHR-eligible or potentially eligible archaeological resources will be avoided or evaluated and, if necessary, that additional mitigation such as data recovery will be conducted to ensure impacts remain less than significant. The requirement of APM CUL-3 and APM CUL-4 to halt work in the immediate vicinity of any inadvertent discoveries will make certain that unanticipated archaeological materials encountered, including human remains, are treated appropriately to reduce the level of impact to less than significant.

Impact CUL-3: The Proposed Project will not disturb any human remains, including those interred outside of formal cemeteries. (Less than Significant)

No human remains or known locations of cemeteries or burial grounds have been identified in the Proposed Project area. In the event that unanticipated human remains are discovered, APM CUL-4 will ensure appropriate management of the discovery, which will ensure that impacts remain less than significant.

4.5.7. References

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4.6. GEOLOGY AND SOILS

4.6.1. Introduction

This section of the PEA describes the existing geology and soils conditions, potential geologic and geotechnical hazards, mineral resources, and paleontological resources within the vicinity of the Proposed Project. Potential geologic hazards, including fault surface rupture, ground shaking, landsliding, liquefaction, and other ground failure mechanisms, are addressed. An analysis of likely impacts associated with construction and operation of the Proposed Project is included.

Construction of the Proposed Project will require grading and excavation into soil and geologic formations and will temporarily expose ground surfaces. Construction and operation of the Proposed Project will not cause substantial soil erosion or topsoil loss, impact known mineral or paleontological resources, or expose people or structures to adverse geologic hazards. NEET West will prepare and implement a SWPPP according to federal and State regulations. This analysis concludes that impacts to geology, minerals, soils, and paleontology will be less than significant. APMs have been proposed that will ensure impacts will remain less than significant.

Table 4.6-1. CEQA Initial Study Checklist for Geology and Soils

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
GEOLOGY AND SOILS Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?			X	

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
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?				X
MINERAL RESOURCES Would the project:				
f) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
g) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
PALEONTOLOGICAL RESOURCES Would the project:				
h) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

4.6.2. Existing Conditions

4.6.2.1. Regulatory Background

Federal

Earthquake Hazards Reduction Act

In October 1977, Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the Act established the National Earthquake Hazards Reduction Program. This program was substantially amended in November 1990, by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives. The NEHRPA designates the Federal Emergency Management Agency as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, the National Science Foundation, and the U.S. Geological Survey (USGS).

Clean Water Act Section 402(p)

Amendments to the federal CWA in 1987 added section 402(p), which created a framework for regulating municipal and industrial storm water discharges under the NPDES program. Under the NPDES Phase II Rule, any construction project disturbing 1 acre or more must obtain coverage under the State's General Permit for Storm Water Discharges Associated with Construction Activity. The purpose of the Phase II Rule is to avoid or mitigate the effects of construction activities, including earthwork, on surface waters. To this end, General Construction Permit applicants are required to file a Notice of Intent to Discharge Storm Water with the RWQCB that has jurisdiction over the construction area, and to prepare a SWPPP stipulating measures that will be in place to avoid adverse effects on water quality. CWA Section 402 regulations are further described in Section 4.8, Hydrology and Water Quality.

United States Forest Service Cleveland National Forest Land Management Plan

The Proposed Project is located on private land within the administrative boundary of the CNF. While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, NEET West has considered relevant elements of the plan during the design of the Proposed Project. The following relevant program elements pertaining to geology, soils, mineral, and paleontological resources have been considered:

- **AM-2, Forest-wide Inventory:** Policy promotes the conduct and analyzes scientific and technical information for the following USFS priorities:
    - Inventory and analyze geologic and hydrologic resources (fossils, caves, groundwater basins and extractions, geologic Special Interest Areas, geologic features along scenic corridors) that are available to the public, affect other resources, or need special management or protection.

  - Identify and mitigate geologic hazards (seismic activity, sliding land, land subsidence, flooding, and erosion) through landscape and watershed planning, sediment placement site planning, engineering design, reclamation and maintenance.
  - Study and identify how rock types and geomorphic processes directly affect soil type development, geo-technical conditions for excavations, construction activities, vegetative type distribution and development, and the variation in species habitat, to develop an improved understanding of the relationships of geologic resources and hazards to ecologic functions and patterns as they apply to managing national forest land and the effects of fire.

- **Air 1, Minimize Smoke and Dust:** Policy to control and reduce smoke and fugitive dust to protect human health, improve safety, and/or reduce or eliminate environmental impacts through the following:
  - Incorporate visibility requirements into project plans.
- **WAT 1, Watershed Function:** Policy to protect, maintain, and restore the natural watershed functions including slope processes, surface water and groundwater flow and retention, and riparian area sustainability through the following:
  - Maintain or restore soil properties and productivity to ensure ecosystem health (soil microbiota and vegetation growth), soil hydrologic function, and biological buffering capacity.
  - Assess and manage geologic resources and hazards to integrate earth science principals and relationships into ecosystem management, reduce risks to people and resources, and to interpret and protect unique values.
  - Maintain watershed integrity by replacing or disposing of displaced soil and rock debris in approved placement sites.

State

Alquist-Priolo Earthquake Fault Zoning Act

California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972 (PRC Sections 2621 et seq.), which requires the establishment of "Earthquake Fault Zones" (formerly known as "Special Studies Zones") along known active faults in California. Under the Alquist-Priolo Earthquake Fault Zoning Act, construction along or across faults is strictly regulated if they are "sufficiently active" and "well defined." A fault is considered sufficiently active if one or more of its segments shows evidence of displacement during Holocene time (defined for purposes of the Act as referring to approximately the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Bryant and Hart 2007). The Act provides criteria for designating known fault rupture zones, which are used in planning and engineering design of facilities, such as the Proposed Project.

Seismic Hazards Mapping Act

Like the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690-2699.6) is intended to reduce damage resulting from earthquakes. While

the Alquist-Priolo Earthquake Fault Zoning Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically-induced landslides. Its provisions are similar in concept to the Alquist-Priolo Earthquake Fault Zoning Act—the State is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site specific geologic and/or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans.

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) was enacted to promote conservation of the State's mineral resources and to ensure adequate reclamation of lands once those lands have been mined. Among other provisions, SMARA requires the State Geologist to classify land in California for mineral resource potential. The State Geologist submits the mineral land classification report to the State Mining and Geology Board, which transmits the information to appropriate local governments that maintain jurisdictional authority in mining, reclamation, and related land use activities. Local governments are required to incorporate the State Mining and Geology Board report and maps into their general plans and consider the information when making land use decisions.

California Building Code

The California Building Standards Commission provides a minimum standard for building design with the California Building Code, which is based on the International Code Council but has been modified for California conditions. Chapter 23 of the California Building Code contains specific requirements for seismic safety. Chapter 29 of the California Building Code regulates excavation, foundations, and retaining walls. Chapter 33 of the California Building Code contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 of the California Building Code regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in California Occupational Health and Safety Administration (CCR Title 8) and in Section A33 of the California Building Code.

California Public Utilities Commission General Order 95

CPUC General Order 95 (CPUC 2015a).provides general standards for design and construction of overhead electric transmission and distribution lines, including risers (CPUC 2015b). Standards include but are not limited to rules addressing general arrangement and use of lines, grounding, clearances between electrified portions of lines and the ground or other physical structures, and vegetation management. The intent of these rules is to provide for adequate service and secure safety to persons engaged in the construction, maintenance, operation, or use of overhead lines and to the public in general. The rules are not intended to provide complete

construction specifications, but embody the requirements determined to be most important from the standpoint of safety and service.

Public Resources Code, Sections 5097.5 and 30244.

PRC (Chapter 1.7) Section 5097.5 and (Division 20: Chapter 3) Section 30244 include statutes that prohibit the removal of any paleontological site or feature on public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (State) lands. These protections would apply to the Proposed Project only if a state agency were to obtain ownership of project lands during the term of the project license.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, the Proposed Project is exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all state and local land use plans and policies. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County Planning Documents

The San Diego County General Plan Safety Element, Alpine Community Plan, and Central Mountain Subregional Plan establish policies and programs to protect the community from risks associated with seismic, geologic, flood, and wildfire hazards. The Conservation and Open Space Element (COSE) of the San Diego County General Plan provides guidelines for the assessment, treatment, and public awareness of the County's natural resources including the County's goals for management of paleontological resources and unique geological features. The Paleontological Resources and Unique Geologic Features Element of the COSE includes the following policies:

- **COS-9.1, Preservation:** Require the salvage and preservation of unique paleontological resources exposed to the elements during excavation or grading activities or other development processes.
- **COS-9.2, Impacts of Development:** Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.

San Diego County Grading Ordinance

The San Diego County Grading Ordinance (San Diego County Code of Regulatory Ordinances Title 8, Division 7, Ordinance No. 10224[N.S.]) includes provisions for conducting grading or clearing operation within the County's jurisdiction including requirements for obtaining grading permits (County of San Diego 2012). Pursuant to Section 87.202 of the ordinance, grading incidental to the construction or installation of facilities by a public agency or utility are not subject to regulation by the County under the grading ordinance and do not require a grading

permit. Chapter 3, Division 8, of Title 6 of the San Diego County Code also establishes provisions for on-site wastewater treatment systems. It includes an approval process regarding proposed grading, where there is a possibility for grading to interfere with the area where the on-site wastewater treatment system has been installed, or has been approved to be installed. These regulations do not apply to the Proposed Project.

Non-Governmental Organizations

Society of Vertebrate Paleontology Professional Standards

The Society of Vertebrate Paleontology (SVP) has established standard guidelines (SVP 1995, 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as described in the standard guidelines of the SVP. Typically, state regulatory agencies accept and use the professional standards set forth by the SVP.

As defined and revised by the SVP (1995:26; 2010:11), significant nonrenewable paleontological resources are defined as follows:

> *[f]ossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).*

As defined by the SVP (1995:26), significant fossiliferous deposits are defined as follows:

> *A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [Before Present].*

Based on the significance definitions of the SVP (1995, 2010), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide substantial new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as uncommon or significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be "sensitive" and vulnerable to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either disturb or destroy fossil remains directly or indirectly. This definition of sensitivity differs fundamentally from that for archaeological resources as follows:

It is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units. The boundaries of archaeological sites define the areal extent of the resource. Paleontologic sites, however, indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontologic potential in each case (SVP 1995).

Fossils are contained within subsurface sediments or bedrock and are, therefore, not observable or detectable unless exposed by erosion or human activity. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken to prevent adverse impacts to these resources.

4.6.2.2. Methodology

Information on the geology, soils, and mineral resources was compiled from published and unpublished literature, maps, and aerial photographs. Information on the paleontological potential of the Proposed Project was collected from published literature, maps, and requests for paleontological record searches from the San Diego Natural History Museum (SDNHM) in San Diego, California (see Appendix F, Paleontological Resources Technical Report). The vicinity of the Proposed Project has been well studied and documented by various researchers and government entities. Geologic units and structural features were obtained from maps published by the USGS and the California Geologic Survey (CGS).

Soil descriptions were obtained from mapping by the Natural Resources Conservation Service (NRCS). Evaluation of landslide hazards and liquefaction potential was made by review of aerial photographs, geologic maps, and hazard maps from the San Diego County Multi-Jurisdictional Hazard Mitigation Plan. Information on mineral resources was obtained from the USGS and CGS. Seismic data was developed from several data sources, including the USGS and CGS.

Components of a draft geotechnical investigation have been completed to inform the design specifications of the Proposed Project. This investigation includes a Geophysical Survey Report, provided in Appendix I, which characterizes the subsurface conditions in the study area and gives parameters for use in the design and construction of the Proposed Project through the collection of seismic and electrical data. A complete geotechnical investigation report will be provided as an addendum to this PEA and is expected to be complete in September 2015.

4.6.3. Environmental Setting

The Proposed Project is located on the west side of the Peninsular Range approximately 12 miles west of the Laguna Mountains. The southeast trending Peninsular Range stretches approximately 900 miles from southern California to the southern tip of Mexico's Baja California peninsula with elevations ranging from 500 to 11,500 feet above MSL and is bounded to the north by the Transverse Ranges, to the east by the Colorado Desert, and extends far southward to Baja California (Weber 1963; Norris and Webb 1990). Dominant rock composition in the Peninsular Range is Mesozoic (period extending roughly 180 million years from 251 million years ago to 65 million years ago) granitic plutons, underlying metasedimentary rock types such as marbles, slates, schist, quartzites, and gneiss (CPUC 2008).

The Peninsular Ranges occupy the majority of area in San Diego County and is divided into three west-to-east trending physiographic areas between the Pacific Ocean and eastern mountain ranges, a coastal plain area, a central-mountain area, and an eastern mountain area. The coastal area comprises a series of benches covered by thin terrace deposits extending from the coast approximately 10 miles inland. The terrace deposits are deeply dissected by streams draining to the Pacific Ocean. The central-mountain area or interior upland lying adjacent the coastal area is largest of the three regions. The central-mountain area formed from the Peninsular Ranges Batholith (PRB) consists of a series of steeply-sloped ridges, boulder-covered mountains, and intermontane basins ranging in elevation from 500 to 5,000 feet above sea level (Weber 1963; Walawender 1999). Along the Elsinore fault zone the central-mountain area transitions to the eastern mountain area. This area consists of broad, relatively flat valleys and surrounding mountains upwards of 4,000 to 7,500 feet above sea level (SDRWQCB 2012).

The Proposed Project is located within the central-mountain area. Geologic formations in the region are comprised of primarily granitic and other intrusive crystalline rocks (e.g., monzogranite, granodiorite, and Gabbro) of the early Cretaceous/late and middle Jurassic ages and metasedimentary and metavolcanic rocks of Jurassic and Triassic ages (Todd 2004). Soils in the central-mountain area are often rocky derived from material weathered from decomposed granite. These soft, easily eroded materials range from shallow to deep and are mostly sandy loams. Other soils associations derived from gabbro or other basic intrusive rock, metasedimentary and metavolcanic rocks, young granitic alluvium, and old granitic alluvia may also occur (U.S. Department of Agriculture [USDA] 1973).

Tectonics in the San Diego area are primarily influenced by the interaction between the Pacific and North American lithospheric plates that result in a series of strike-slip faults collectively referred to as the San Andreas Fault System. The San Andreas Fault System includes a number of onshore and offshore faults occupying an approximate 200-kilometer-wide corridor along the coast of southern California. The most active faults in this system include the San Andreas, San Jacinto, and Imperial faults, as well as their associated branches. The Proposed Project is situated between the Elsinore Fault, located approximately 18 miles to the east, and the Rose Canyon Fault, approximately 28 miles to the west (URS 2009).

Topography in the vicinity of the Proposed Project is undulating with steep hills interspersed by narrow valleys and deep canyons with incised high gradient drainage corridors. Elevations in the vicinity of the Proposed Project range between 3,000 and 3,200 feet above MSL.

4.6.3.1. Seismicity, Faulting, and Ground Shaking

The San Diego region has a relatively inactive seismic history compared to surrounding southern California areas such as the Imperial Valley, northern Baja California, and offshore regions. Historical seismic activity has generally been characterized by distributed small-to-moderate magnitude earthquakes (SDG&E 2014). The most significant seismic forces in the region are earthquakes associated with the right-lateral strike-slip faults of the San Andreas Fault System. The Proposed Project does not cross any known active faults and no known active faults are located in the immediate vicinity (USGS 2015a). Furthermore, the Proposed Project is not located within a mapped Alquist-Priolo Earthquake Fault Zone (CDOC 2015a).

The CGS classifies faults as either active or potentially active, according to the Alquist-Priolo Special Studies Zone Act of 1972. A fault that has exhibited surface displacement within the Holocene Epoch (the last 11,700 years) is defined as active by the CGS. A fault that has exhibited surface displacement during the Pleistocene Epoch (which began about 1.6 million years ago and ended about 11,000 years ago) is defined as potentially active. Pre-Pleistocene faults are considered inactive. The closest known active faults to the Proposed Project are the Elsinore Fault, specifically the Julian Segment, approximately 18 miles to the east, and the Rose Canyon Fault, approximately 28 miles to the west (Figure 4.6-1).

The Elsinore Fault Zone is historically one of the least active in southern California; the only recent significant event was a magnitude 6 earthquake near Temescal Valley in 1910. This event ruptured the surface along 15 kilometers of the Glen Ivy segment north of Lake Elsinore but resulted in little damage (URS 2009; CPUC 2008). The Rose Canyon Fault Zone has also displayed low levels of seismic activity with no historic surface rupturing events (URS 2009).

The CGS further defines active faults into three categories: Class A faults, Class B faults, and C Zones based on the total seismic energy release for a fault source (moment). Moment is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. Class A faults typically have greater seismic activity and potential to result in larger-magnitude events, with decreasing activity for Class B and C Zones. The Elsinore Fault (Julian Segment) is identified as a Class A fault while the Rose Canyon Fault is identified as a Class B fault (Cao et al. 2003). In addition to earthquakes associated with specific faults, earthquakes also occur in areas where they cannot be clearly assigned to a particular fault (gridded seismicity). Earthquake recurrence in these zones is based on models that consider the historic occurrence of earthquakes in the area and calculate magnitude-frequency distributions for each zone (Cao et al. 2003).

Utilizing tools developed by the USGS to assess the source and extent of seismic hazards, peak ground acceleration (PGA) deaggregation in the vicinity of the Proposed Project is primarily attributed to shallow gridded seismicity (approximately 68.26% of contribution) with approximately 22.93% contribution from Class A faults (USGS 2015b). Table 4.6-2 provides information about the faults in close proximity to the Proposed Project and those that are most likely to contribute to ground shaking.

Figure 4.6-1. Fault Locations

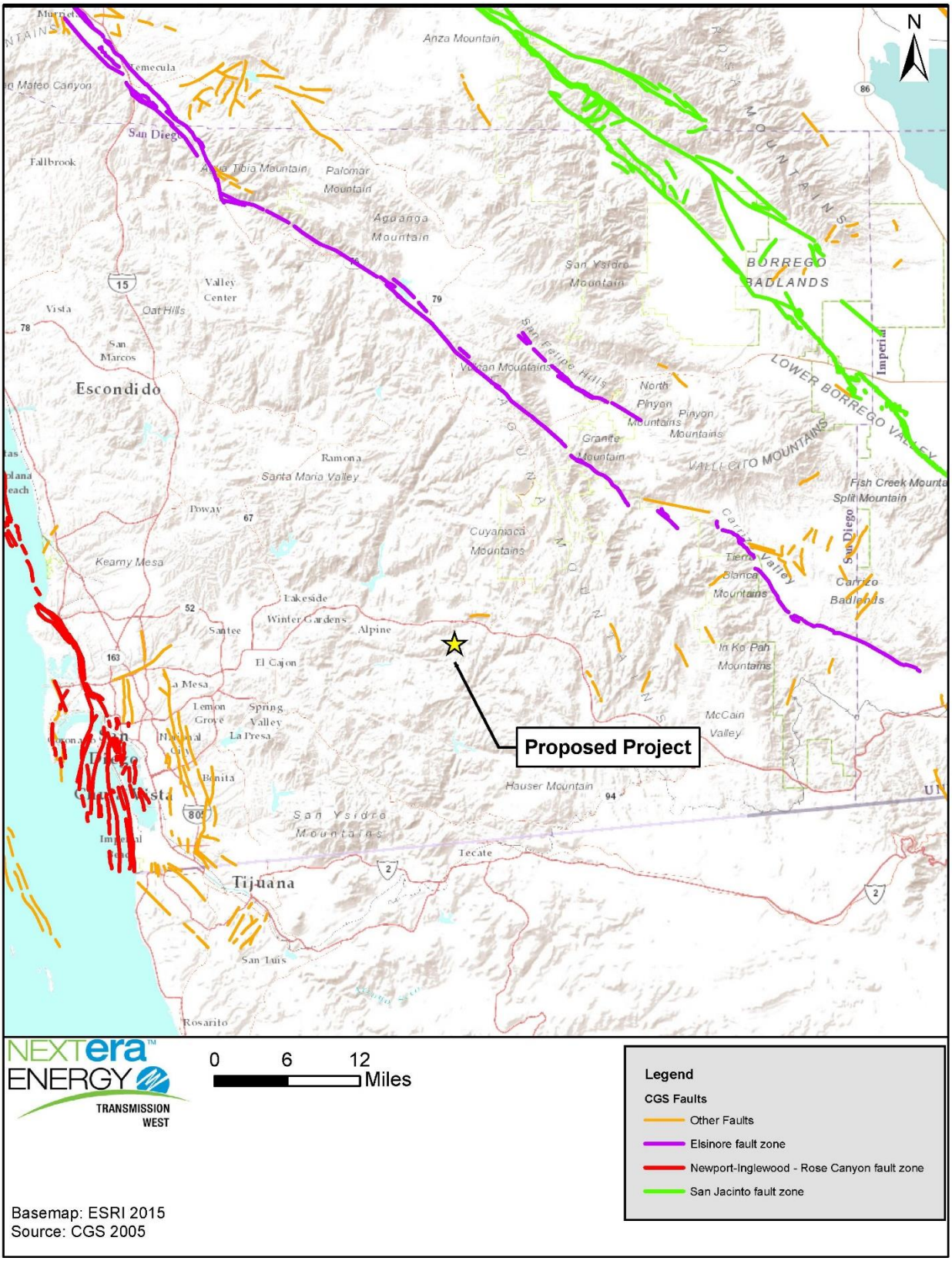


Table 4.6-2. Known Active Faults near the Proposed Project

Fault Name	Fault Type	Distance from Proposed Project (miles)	Fault Length (km*)	Slip Rate (mm*/yr)	Moment Magnitude (maximum estimated)
Elsinore (Julian)	A	18	76	5	7.1
Elsinore (Coyote Mountain)	A	24	39	4	6.8
Rose Canyon	B	28	70	1.5	7.2
San Jacinto (Borrego)	A	38	29	4	6.6
San Jacinto (Coyote Creek)	A	38	41	4	6.8
San Jacinto (Anza)	A	40	91	12	7.2

Source: Coa et al. 2003; USGS 2015a.
* km = kilometer, mm = millimeter

Ground shaking (strong ground motion) can have significant impacts on life and property and is typically the most damaging force from seismic events. The degree of shaking at a given location is dependent on several factors including the distance to the epicenter of the earthquake, the magnitude of the event or energy released, and local and regional geologic conditions that influence attenuation. Earthquake induced ground motion intensities can be expressed by comparing the earthquakes acceleration to the normal acceleration of gravity (g), where greater damage occurs from earthquakes when ground acceleration is rapid. PGA is a common measure of the strength of ground movement and is used to project damage risk from future earthquakes. PGA depends largely on the ability of the surficial geologic unit to transmit seismic energy. PGA, expressed as a percentage g, is usually given for a specified probability (10%, 5%, or 2%) of being exceeded in a given time period (e.g., 50 years) (County of San Diego Office of Emergency Services [OES] 2010).

PGA in the vicinity of the Proposed Project was determined using the CGS Probabilistic Seismic Hazard Assessment (PHSA) ground motion interpolator. Based on uncertainties in the size and location of earthquake events the PSHA interpolator depicts PGAs with a 10% probability of exceedance in 50 years or an annual probability of one in 475 of being exceeded each year. The Proposed Project has a PGA value of 0.215g ("g" is the acceleration due to Earth's gravity, i.e., g-force) based on a conservative shear wave velocity (Vs30) of 760 meters per second (i.e., very dense soil/soft rock) (CDOC 2015b). PGA values are often associated with another common measure of earthquake intensity, the Modified Mercalli (MM) Intensity Scale. The MM Intensity Scale is a subjective measure based on observed effects of a seismic event with higher numbers corresponding to greater impact and observed structural damage. Table 4.6-3 illustrates the MM Intensity Scale and corresponding range of PGA values. The PGA determined for the Proposed Project (0.215g) corresponds to a MM Intensity of VII.

Table 4.6-3. Modified Mercalli Intensity Scale

Intensity Value	Shaking	Description/Damage	PGA Range
I	Not felt	Not felt except by a very few under especially favorable conditions.	<0.0017g
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.	0.0017–0.014g
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.	
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.014–0.039g
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.	0.039–0.092g
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.	0.092–0.18g
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.	0.18–0.34g
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.	0.34–0.65g
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.	0.65–1.24g
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.	>1.24g

Source: USGS 1989; Ward et al. 1999 (from USGS: http://earthquake.usgs.gov/earthquakes/shakemap/background.php#wald99a).

Both fault rupture and ground shaking are important factors to consider in the seismic design of electric transmission facilities, particularly the amount and type of potential ground surface displacement. Given the lack of active faults in the proximity to the Proposed Project, the potential for fault rupture is low.

4.6.3.2. Liquefaction and Subsidence

Liquefaction is the phenomenon in which loose, saturated, granular soils lose strength due to excess pore water pressure buildup during an earthquake. Liquefaction is usually manifested by the formation of boils and mud-spouts at the ground surface, by seepage of water through ground cracks, or in some cases by the development of quick-sand-like conditions. Where the latter occurs, structures or equipment may sink substantially into the ground or tilt excessively, lightweight structures may float upwards, and foundations may displace vertically or laterally, causing structural failures. The phenomenon of liquefaction generally adds to the damages that

would otherwise be caused by strong ground motions alone. Lateral spreading typically occurs in association with liquefaction. Lateral spreading occurs when liquefaction of a subsurface layer causes the mass to flow down slope, moving blocks of ground at the surface.

In the San Diego area, liquefaction may occur on steep slopes or alluvial deposits in low-lying areas during earthquakes or heavy rains. Historically significant liquefaction has not been recorded in San Diego County due to insufficient ground shaking. Analysis of the potential for liquefaction completed by the San Diego County Office of Emergency Management indicates that the Proposed Project has a low risk of liquefaction and is not within a mapped liquefaction layer (OES 2010).

The Proposed Project is located in an area primarily underlain by weathered granitic rock and metasedimentary and metavolcanic rock, with residual soils above. Based on the dense nature of these underlying materials and the absence of shallow groundwater (Section 4.8, Hydrology and Water Quality), similar with the County's analysis, liquefaction potential is considered low. Soils underlying the Proposed Project do not have expected initial or total subsidence values and the potential for subsidence is considered to be low (NRCS 2015).

Geotechnical investigations performed in the area for the SDG&E Suncrest Substation found consistent findings regarding the potential for liquefaction. Although localized deposits of loose granular material were found within residual soils, these deposits were minor and did not contain groundwater. As such, liquefaction in the area was determined to be extremely low (URS 2009). Loose materials were determined to have minor potential for settlement unless improved.

4.6.3.3. Landslides and Slope Instability

Landslides occur when masses of material such as rock, earth, or debris travel down a slope. Examples include rock falls, deep failures of slopes, and shallow debris flows. Landslides are influenced by human activities and natural events and are often triggered by other natural hazards such as floods, earthquakes (from ground shaking), or volcanic eruptions. Most commonly landslides occur as a result of an increase in gravitational stress on slope materials. Factors that increase downslope stress include undercutting from erosive forces or excessive rainfall or irrigation. Slope failure may also occur in the form of mudflows (OES 2010). Human induced slope failure or landslides most commonly occur as a result of large grading activities where material is placed on unstable areas or when lateral support material is removed destabilizing up-gradient areas.

In San Diego County, areas prone to landslides are more common in the coastal plain and are less prevalent in the granitic mountains to the east. Analysis of the potential for landslide hazards completed by the San Diego County Office of Emergency Management indicates that the Proposed Project is not located within a mapped soil slip or landslide susceptibility area (OES 2010). The Proposed Project is primarily underlain by weathered granitic rock and metasedimentary and metavolcanic rock. Given the dense nature of these underlying materials, landslide potential in the vicinity of the Proposed Project is considered low.

Steep slopes, typically defined as those slopes exceeding 25%, can increase potential for landslide (OES 2010). Construction activities that undermine or compromise slopes within areas of steep slopes may result in landslide or other ground failure. Existing slopes within the

proposed SVC area range from approximately 0 to 6% with an average slope of 2%. Along the Bell Bluff Truck Trail where the proposed underground transmission line will occur, slopes range from approximately 2 to 22% with an average slope of 8%. The riser pole structure is located in an area with an approximate 16% slope, although steeper slopes over 25% do occur north of the proposed pole location. Slope data described herein is interpolated from USGS National Elevation Dataset (NED) one third arc second DEM n33w117 1/3 arc-second 2013 1 × 1 degree using ArcGIS geo-processing and spatial analyst tools (USGS 2015d).

With the exception of SDG&E's substation access road and the SDG&E's Suncrest Substation, no structures are located downslope of the Proposed Project. The SVC is located within a small, relatively flat valley that very gently slopes to the southeast and is immediately surrounded by predominately low gradient slopes (e.g., those less than 10%).

4.6.3.4. Geology

The Peninsular Range central-mountain area or interior upland is composed largely of metamorphic and igneous rocks associated with a once active subduction zone off the ancient west coast. These rocks represent several phases of continent building, including island arc collisions, volcanic eruptions, and the emplacement of the voluminous, structurally complex PRB. The PRB is an enormous mass of crystalline rock formed by the episodic invasion of molten magma into the crust of San Diego County between the Late Jurassic and Early Cretaceous (Weber 1963; Todd 1978; Todd et al. 2004; Walawender 1999). The PRB is colossal in size, stretching a distance of nearly 1,000 miles from Riverside, California, to the southern tip of Baja California. In San Diego County, the PRB is up to 70 miles wide and covers an area of nearly 1,900 square miles (Weber 1963) and is divided into two zones: the Eastern PRB and the Western PRB. The Proposed Project is located within the Western PRB, which is composed mainly of a suite of gabbros, tonalites, and granites which were emplaced during the Early Cretaceous, between 120 and 100 million years ago (Walawender 1999).

The Proposed Project is underlain by three geologic units: metasedimentary and metavolcanic rocks; Corte Madera Monzogranite; and Cuyamaca Gabbro (Figure 4.6-2). General geology and paleontologic content of these units is described below (Todd 1978; Todd et al. 2004).

The metasedimentary and metavolcanic rocks underlie very small expanses of the western-most portion of the underground transmission line and the northeastern most portion of the SVC, respectively. These rocks are Jurassic and Triassic in age and include several units of schist, metaquartzite, and metaconglomerate, as well as layers of mudstone, sandstone, and pebble conglomerate (Todd 1978; Todd et al. 2004). This unit has been interpreted as the metamorphosed remains of submarine fan deposits and interspersed volcanic flows equivalent in age to the Julian Schist (Todd 1978; Todd et al. 2004).

Figure 4.6-2a. Map of Geological Units

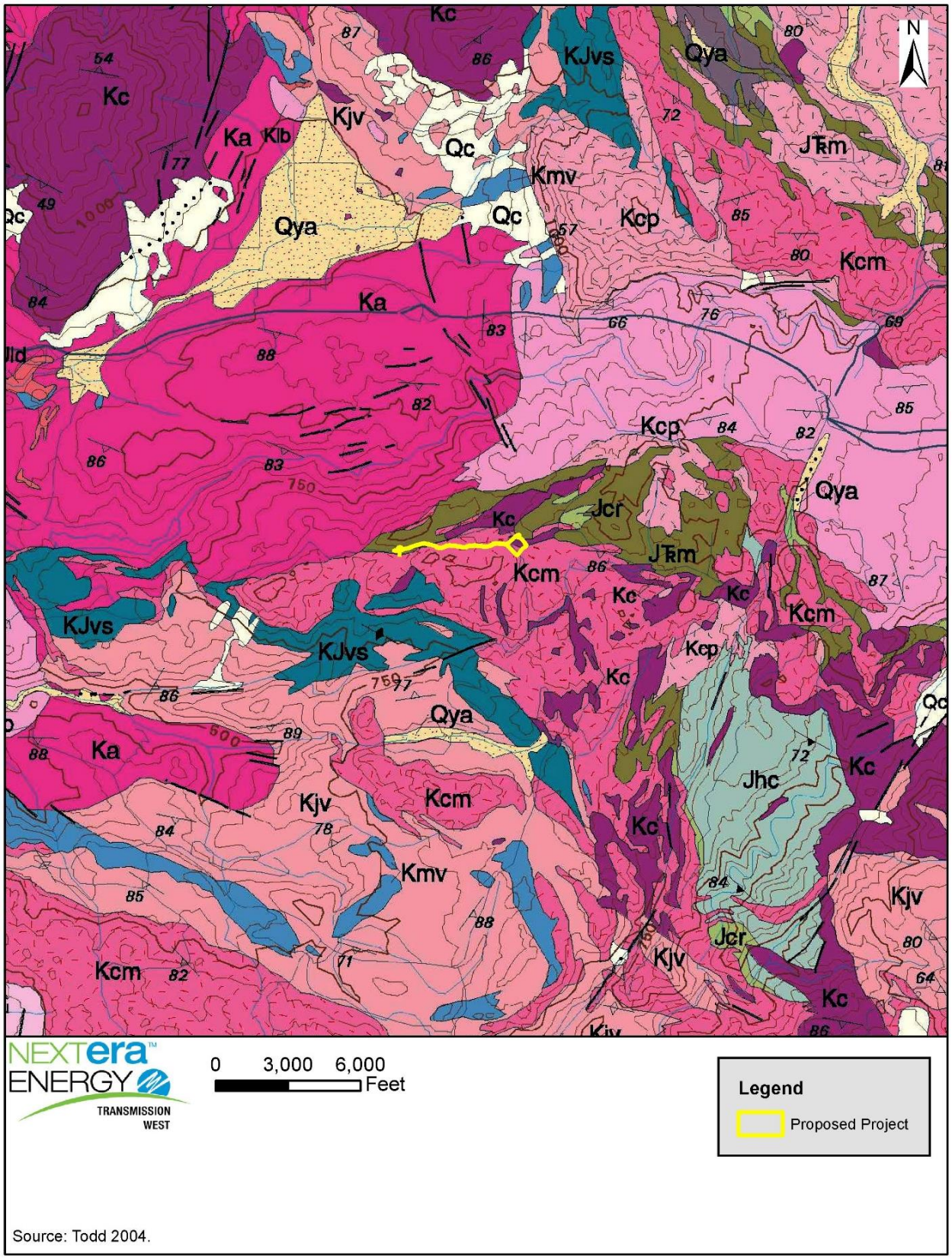
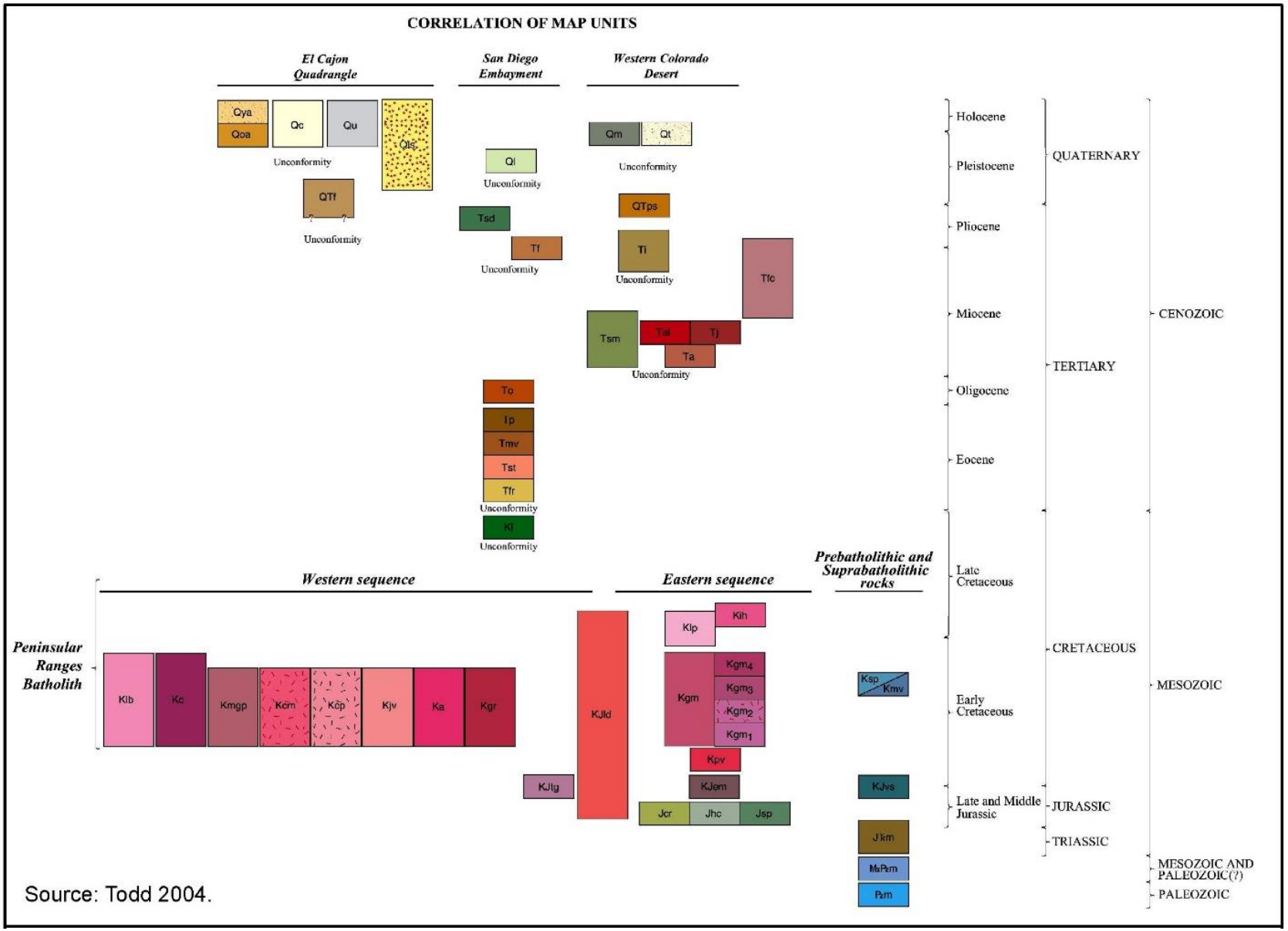


Figure 4.6-3b. Map of Geological Units



The Early Cretaceous Corte Madera Monzogranite (CMM) underlies much of the central portion of the Proposed Project including the majority of the underground transmission line, but only a small portion of the southwestern most section of the SVC. It is an intrusive igneous mass, medium to coarse-grained in texture, and contains subunits of biotite-bearing leucomonzogranite, leucogranodiorite, and syenogranite (Todd 1978; Todd et al. 2004). The CMM occurs as sheets wrapped around older plutons and contains small traces of the Pine Valley Monzogranite (PVM). The PVM and CMM are of similar age, appearance, and composition but the CMM exhibits a lower overall color index. Regionally, the CMM exhibits gradational contacts with the PVM.

The Cuyamaca Gabbro, Early Cretaceous in age, is the most mafic rock unit in the Proposed Project. It occurs in the eastern-most portion of the Proposed Project and represents the dominant formation underlying the SVC. This unit consists of several bodies containing gabbronorite, hornblende gabbro, and troctolite, as well as olivine-bearing gabbronorite (Todd et al. 2004). The Cuyamaca Gabbro contains evidence of secondary melting and recrystallization, along with foliations from post-emplacement deformation (Todd 1978).

Results of a geotechnical investigation performed for the SDG&E Suncrest Substation were consistent with regional geologic formation mapping, finding weathered granitic rock (including monzogranite to granodiorite and gabbro to diorite) and metasedimentary and metavolcanic rock at depth, and residual soil deposits at the surface. Minor amounts of alluvium and colluvium were also present as well as surficial deposits associated with various small drainages and swales in the area (URS 2009).

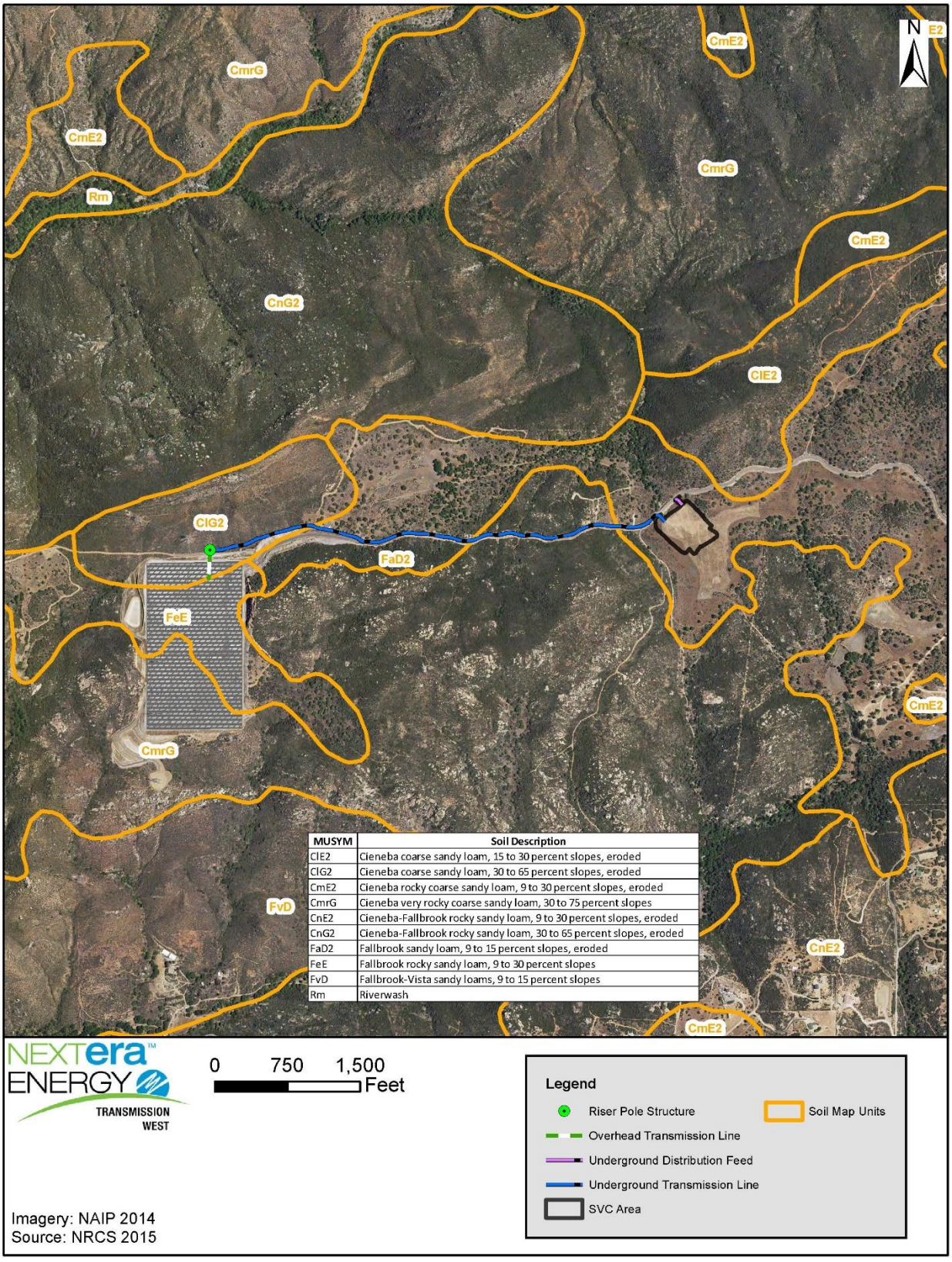
4.6.3.5. Soils

Three soil associations are mapped as underlying the Proposed Project: Cieneba coarse sandy loam (ClG2), Cieneba very rocky coarse sandy loam (CmrG), and Fallbrook sandy loam (FaD2) (NRCS 2015). The SVC is entirely underlain by the FaD2 unit while the underground transmission line crosses portion of all three soil units (Figure 4.6-3). Soil descriptions and selected properties of soils in the vicinity of the Proposed Project are described below and in Table 4.6-4.

The Cieneba soil series (ClG2 and CmrG) consists of excessively well-drained soils formed in place from granitic rock. These shallow soils occur on rolling to mountainous uplands. Soils are typically brown coarse sandy loam to depths of approximately 4–20 inches with weathered granodiorite below. Available water to a depth of 60 inches (or restricted depth) is very low, shrink-swell (expansive) potential is low, soils are not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Run-off from these soils is medium to very rapid depending on slope. Similarly, the erosion hazard ranges from moderate to very high with increasing slope.

Fallbrook sandy loam (FaD2) consists of well-drained, sloping, moderately deep soils formed in place from granodiorite. Soils are typically brown to reddish-brown to light-reddish-brown with increasing depth. Soils are underlain by weathered granodiorite at depths of approximately 40–60 inches. Available water to a depth of 60 inches (or restricted depth) is moderate, shrink-swell potential is low, soils are not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Run-off and erosion hazard potential of these soils is medium.

Figure 4.6-4. Map of Soil Units



MUSYM	Soil Description
CIE2	Cieneba coarse sandy loam, 15 to 30 percent slopes, eroded
CIG2	Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded
CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
CnE2	Cieneba-Fallbrook rocky sandy loam, 9 to 30 percent slopes, eroded
CnG2	Cieneba-Fallbrook rocky sandy loam, 30 to 65 percent slopes, eroded
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
FeE	Fallbrook rocky sandy loam, 9 to 30 percent slopes
FvD	Fallbrook-Vista sandy loams, 9 to 15 percent slopes
Rm	Riverwash

Table 4.6-4 includes selected soils properties describing potential erosion and corrosion factors. Erosion factor "Kw" indicates the susceptibility of the whole soil to sheet and rill erosion by water. The estimates are based primarily on percentage of silt, sand, and organic matter, and on soil structure and saturated hydraulic conductivity. Values of Kw range from 0.02 to 0.69 and other factors being equal, higher values represent greater susceptibility to sheet and rill erosion by water. The "hazard of off-road or off-trail erosion" factor is based on slope and soil erodibility factor K. The hazard is described as slight, moderate, severe, or very severe. A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical. The "hazard of erosion on roads and trails" factor is based on the soil erodibility factor K, slope, and content of rock fragments. The hazard is described as slight, moderate, or severe. A rating of "slight" indicates that little or no erosion is likely; "moderate" indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion control measures are needed; and "severe" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion control measures are needed.

The "Risk of Corrosion" factor pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. For uncoated steel, the risk of corrosion, expressed as "low," "moderate," or "high," is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract. For concrete, the risk of corrosion also is expressed as "low," "moderate," or "high." It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Geotechnical investigations performed in the area for the SDG&E Suncrest Substation found surficial soils, including alluvium, colluvium, and residual soils, present in the area. The residual soil was encountered to depths ranging from 1 to 6 feet. The residual soil materials observed ranged from loose to medium dense silty to clayey sand with minor amounts of sandy clay found locally. Deeper alluvial and colluvial deposits were encountered where Bell Bluff Truck Trail crosses Peterson Creek outside of the Proposed Project area. Borings found the alluvial deposits in Peterson Creek to extend to depths of at least 15 feet containing medium dense and dense clayey sand and silty sand.

Expansive soils are those that contain significant amounts of clays that expand when wet and can cause damage to foundations such as differential or cyclical foundation movement if moisture collects beneath structures. Soils in the vicinity of the Proposed Project are described as having a low shrink-swell (expansive) potential. Additionally, potentially expansive soils were not encountered in the area during the geotechnical investigation performed for the SDG&E Suncrest Substation, and it was concluded that based on regional geology of the area, such soils would not be expected to be present in any significant quantities (URS 2009). Corrosion testing completed as part of the investigation found that soils had a low potential for corroding steel and a low potential for chloride attack and sulfate attack to concrete (URS 2009).

Table 4.6-4. Selected Soil Properties and Descriptions

Map Symbol	Soil Name	Depth to Restrictive Layer (Inches)	Kw	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Risk of Corrosion	
				Rating class and limiting features	Value	Rating class and limiting features	Value	Uncoated steel	Concrete
ClG2	Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded	4-20 Paralithic Bedrock	0.24	Moderate slope/erodibility	0.50	Severe slope/erodibility	0.95	Low	Moderate
CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes	4-20 Paralithic Bedrock	0.24	Very Severe Slope/erodibility	0.95	Severe slope/erodibility	0.95	Low	Moderate
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded	40-60 Paralithic Bedrock	0.28-0.43	Slight	--	Severe slope/erodibility	0.95	Low	Low

Source: NRCS 2015

4.6.3.6. Mineral Resources

The CGS and CDOC do not map any existing mines or mineral resource areas in the vicinity of the Proposed Project (CDOC 2015c). Additionally, there are no existing U.S. Department of the Interior, BLM mining claims in the vicinity of the Proposed Project. Data from the USGS Mineral Resource Data System map a historic quartz production site, the Lowrey Deposit, approximately 0.7 mile east of the Proposed Project and a potential stone production site, Ajax Deposit, approximately 1.1 miles southeast of the Proposed Project (USGS 2015c).

4.6.3.7. Paleontological Resources

Paleontological sensitivity is defined as the potential for a geologic unit 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. Occurrences of paleontological resources are closely related to the geologic units in which they are contained, and the potential for finding scientifically important paleontological resources can be broadly predicted by the presence of the pertinent geologic units at or near the surface. Therefore, geologic mapping can be used as a proxy for assessing the potential for occurrences of important paleontological resources.

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 Paleontologic Resources*, the SVP (1995:23; 2010) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential.

A records search request was submitted to the SDNHM with the stipulation of including the region within 1 mile of the Proposed Project. No previously recorded paleontological localities were reported by the SDNHM in the vicinity of the Proposed Project or within 1 mile of the Proposed Project footprint (Randall 2015). The literature search results revealed that none of the rock units underlying the Proposed Project are known to be fossiliferous and none have produced scientifically important localities in the past, nor are there any known fossil localities within a 1-mile radius of the Proposed Project footprint (Randall 2015; Deméré 2010).

The resource potential rankings of the geologic units underlying the Proposed Project were assigned based on results of the literature search and museum records search, as well as data from a SDNHM Department of Paleontological Resources report which includes the same geologic units near the existing Suncrest Substation (Deméré 2010). According to these classifications, none of the geologic units underlying the Proposed Project have the potential for or have confirmed occurrences of paleontological resources.

4.6.4. Applicant-Proposed Measures and Potential Impacts

The following sections describe significance criteria, impacts, and APMs related to geology, soils, mineral, and paleontological resources. Geologic impacts are considered less than significant if the risk of damage to structures can be greatly minimized, although not eliminated completely, through engineering, geotechnical investigation, and construction techniques.

4.6.4.1. Significance Criteria

According to Appendix G of the State CEQA Guidelines, impacts to geology, mineralogy, soils, and paleontology may be considered significant if the following applies.

Geology and Soils

Impacts to geology and soils may be considered significant if they were to:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault,
        - strong seismic ground shaking,
        - seismic related ground failure, including liquefaction, and
        - landslides
- Result in substantial soil erosion or the loss of topsoil
- 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
- Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property
- 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

Mineral Resources

Impacts to mineral resources may be considered significant if they were to:

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

Paleontological Resources

Impacts to paleontological resources may be considered significant if they were to:

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

4.6.4.2. Applicant-Proposed Measures

The following APMs relating to geology, soils, and mineral resources (GEO) and paleontological resources (PR) include measures that are already required by existing regulations and/or

requirements, or are standard practices that would minimize or prevent any potentially significant impacts.

Table 4.6-5. Applicant Proposed Measures for Geology and Soils

APM No.	Description
	GEOLOGY AND SOILS
APM-GEO-1	**Appropriate Design Measure Implementation.** Site excavation likely has the potential to expose variably weathered granitic and metamorphic rock. Earthwork will incorporate the following measures typical to southern California grading practices: ▪ Remove soils and other surficial deposits that do not possess sufficient strength and stability to support structures. Removals should extend to competent materials with high mechanical strength and resistant to erosion and deformation. ▪ Process material obtained from excavation to achieve a maximum particle size and distribution that is suitable for conventional placement in engineered fills. Depending on the quantity of oversize material, consider rock fill placement and/or other forms of disposal as appropriate. ▪ Construct keyways, benches, or other structural component transitions/connections into competent material for all fill slopes. ▪ Control blasting or utilize alternative excavation techniques near cut slope faces that may be unstable to minimize further slope instability. ▪ Install sub-drains in the base of fills placed in swales or ravines. ▪ Over-excavate cut areas where structures will be supported by shallow foundations between transitions from cut to fill.
APM-GEO-2	**Soil Disturbance Minimization.** The following measures will be implemented during construction to minimize impacts from geological hazards and disturbance to soils: ▪ Keep vehicle and construction equipment within the limits of the Proposed Project and in approved construction work areas to reduce disturbance to topsoil. ▪ Prior to grading, salvage topsoil to a depth of 6 inches or to actual depth if shallower (as identified in site-specific geotechnical investigation report) to avoid mixing of soil horizons. ▪ Avoid construction in areas with saturated soils, whenever practical, to reduce impacts to soil structure and allow safe access. Similarly, avoid topsoil salvage in saturated soils to maintain soil structure. ▪ Keep topsoil material onsite in the immediate vicinity of the temporary disturbance or at a nearby approved work area to be used in restoration of temporary disturbed areas. Temporary disturbance areas will be re-contoured following construction to match pre-construction grades. Areas will be allowed to re-vegetate naturally, or will be reseeded with a native seed mix from a local source if necessary. Onsite material storage will be sited and managed in accordance with all required permits and approvals. ▪ Keep vegetation removal and soil disturbance to a minimum and limited to only the areas needed for construction. Removed vegetation will be disposed of off-site to an appropriate licensed facility or can be chipped onsite to be used as mulch during restoration. Onsite material storage will be sited and managed in accordance will all required permits and approvals.
APM-GEO-3	**Stormwater Pollution Prevention Plan Implementation.** The Proposed Project will involve more than one acre of ground disturbance. A SWPPP will be prepared in accordance with the California General Permit for Stormwater Discharges Associated with Construction Activities (CGP) (2009-009-DWQ) and implemented for the Proposed Project. Construction will not begin until the SWPPP is complete and coverage under the CGP is obtained. The SWPPP will be prepared in accordance with CGP requirements and other applicable BMPs. The plan will designate BMPs that will be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport. Erosion minimizing efforts will include: ▪ Avoiding excessive disturbance of steep slopes; ▪ Using drainage control structures (e.g., straw wattles or silt fencing) to direct surface runoff away from disturbed areas; ▪ Installing sediment barriers between disturbed areas and aquatic habitat (i.e. jurisdictional wetland and water); ▪ Strictly controlling vehicular traffic, specifically ingress and egress locations;

Table 4.6-5. Applicant Proposed Measures for Geology and Soils

APM No.	Description
	▪ Implementing a dust control program during construction; ▪ Stockpile containment and management requirements; and ▪ Re-vegetating disturbed areas where applicable following construction. Erosion control measures will be installed, as necessary, prior to clearing during the wet season and before the onset of winter rains or any anticipated storm event. Temporary measures, such as silt fences or straw wattles, intended to minimize erosion from temporarily disturbed areas will remain in place until disturbed areas have stabilized. Such temporary measures will be placed and monitored by a qualified inspector to ensure effectiveness and timely repair as needed. If determined to be necessary the SWPPP will be submitted to the CPUC for review at least 30 days prior to the start of construction. Plan updates will be made and submitted as needed if construction activities change whereas the existing plan does not adequately address the Proposed Project.
APM-PR-1	**Inadvertent Fossil Discovery**. Should any paleontological resources be found within the Proposed Project footprint prior to or during construction: ▪ Surface-disturbing work will be halted in the immediate area (within 50 feet) of the find and project paleontologist notified immediately so the find can be evaluated ▪ No operations will resume in the immediate area of the find until written authorization to proceed is issued by the appropriate agency personnel.

4.6.4.3. Potential Impacts

Geology and Soils

Impact GEO-1: The Proposed Project will not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (No Impact)

No known active faults or mapped Alquist-Priolo Earthquake Fault Zones are present in the vicinity of the Proposed Project. The nearest known active fault, the Julian Segment of the Elsinore Fault, is located approximately 18 miles to the east. The potential for damage associated with fault rupture is highly unlikely; therefore, there will be no impact.

Impact GEO-2: The Proposed Project will not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. (Less than Significant)

Ground shaking can have significant impacts on life and property and is typically the most damaging force from seismic events. The Proposed Project has a PGA value of 0.215g, which corresponds to a MM Intensity of VII. The degree of shaking from a MM Intensity of VII is described as very strong; however the degree of damage associated with this level event is described as negligible in buildings of good design and construction, slight to moderate in well-built ordinary structures, considerable damage in poorly built or badly designed structures, and some chimneys broken.

Seismic shaking in the vicinity of the Proposed Project could result in damage to the Proposed Project structures including the SVC, underground transmission line, and riser pole structure. Damage to the Proposed Project structures could result in significant impacts including power outages or rupture of the transmission line duct bank. Final design of the Proposed Project will adhere to all applicable building codes and seismic standards and incorporate engineering design elements from site-specific geotechnical investigation to minimize impacts to people or structures from strong ground shaking. Design requirements will account for onsite seismic acceleration levels and will be approved by a licensed geotechnical engineer and structural engineer. As such, potential impacts and damage from strong ground shaking will be less than significant.

Impact GEO-3: The Proposed Project will not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. (Less than Significant)

The Proposed Project typically has a shallow overburden underlain by weathered granitic rock and metasedimentary and metavolcanic rock. Liquefaction/lateral spreading (e.g., ground failure) in the area is considered to be extremely low. Small drainages and washes in the vicinity of the Proposed Project may contain localized deposits of loose granular material; however, these features lack regular saturation or elevated groundwater levels and liquefaction in the event of a large earthquake is similarly unlikely. Additionally, the SVC, riser pole structure, and underground transmission line are located outside of areas where loose granular material would accumulate.

The potential for the Proposed Project to result in injury or damage to people or structures associated with liquefaction/lateral spreading is considered highly unlikely. Final site design, soil removal, and soil improvement will be approved by a licensed geotechnical engineer. Soil improvements will include but are not limited to increasing the density and strength soils through mechanical vibration and/or dynamic compaction, or treating soils in place with binding or cementing agents. Final design of the Proposed Project will adhere to all applicable building codes and seismic standards and incorporate engineering design elements from site-specific geotechnical investigations and the forthcoming geotechnical investigation report to minimize impacts to people or structures from seismic-related ground failure.

Potential impacts and damage from strong ground shaking will be less than significant. Implementation of APM GEO-1, including appropriate design measures, will ensure impacts remain less than significant.

Impact GEO-4: The Proposed Project will not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving slope instability and landslides. (Less than Significant)

Construction activities that undermine or compromise slopes within areas of steep slopes may result in landslide or other ground failure. Destabilization of natural or constructed slopes resulting in slope failures or rock falls have the potential to undercut foundation structures and damage, weaken, or destroy Proposed Project components. Damaged or destroyed Proposed Project components could result in significant impacts including power outages or collapse of

transmission structures. Grading, excavation, and/or blasting operations near steep slopes could alter existing slope profiles, making them unstable as a result of over-excavation of slope materials, steepening of the slope, or increased loading. Similarly, these operations could result in rock falls from surficial rock outcropping.

As discussed in Section 4.6.3 and 4.6.3.4, the Proposed Project is primarily underlain by weathered granitic rock and metasedimentary and metavolcanic rock. Given the dense nature of these underlying materials, existing landslide potential in the vicinity of the Proposed Project is considered low. The SVC and underground transmission line are generally located within areas of low to moderate slope (i.e., less than 25%). However, nearby areas of steep slopes are present north of the riser pole structure and south of Bell Bluff Truck Trail. Surficial rock outcroppings that may impact the Proposed Project through rock falls are limited to the north facing aspect of the hillside south of Bell Bluff Truck Trail.

The SVC is located within a relatively flat site, which was previously used as a materials staging and equipment laydown area during the construction of the Sunrise Powerlink. The SVC is immediately surrounded by predominately low gradient slopes. Grading and excavation for the SVC will require approximately 21,000 cy of cut and 17,000 cy of fill material, respectively, and permanent disturbance of approximately 6 acres. As such, grading may result in up to 4,000 cubic yards of excess material which will be hauled off site. Net cut and fill for the SVC is designed to minimize the amount of imported material. The maximum cut slope depth is approximately 15 feet along the eastern border of the SVC while the maximum fill slope is approximately 13 feet in the northwest corner of the SVC. During earthwork, soils and other surficial deposits that do not possess sufficient strength and stability to support structures will be removed from the work area. Removal will typically extend to competent materials with high mechanical strength, resistant to erosion and deformation. Material that requires processing will be mechanically processed on-site to achieve a maximum particle size and distribution suitable for conventional placement in engineered fills. Grading and excavation associated with the SVC are unlikely to destabilize slopes or result in slope failure or rockslides.

There is potential, given the geologic setting, that crews may encounter rock while digging and blasting may be necessary to complete excavation. Although conventional excavation techniques can be used for the majority of site preparation, preliminary geotechnical analysis indicates that blasting may be required on 15% to 20% of the SVC and transmission line excavations. Further analysis will be required to determine the quantity, type, and amount of blast media required. As discussed in Section 4.7, Hazards and Hazardous Materials, APM HAZ-8 would require a pre-blast survey and preparation of a blasting plan that will outline the anticipated blasting procedures for the removal of rock material at the proposed SVC, riser pole, and along the underground transmission line as necessary. The blasting procedures will incorporate line control to full depth and controlled blasting techniques to create minimum breakage outside the line control and maximum rock fragmentation within the target area.

In the event that rock blasting is used during construction, the NEET West (or blasting subcontractor) will be required to obtain a blasting permit (issued by the Sheriff or Chief Officer of the fire department serving the area, pursuant to Article 77 of the Uniform Fire Code) and explosive permit (issued by the Sheriff pursuant to Section 12000, et seq. of the California

Health and Safety Code and Article 77 of the Uniform Fire Code) and will ensure compliance with all relevant federal, state, and local regulations relating to blasting activities.

Final design of the Proposed Project will adhere to all applicable building codes and seismic standards and incorporate engineering design elements from site-specific geotechnical investigations and the forthcoming geotechnical investigation report. Impacts to slope stability will less than significant. Implementation of APM GEO-1, APM GEO-2, APM GEO-3, and APM HAZ-9, including appropriate design measures, will ensure impacts will remain less than significant.

Impact GEO-5: The Proposed Project will not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. (Less than Significant)

Soils within the Proposed Project are typically shallow underlain by weathered granitic rock and metasedimentary and metavolcanic rock. Based on other loose granular materials, the potential for liquefaction in the vicinity of the Proposed Project is considered extremely low. Similarly, based on the shallow depth of underlying soils and absence of expected initial or total subsidence values the potential for subsidence or lateral spreading in the vicinity of the Proposed Project are considered low. The Proposed Project is located within an area of San Diego County where landslides are typically uncommon. Construction activities or Proposed Project components within areas of steep slopes may contribute to the occurrence of potential landslides. The potential for landslides is discussed in Impact GEO-4 above and, with the implementation of APMs, is considered less than significant.

Soils within the vicinity of the Proposed Project have a low potential for corrosion to uncoated steel and a low to moderate potential for corrosion to concrete. Corrosion of Proposed Project components (e.g., riser pole structure, underground transmission line duct bank, or other equipment foundations) could undermine or damage such structures resulting in significant impacts from power outages or the collapse of riser pole structure or underground transmission line duct bank. The Proposed Project will utilize on-site soil material to the maximum extent possible, where recommendations from site-specific geotechnical investigation, the forthcoming geotechnical investigation report, and material testing find such material suitable in accordance with applicable building codes and seismic standards. Materials determined unsuitable will be removed and replaced with clean imported fill material that meets recommended specifications. Final site design, soil removal, and soil improvement will be approved by a licensed geotechnical engineer. Foundation design including the type of concrete and corrosion protection will be determined by a structural and/or corrosion engineer.

Potential impact for landslides, subsidence, or other slope destabilization is considered less than significant. Implementation of APM GEO-1, APM GEO-2, and APM GEO-3 will ensure that impacts will remain less than significant.

Impact GEO-6: The Proposed Project will not be located on an expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property. (No Impact)

Soils within the Proposed Project are typically shallow underlain by solid rock and are described as having a low shrink-swell (expansive) potential. The Proposed Project will utilize on-site soil material to the maximum extent possible, where recommendations from site-specific geotechnical investigation and material testing find such material suitable in accordance with applicable building codes and seismic standards. Materials determined unsuitable will be removed and replaced with clean imported fill material that meets recommended specifications. Final site design, soil removal, and soil improvement will be approved by a licensed geotechnical engineer. Expansive soils are not expected to be present in any significant quantities within the Proposed Project; therefore, there will be no impact.

Impact GEO-7: The Proposed Project will not be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (No Impact)

Some existing septic systems may be present in the vicinity of the Proposed Project to support rural residences. However, the Proposed Project does not involve a permanent wastewater disposal system, such as on-site treatment or septic tanks. Portable toilets will be provided for construction workers. During operation, portable toilets will be provided for visiting maintenance personnel. Therefore, there will be no impact.

Impact GEO-8: The Proposed Project will not result in substantial soil erosion or loss of topsoil. (Less than Significant)

Grading, excavation, and/or blasting for underground transmission line duct bank, riser pole structure, vault structures, SVC foundations, permanent access drives, and temporary work areas will result in surface disturbance exposing topsoil to potential erosion. The amount of soil erosion and disturbance is related to slope steepness, which tends to dictate the amount of earth to be moved to provide flat grades for the SVC and safe grades for its access drives. In addition, the slope steepness greatly influences how rainfall runoff may cause erosion and contribute to sediment loading. The SVC and underground transmission line are generally located within areas of low to moderate slope (i.e., less than 25%) although the riser pole structure is downslope from steeper grades to the north.

The Proposed Project will be required to prepare and implement a SWPPP. The SWPPP will include measures to limit erosion from construction activities.

Impacts from erosion will be less than significant. Implementation of APM GEO-2 and APM GEO-3, including hazard and soil disturbance minimization and erosion control best management practices, will ensure that impacts will remain less than significant.

Mineral Resources

Impact MIN-1: The Proposed Project will not result the loss of availability of a known mineral resource that would be of value to the region and residents of the state. (No Impact)

The Proposed Project will not result in the loss of availability of a known mineral resource; therefore, there will be no impact.

Impact MIN-2: The Proposed Project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land-use plan. (No Impact)

The Proposed Project will not result in the loss of availability of a locally important mineral resource recovery site; therefore, there will be no impact.

Paleontological Resources

Impact PALEO-1: The Proposed Project will not impact any known paleontological resources or result in disturbance of paleontological resources. (Less than Significant)

If there is a substantial adverse change in the characteristics of a paleontological resource that convey its significance, either through demolition, destruction, relocation, alteration, or other means, then the project is judged to have a significant effect on the environment. Direct impacts may occur by physically damaging, destroying, or altering all or part of the resource through excavation or blasting, or the incidental discovery of paleontological resources without proper notification. As described in Section 4.6.3.7, there are no known paleontological resources near the Proposed Project and, given the geology of the area, the Proposed Project has very low potential for encountering paleontological resources. No previously recorded paleontological localities were reported by the SDNHM near the Proposed Project or within 1 mile of the Proposed Project footprint. Additionally, the literature search results revealed that none of the rock units underlying the Proposed Project are known to be fossiliferous and none have produced scientifically important localities in the past, nor are there any known fossil localities within a 1-mile radius of the Proposed Project footprint. As such, less than significant impacts to paleontological resources will occur.

Implementation of APM GEN-1, APM PR-1, and APM-HAZ-9 that include worker environmental awareness training, protocols for the inadvertent discovery of paleontological resources during construction, and preparation of a Blasting Plan, will ensure that impacts to paleontological resources will remain less than significant.

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4.7. HAZARDS AND HAZARDOUS MATERIALS

4.7.1. Introduction

This section presents a description of known hazards and hazardous materials within the vicinity of the Proposed Project as well as potential impacts from hazards and hazardous materials posed by the Proposed Project. Hazardous materials are regulated by federal and State agencies to help protect public health and the environment.

The Proposed Project will use construction equipment and includes facilities that use or contain hazardous materials. Construction will also expose subsurface materials that may have been previously contaminated. Project construction and operation will not create significant hazards to the public or environment, be located near an airport or school, interfere with current emergency response plans, or expose persons or property to significantly increased fire risk. NEET West will prepare and implement a SWPPP according to federal and State regulations as well as a Hazardous Materials and Waste Management Plan (HMWMP)/Hazardous Materials Business Plan and a Worker Health and Safety Plan. This analysis concludes that project-related impacts from exposure to hazards and hazardous materials will be less than significant. Implementation of the APMs described in Section 4.7.4.2 will ensure that impacts will remain less than significant.

Table 4.7-1. CEQA Initial Study Checklist for Hazards and Hazardous Materials

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
HAZARDS AND HAZARDOUS MATERIALS Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?				X

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	

4.7.2. Existing Conditions

4.1.1.1. Regulatory Background

The management of hazardous materials and hazardous wastes is regulated independently of the CEQA process at federal, State, and local levels through programs administered by the U.S. EPA; agencies within the California Environmental Protection Agency (Cal/EPA), such as the Department of Toxic Substances Control (DTSC) and the RWQCB; U.S. Department of Transportation (DOT); federal and State Occupational Safety and Health agencies (OSHA); and OES. A number of these federal and State laws and regulations are administered at the local level by the County. In addition, the International Fire Code and International Building Code

include requirements pertaining to hazardous materials and hazardous wastes, which are monitored and enforced at the local level. California has hazardous waste regulations that include, but substantially exceed, requirements of the federal RCRA.

Federal

Resource Conservation and Recovery Act

The RCRA, enacted in 1976, is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. The law gives the EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

To be considered a hazardous waste, a material first must be classified as a solid waste (40 CFR Section 261.2). The EPA defines solid waste as garbage, refuse, sludge, or other discarded material (including solids, semisolids, liquids, and contained gaseous materials). If a waste is considered solid waste, it must then be determined if it is hazardous waste (40 CFR Section 262.11). Wastes are defined as hazardous by the EPA if they are specifically named on one of four lists of hazardous wastes located in Subpart D of 40 CFR Part 261 (F, K, P, U) or if they exhibit one of four characteristics located in Subpart C of Part 261 (see the discussion below under Characteristic Wastes).

United States Environmental Protection Agency

The mission of the EPA is to protect human health and the environment. The EPA has determined that some specific wastes are hazardous to human health and the environment. These wastes are incorporated into four lists published by the EPA. The lists are organized into three categories:

1. **The F-list** (non-specific source wastes). This list identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations. Because the processes producing these wastes can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources. Wastes included on the F-list can be found in the regulations at 40 CFR Section 261.31.

2. **The K-list** (source-specific wastes). This list includes certain wastes from specific industries, such as petroleum refining or pesticide manufacturing. Certain sludges and wastewaters from treatment and production processes in these industries are examples of source-specific wastes. Wastes included on the K-list can be found in the regulations at 40 CFR Section 261.32.

3. **The P-list and the U-list** (discarded commercial chemical products). These lists include specific commercial chemical products in an unused form. Some pesticides and some

pharmaceutical products become hazardous waste when discarded. Wastes included on the P- and U-lists can be found in the regulations at 40 CFR Section 261.33.

Characteristic Wastes: Even if the waste stream does not meet any of the four listings explained above, it may still be considered a hazardous waste if it exhibits one of four characteristics defined in 40 CFR, Part 261, Subpart C: ignitability (D001), corrosivity (D002), reactivity (D003), and toxicity (D004-D043).

Clean Water Act / Clean Air Act

The Clean Water Act is the primary federal law in the United States governing water pollution. It was first enacted in 1948 as the Federal Water Pollution Control Act. The Act was significantly reorganized and expanded in 1972, becoming commonly known with amendments as the "Clean Water Act." The Clean Water Act is intended to protect the quality of the nation's surface water resources, including both physical and biological aspects. It gives the EPA the authority to regulate the discharge of pollutants and hazardous materials into the waters of the United States. The Clean Water Act does not directly address groundwater contamination. Groundwater protection provisions are included in the RCRA, the Safe Drinking Water Act, and the Superfund Act.

Likewise, the Clean Air Act, enacted in 1963 with major amendments in 1970, 1977, and 1990, is designed to control air pollution on a national level. It requires the EPA to develop and enforce regulations to protect the public from airborne contaminants known to be hazardous to human health. The Act's revisions were designed to improve its effectiveness and to target newly recognized air pollution problems such as acid rain and damage to the stratospheric ozone layer. The Clean Air Act requires the EPA to establish national ambient air quality standards for certain common and widespread pollutants based on the latest science. The EPA has set air quality standards for six common "criteria pollutants": particulate matter, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead. States are required to adopt enforceable plans to achieve and maintain air quality meeting the air quality standards. State plans must also control emissions that drift across state lines and harm air quality in downwind states.

Comprehensive Environmental Response, Compensation, and Liability Act and Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress in 1980. This law creates a tax on the chemical and petroleum industries and provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA was updated and improved by the Superfund Amendments and Reauthorization Act (SARA) in 1986. SARA stresses the importance of permanent remedies in cleaning up hazardous waste sites and provides new enforcement authorities and settlement tools. It also increases State involvement in every phase of the Superfund program. SARA includes a freestanding statute, Title III (identified as the Emergency Planning and Community Right-To-Know Act of 1986). This statute increases community awareness and access to information regarding the presence of extremely hazardous chemicals in communities, allowing the development of a local emergency response plan to help mitigate the effects of a chemical incident.

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) requires utilities to develop and implement tree trimming and vegetation management plans that include minimum clearance distances between vegetation and power lines. These plans must conform to the requirements of state or local authorities and any applicable right-of-way or easement agreement with the property owner. In 2003, FERC designated the NERC as the Electric Reliability Organization with the responsibility to develop and enforce standards to ensure the reliability of the Bulk Power System, including Electric Reliability Standard FAC-003-2. Electric Reliability Standard FAC-003-2 addresses vegetation management covering tree trimming or other vegetation in or adjacent to the power line right-of-way to prevent power outages (FERC 2015).

NERC is a non-profit international regulatory authority whose mission is to assure the reliability of the bulk power system in North America. NERC develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel (NERC 2015a). NERC Reliability Standards are implemented differently based on the voltage of facilities—high voltage transmission lines and lower voltage distribution lines. High voltage transmission lines, those operating above 200 kV and some between 100-200 kV, are all subject to Electric Reliability Standard FAC-003-3. The purpose of FAC-003-3 is to maintain a reliable electric transmission system by using a defense-in-depth strategy to manage vegetation located on transmission rights-of-way and minimize encroachments from vegetation located adjacent to the right-of-way, thus preventing the risk of those vegetation-related outages that could lead to uncontrolled successive loss of system elements triggered by an incident at any location (NERC 2015b). Lower voltage distribution lines, generally those operating below 100 kV, are controlled by the utility regulatory commission within each state.

United States Forest Service Cleveland National Forest Land Management Plan

The Proposed Project is on private land within the administrative boundary of the CNF. While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, NEET West has considered relevant goals, policies, program strategies, and tactics discussed in the Plan in the design of the Proposed Project. The following relevant goals of the Plan pertaining to hazards and hazardous materials including fire have been considered:

- **Goal 1.1, Community Protection:** Improve the ability of southern California communities to limit loss of life and property and recover from the high intensity wildland fires that are a natural part of this state's ecosystem.
- **Goal 1.2, Restoration of Forest Health:** Restore forest health where alteration of natural fire regimes have put human and natural resource values at risk.

The primary program strategies relating to achieving Goals 1.1 and 1.2 include fire prevention, direct community protection, fire suppression, firefighter and public safety, and fuelbreaks and indirect community protection, as summarized below:

- **Fire-1, Fire Prevention:** This program is intended to reduce the number of human-caused wildland fires and associated human and environmental impacts and includes a focus on fire prevention programs at the urban interface.

- **Fire-2, Direct Community Protection:** This program is intended to reduce the number of high and moderate risk acres by using both mechanical treatments and prescribed fire. It includes identification and scheduling for treatment the high-risk acres near communities, including the installation of Wildland/Urban Interface Defense and Threat Zone vegetation treatments. The highest priority for program actions should be given to those areas with substantial drought and insect-killed vegetation that presents a significant threat to life and property in entire communities. Program strategies include removal of dead trees adjacent to structures and access/evacuation routes, and herbicide application or the repetitive use of prescribed fire may be considered in the Wildland/Urban Interface Defense Zones on National Forest System land to avoid expensive treatment of resprouting chaparral species.
- **Fire-3, Fire Suppression Emphasis:** This program is intended to improve wildland fire suppression capability when in proximity to communities or improvements. The program calls for all human and natural ignitions to be suppressed using control, contain, and confine strategies.
- **Fire-4, Firefighter and Public Safety:** This program makes firefighter and public safety the first priority in every fire management activity. It calls for the integration of all fire management activities with those of other government agencies and to conduct fire management activities in a cost effective manner. Program strategies include conducting inspections to ensure that defensible space requirements are met around structures within delegated USFS jurisdiction, and the development of evacuation and community wildland fire protection plans in concert with other agencies and Fire Safe Councils support that will enhance both firefighter and public safety.
- **Fire-5, Fuelbreaks and Indirect Community Protection:** This program is intended to maintain the existing system of fuelbreaks to minimize fire size and the number of communities threatened by fire. It calls for considering the construction of new fuelbreaks on land outside of wilderness or other special designations.

The following additional relevant program strategies pertaining to hazards and hazardous materials including fire have also been considered:

- **FH-3, Restoration of Forest Health:** This program is intended to protect natural resource values at risk from wildland fire loss that are outside the desired range of variability, or where needed for wildlife habitat improvement. It includes various vegetation management recommendations.
- **Air 1, Minimize Smoke and Dust:** This program is intended to control and reduce smoke and fugitive dust to protect human health, improve safety, and/or reduce or eliminate environmental impacts through incorporating visibility requirements into project plans.
- **WAT1, Watershed Function:** This program is intended to protect, maintain, and restore the natural watershed functions including slope processes, surface water and groundwater flow and retention, and riparian area sustainability. It calls for the inventory and analysis of abandoned mines to identify chemical and physical hazards and mitigation of safety hazards and adverse environmental impacts through reclamation, as needed, to assure that

water quality standards are met. Maintain watershed integrity by replacing or disposing of displaced soil and rock debris in approved placement sites is also recommended.

- **WAT3, Hazardous Materials:** This program is intended to manage known hazardous materials risks through developing a Hazardous Materials Response Plan that addresses risk and standard cleanup procedures and coordinating with federal, tribal, state, city, and county agencies and local landowners to develop emergency response guidelines for hazardous spills on National Forest System land or on adjacent non-National Forest System land.

National Fire Protection Association

The National Fire Protection Association (NFPA) is an international nonprofit established in 1896 to reduce the worldwide burden of fire and other hazards on the quality of life. The NFPA develops and publishes more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risk. Some of the most widely used codes include FNPA 1, Fire Code, which provides requirements for new and existing buildings; NFPA 70, National Electric Code, for electrical installations; and NFPA 101, Life Safety Code, which establishes minimum requirements for new and existing buildings to protect occupants from fire, smoke, and toxic fumes (NFPA 2015).

National Electric Safety Code

Published by the Institute of Electrical and Electronic Engineers, the National Electric Safety Code (NESC) sets the ground rules for practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and associated equipment. It contains the basic provisions that are considered necessary for the safety of employees and the public under the specified conditions. The NESC is applicable to public or private electric supply, communications, railway, or similar utilities

National Interagency Fire Center

The National Interagency Fire Center (NIFC) was created in 1965 (originally the Boise Interagency Fire Center) because the USFS, BLM, and National Weather Service saw the need to work together to reduce the duplication of services, cut costs, and coordinate national fire planning and operations. The NIFC developed Interagency Standards for Fire and Fire Aviation Operations to provide program management direction for federal managers.

The Interagency Standards state, reference, and support policy for BLM, USFS, USFWS, and NPS. The Interagency Standards incorporate the Federal Wildland Fire Management Policy, which includes policy elements related to safety, response to wildland fire, planning, prevention, and interagency cooperation.

In addition, the Interagency standards incorporate the USFS Fire and Aviation Management program, with objectives including rise management and reduction, implementing fire management programs, and enhanced and improved collaboration as codified in the Forest Service Manual 5100 and 5700.

Federal Land Assistance, Management, and Enhancement Act of 2009

In the Federal Land Assistance, Management, and Enhancement Act of 2009, Congress mandated the development of a national cohesive wildland fire management strategy to comprehensively address wildland fire management across all lands in the United States, the culmination of which is the National Strategy and a companion National Action Plan. The National Strategy is the result of a collaborative effort by federal, state, local, and tribal governments and nongovernmental partners and public stakeholders.

The National Strategy includes a set of guidelines intended to provide basic direction when planning activities. Broadly defined to address national challenges, these guidelines can be tailored to meet local and regional needs. Priorities of the strategy include safe and effective response to wildfires, vegetation and fuels management, engaging homeowners and communities in taking proactive action, and emphasizing programs and activities which seek to prevent human-caused ignitions.

State

California Public Utilities Commission General Order 95

Where overhead power lines traverse trees and vegetation, minimum clearance distances are set forth in CPUC General Order 95 (CPUC 2015). General Order 95 specifies minimum vertical clearances of transmission lines in relation to ground or water surfaces, poles, railroads, thoroughfares, buildings, structures, and other objects. Under Rule 35 of the General Order, for a 230 kV transmission, in an Extreme and Very High Fire Threat Zone, a utility shall maintain at least 120 inches of clearance measured from the bare conductor to any vegetation or tree branches.[1] When there is actual knowledge, obtained either through normal operating practices or notification to the utility, that dead, rotten or diseased trees or dead, rotten or diseased portions of otherwise healthy trees overhang or lean toward and may fall into a line, the utility should remove such trees or portions of trees.

California Environmental Protection Agency

In 1991, California's environmental authority was unified in a single Cabinet-level agency—Cal/EPA. The agency's mission is to restore, protect, and enhance the environment, and to ensure public health, environmental quality, and economic vitality. Cal/EPA develops, implements, and enforces the State's environmental protection laws that regulate clean air, clean water, clean soil, safe pesticides, and waste recycling and reduction. The department most involved in the management of hazardous material and hazardous waste is the DTSC.

Department of Toxic Substances Control

The DTSC was established to protect California against threats to public health and degradation to the environment and to restore properties damaged by past environmental contamination.

[1] See General Order 95, pp. III-20 to III-21; Table 1, p. III-25 to III-27 (Case 14, column F, footnote (fff) and additional footnotes). Table 1, footnote (hhh) states: "Extreme and Very High Fire Threat Zones are defined by California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) Fire Threat Map." Table 1, footnote (fff) provides the 120-inch clearance. In addition, there may be certain exceptions under Rule 35.

Through its statutory mandates, DTSC cleans up existing contamination, regulates management of hazardous wastes, and prevents pollution by working with businesses to reduce their hazardous waste and use of toxic materials. DTSC's hazardous waste regulations are located in the CCR at Title 22 Social Security, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste.

Division of Occupational Safety and Health

The Division of Occupational Safety and Health, better known as Cal/OSHA, protects workers from health and safety hazards on the job in almost every workplace in California through its research and standards, enforcement, and consultation programs. Cal/OSHA also oversees programs promoting public safety on elevators, amusement rides, and ski lifts. In addition, the division oversees programs promoting the safe use of pressure vessels (e.g., boilers and tanks) and the prevention of exposure to asbestos fibers in the workplace. CCR Title 8 covers California Occupational Safety and Health Regulations. Cal/OSHA regulates hazards and hazardous materials at the State level, while OSHA, a division of the U.S. Department of Labor, is responsible for workplace hazards and hazardous materials at the federal level. A contractor with a valid California "Blaster License," pursuant to Cal/OSHA Article 8, Section 1550 through 1580, must conduct all blasting.

Regional Water Quality Control Board

The SDRWQCB makes critical water quality decisions for the San Diego area, including setting standards, issuing permits (waste discharge requirements), determining compliance with those requirements, and taking appropriate enforcement actions. Major areas of focus for RWQCBs include stormwater management, wastewater treatment, water quality monitoring, groundwater protection, and the cleanup of contaminated sites, including brownfields and underground storage tanks. The Federal Clean Water Act and the California Porter-Cologne Water Quality Control Act require that RWQCBs adopt a water quality control plan to guide and coordinate the management of water quality in the San Diego Region. The Water Quality Control Plan for the San Diego Basin (Basin Plan) was adopted by the SDRWQCB in 1994 and amended in 2011. The Basin Plan designates beneficial uses for water bodies in the San Diego Region, and establishes water quality objectives and implementation plans to protect those beneficial uses.

California Health and Safety Code

Californians are protected from hazardous waste and materials by a Unified Program that seeks to ensure consistency throughout the State in regard to administrative requirements, permits, inspections, and enforcement. Cal/EPA oversees the program as a whole, and certifies 83 local government agencies known as Certified Unified Program Agencies to implement the hazardous waste and materials standards set by five different state agencies—Cal/EPA, DTSC, Governor's OES, the California Department of Forestry and Fire Protection (CAL FIRE) – Office of the State Fire Marshal, and the SWRCB. The responsibility for the management of local hazardous wastes is delegated by Cal/EPA to the local agency through a Memorandum of Understanding. The primary CUPA related to the Proposed Project area is the San Diego County Department of Environmental Health (DEH), Hazardous Materials Division.

The California Health and Safety Code regulates the storage, handling, use, and/or disposal of hazardous materials within the State of California. It includes regulations provided by the California Hazardous Waste Control Law (HWCL). The HWCL addresses generators of universal waste (e.g., batteries, mercury control devices, dental amalgams, aerosol cans, and lamps/cathode ray tubes) as well as hydrocarbon waste (e.g., oils, lubricants, and greases) that are not classified as hazardous waste under the federal RCRA regulations. The DTSC is responsible for the administration and enforcement of the HWCL.

The California Health and Safety Code also includes regulations provided by the Hazardous Materials Release Response Plans and Inventory Act which requires that local governments be responsible for the regulation of facilities that store, handle, or use hazardous materials above certain threshold quantities. The threshold quantities for identified hazardous materials are 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases. Facilities storing such hazardous materials in excess of their threshold quantities are required to prepare a Hazardous Material Business Plan (HMBP) to identify the facility's internal response requirements to accidental spills. The HMBP must identify emergency contacts, hazardous material inventory and quantities, control methods, emergency response measures, and employee training methods. The HMBP is required to be submitted to the local administering agency (typically the local fire department or public health agency). In the event of a spill from such a facility, both the local administrative agency and the Governor's OES must be notified.

California Public Resources Code

Division 4 of the PRC covers regulations for forest and rangelands including fire protection measures required for the safe operation and management of buildings and structures in mountainous land, forest-covered land, brush-covered land, grass-covered land, or other land covered with flammable material.

For buildings or structures, PRC Section 4291 requires maintaining a defensible space of 100 feet from each side of the structure, but not beyond the property line except where a greater distance may be required by another regulation. Clearance beyond the property line may only be required if the regulation includes findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure.

Per PRC Section 4291, the amount of vegetation (or fuels) modification necessary must consider the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure.

PRC Section 4292 requires a 10-foot minimum firebreak be maintained around each electric pole or tower supporting a switch, fuse, transformer, lighting arrestor, line junction, or dead-end or

corner pole, if determined necessary by the director or the agency that has primary responsibility for fire protection in the area. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:

(a) At ground level, remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will propagate fire, and;

(b) From 0–2.4 meters (0–8 feet) above ground level, remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 meters (8 feet).

(c) From 2.4 meters (8 feet) to horizontal plane of highest point of conductor attachment, remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Similarly, PRC Section 4293 provides requirements for clearances between conductors (i.e., the wires of an electric transmission line) and vegetation based on the operating line voltages. For any transmission line that is operating at 110,000 or more volts, a 10-foot line clearance between the conductor and vegetation is required.

Additional sections from PRC Division 4, Chapter 6, that pertain to construction and operation of the Proposed Project include Sections 4427, 4428, 4431, and 4442.

California Building Code (CCR Title 24) and California Fire Code (Title 24)

The provisions of Chapter 9 of the California Building Code specify where fire protection systems are required and apply to the design, installation, and operation of fire protection systems. The California Fire Code 2010 (24 CCR Part 9) is based on the International Fire Code established by the International Code Council. It contains consensus standards for establishing good practices to safeguard public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new or existing buildings, structures, and premises.

Fire Prevention Standards for Electric Utilities (CCR Title 14, Division 1.5, Chapter 7, Sections 1250–1258)

Title 14 Sections 1250–1258 set requirements for firebreaks and clearances, as defined by PRC Sections 4292–4296, for electric poles and tower firebreaks and electric conductors to reduce the risk of fire.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well

as local land use priorities and concerns as they relate to hazards. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County Department of Environmental Health

The San Diego County DEH implements and enforces local, state, and federal environmental laws. DEH regulates the following: retail food safety; public housing; public swimming pools; small drinking water systems; mobile-home parks; on-site wastewater systems; recreational water; aboveground and underground storage tanks and cleanup oversight; and medical and hazardous materials and waste. The Department's Hazardous Materials Division ensures that hazardous materials, hazardous waste, medical waste, and underground storage tanks are properly managed. The Hazardous Materials Division regulates facilities that: 1) handle or store hazardous materials; 2) are part of the California Accidental Release Prevention Program; 3) generate or treat hazardous wastes; 4) generate or treat medical waste; 5) store at least 1,320 gallons of aboveground petroleum; and 6) own or operate underground storage tanks. All businesses in San Diego County that conduct any of these activities are required by law to obtain and maintain a valid Unified Program Facility Permit through the California Environmental Reporting System.

San Diego County General Plan

The Safety Elements of the San Diego County General Plan, Alpine Community Plan, and Central Mountain Subregional Plan establish policies and programs to protect the community from risks associated with hazardous materials and wildfire hazards. Goals and policies are further implemented in the County of San Diego Code of Regulatory Ordinances, which includes codes involving public safety, regulation of buildings, construction, and fire. Pursuant to Article XII, Section 8, of the California Constitution and the California Public Utilities Code, the CPUC maintains preemptive authority over local governments regarding the design, siting, installation, operation, maintenance, and repair of electric transmission facilities, where the CPUC has exercised its authority, and where the issue is a matter of statewide concern. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." In cooperation with local governments and to address their concerns where feasible, NEET West has considered relevant land use plans, policies, and issues in the design of the Proposed Project.

- **GOAL S-3, Minimize Fire Hazards:** Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.
    - **Policy S-3.1, Defensible Development:** Require development to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life safety resulting from wildland fires.
    - **Policy S-3.2, Development in Hillsides and Canyons:** Require development located near ridgelines, top of slopes, saddles, or other areas where the terrain or topography affect its susceptibility to wildfires to be located and designed to account for topography and reduce the increased risk from fires.

  - **Policy S-3.3, Minimize Flammable Vegetation:** Site and design development to minimize the likelihood of a wildfire spreading to structures by minimizing pockets or peninsulas, or islands of flammable vegetation within a development.
  - **Policy S-3.6, Fire Protection Measures:** Ensure that development located within fire threat areas implement measures that reduce the risk of structural and human loss due to wildfire.
  - **Policy S-3.7, Fire Resistant Construction:** Require all new, remodeled, or rebuilt structures to meet current ignition resistance construction codes and establish and enforce reasonable and prudent standards that support retrofitting of existing structures in high fire threat areas.

- **GOAL S-6, Adequate Fire and Medical Services:** Adequate levels of fire and emergency medical services (EMS) in the unincorporated County.
  - **Policy S-6.1, Water Supply:** Ensure that water supply systems for development are adequate to combat structural and wildland fires.
- **GOAL S-7, Reduced Seismic Hazards:** Minimized personal injury and property damage resulting from seismic hazards.
  - **Policy S-7.1, Development Location:** Locate development in areas where the risk to people or resources is minimized. In accordance with the California Department of Conservation Special Publication 42, require development be located a minimum of 50 feet from active or potentially active faults, unless an alternative setback distance is approved based on geologic analysis and feasible engineering design measures adequate to demonstrate that the fault rupture hazard would be avoided.
  - **Policy S-7.2, Engineering Measures to Reduce Risk:** Require all development to include engineering measures to reduce risk in accordance with the California Building Code, Uniform Building Code, and other seismic and geologic hazard safety standards, including design and construction standards that regulate land use in areas known to have or potentially have significant seismic and/or other geologic hazards.
- **GOAL S-11, Controlled Hazardous Material Exposure:** Limited human and environmental exposure to hazardous materials that pose a threat to human lives or environmental resources.
  - **Policy S-11.3, Hazards-Sensitive Uses:** Require that land uses using hazardous materials be located and designed to ensure sensitive uses, such as schools, hospitals, day care centers, and residential neighborhoods, are protected. Similarly, avoid locating sensitive uses near established hazardous materials users or High Impact Industrial areas where incompatibilities would result.

San Diego County Consolidated Fire Code

The California Health and Safety Code provides that a fire protection district may adopt building standards relating to fire and panic safety that are more stringent than the building standard adopted by the State Fire Marshal and contained in the California Building Standards Code (Section 13869.7). The San Diego 2014 Consolidated Fire Code incorporates both the San Diego

County Fire Code and the ordinances of the 16 unincorporated county fire protection districts. The local fire protection districts adopt the County Fire Code but may provide modifications or changes that are then reflected in the 2014 Consolidated Code. Modifications adopted by one or more fire protection districts are based on local climatic, geological or topographical conditions that exist in the district.

The Consolidated Fire Code covers standards and requirements for buildings, access roads for fire apparatus, water supply, alarm systems, fuel modification zones, defensible space, and general fire protection and life safety features. In cooperation with San Diego County and local fire protection districts and to address their concerns where feasible, NEET West has considered relevant policies and issues in the design of the Proposed Project.

International Building Code and International Fire Code

The International Building Code and International Fire Code (formerly Uniform Building Code and Uniform Fire Code) are codes designed to establish a minimum level of hazardous material regulation to be enforced at the local level. The International Building Code regulates buildings containing hazardous materials and their storage through the use of quantity limits. The International Fire Code establishes a system for classifying hazardous materials and setting threshold amounts of these materials that can be used or stored in a fire control area. If these thresholds are exceeded, the occupancy would change to a Hazardous Occupancy, requiring a defined set of additional fire protection measures to be implemented.

4.7.2.1. Methodology

In April 2015, SWCA prepared the *Suncrest Dynamic Reactive Power Support Project Phase I Environmental Site Assessment* (SWCA 2015), included as PEA Appendix G. The Phase I ESA was prepared following the standards described in the American Society for Testing and Materials (ASTM) *Standard E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The goal of the Phase I ESA was to assess the property, to the extent practical, for the potential presence of recognized environmental conditions (RECs), defined in the ASTM standard as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." The assessment included review of historical property uses of the Proposed Project area, review of historical topographic maps and aerial photographs, review of previous environmental reports or assessments conducted in the vicinity, review of federal and state environmental records databases include an environmental database report generated by Environmental Data Resources, Inc. (EDR), and reconnaissance survey of the Proposed Project area. The databases search by EDR was conducted in accordance with ASTM Standard E 1527-13 and included the required databases as well as several additional federal and state databases and databases proprietary to EDR. The Phase I ESA and EDR report are provided in Appendix G.

In addition to the Phase I ESA and database resources reviewed therein, other potential site hazards and hazardous materials in the vicinity of the Proposed Project were evaluated through review of the following available resources:

- SWRCB GeoTracker database;
- DTSC EnvironStor database;
- San Diego County Multi-Jurisdictional Hazard Mitigation Plan, August 2010;
- CAL FIRE Fire Hazard Severity Zone Maps;
- CAL FIRE San Diego Unit Pre-Fire Management Plan, April 2014;
- San Diego County OES website;
- San Diego County Emergency Operations Plan, September 2014; and,
- Studies and environmental documents prepared for the region.

4.7.3. Environmental Setting

The Proposed Project is in the south central portion of San Diego County, approximately 33 miles from the Pacific Coast. The Proposed Project is within a predominately undeveloped area approximately 3.78 miles southwest of the community of Descanso and approximately 3.36 miles southeast of the community of Alpine. Topography in the vicinity of the Proposed Project is undulating with steep hills interspersed by narrow valleys and deep canyons. Geologic and hydrologic conditions in the Proposed Project are described in Section 4.6 and 4.8, respectively.

Based on a review of topographic maps and aerial photography dating as early as 1903, historically, the Proposed Project and surrounding properties consisted of undeveloped scrubland and grassland bisected by a few dirt roads. From 1903 through 2009 the surrounding area remained relatively unchanged with occasionally disturbed, predominately scrub-shrub vegetation. The proposed SVC area was previously cleared for use as a laydown area for the Sunrise Powerlink, which was completed in 2012 and revegetated primarily by California buckwheat scrub and ruderal grasses. A 1.7-acre area on the northwest side of the SVC was also recently bladed by the property owner for the installation of a water tank. Historically, several small modifications to the area included the addition of several dirt roads and trails, a mining prospect approximately 0.70 mile northeast of the Proposed Project area, additional land clearing for potential grazing, and a small residential development along Bell Bluff Truck Trail. Throughout this period, the SVC area remained largely cleared of dense or woody vegetation consisting predominately of grasses and forbs.

The proposed SVC area was used for grazing but is not currently being used for this purpose. A depression is present near the SVC area where seasonal saturation is evident. By 2002, significant improvements to Bell Bluff Truck Trail were evident; however, the roadway still consisted of an improved dirt road. By 2012, the SDG&E Sunrise Powerlink including the Suncrest Substation, and other associated development (e.g., improvements along Bell Bluff Truck Trail and construction of several water tanks) were evident within the Proposed Project area. The proposed SVC area was used during the construction of the Sunrise Powerlink as a materials staging area and was completely graded and cleared of vegetation during this time period. Following completion of construction, the area has been in a process of revegetation, including active planting and restoration activities by SDG&E. Revegetation and restoration

efforts have included ripping of soils to alleviate compaction, replanting native vegetation, and installation of temporary aboveground irrigation infrastructure such as PVC pipes and sprinklers.

A reconnaissance survey of the Proposed Project area was conducted on March 25 and May 13, 2015, by SWCA. One building, a garage built by a former property owner, was observed on the north side of Bell Bluff Truck Trail approximately 400 feet west of the proposed SVC. The building appeared to be abandoned. A temporary nursery and two temporary plastic water tanks associated with the Sunrise Powerlink restoration effort were observed in the vicinity of the Proposed Project. In June 2015, a water tank was installed by the property owner on the northwest corner of the proposed SVC site. All of the remaining development in the Proposed Project area is associated with the adjacent Suncrest Substation and Sunrise Powerlink.

Bell Bluff Truck Trail is an east-west trending, paved access road measuring approximately 30 feet wide for most of its length providing access to the Suncrest Substation. Numerous culverts, gutters, and storm drains and one new, metal gate are located along Bell Bluff Truck Trail. One circular pad composed of gravel and lined with metal is located adjacent to Bell Bluff Truck Trail on the north side. Two series of manholes are located within the road: one marked "AT&T," likely for fiber optic telecommunication lines, and one marked "SDG&E," likely for electrical lines. No soil staining, odors, or other evidence of leaks or spills was observed within the Proposed Project area. Additionally, no wells or evidence of underground storage tanks (e.g., fill ports) were observed within the Proposed Project area.

4.7.3.1. Hazards and Hazardous Materials

The Phase I ESA included an environmental regulatory review to establish the environmental history of the Proposed Project area and surrounding area to ascertain whether hazardous waste or hazardous material management, handling, treatment, or disposal activities have occurred on or near the Proposed Project. An environmental database report generated by EDR on March 12, 2015, did not identify any relevant nearby hazardous waste sites or facilities (Appendix G). In addition to the sites/facilities listed in the EDR report, EDR provided a list of sites or facilities that are listed in one or more regulatory agency databases, but could not be mapped because of incomplete address or location information; these are called orphan sites. This EDR report identified no orphan sites (SWCA 2015).

The Phase I ESA also included a reconnaissance survey of the Proposed Project area and review of supplemental records from the SWRCB GeoTracker website, which contains environmental data for regulated facilities in California including cleanup sites and hazardous waste facilities, and the DTSC EnviroStor website, which includes data for leaking underground storage tanks and other cleanup sites, disposal sites, and hazardous waste permitted facilities. The following GeoTracker/EnviroStor sites are the only identified sites within 2 miles of the Proposed Project:

- *Viejas Sanitary Landfill (L10005392761) 7850 Campbell Ranch Alpine, CA:* This landfill disposal site is located approximately 2.0 miles northeast of the Proposed Project. This landfill was in operation from 1971 through January 6, 1979, when the County of San Diego terminated operations. Cleanup and monitoring operation of the landfill is subject to the requirements of SDRWQCB Order No. 95-24 *Waste Discharge Requirements for Post-Closure Maintenance for County of San Diego Viejas Sanitary Landfill*. In accordance with Order No. 95-24 site management systems include landfill

maintenance inspections, a groundwater monitoring system, and a surface water monitoring system. Based on groundwater monitoring performed between October 2014 through March 2015 and historical analytical data, groundwater conditions as the site are considered to be adequately characterized and additional action beyond existing source control measures and monitored natural attenuation are determined to not be warranted (Geosyntec 2015).

- *Caltrans/Descanso (T0607399181) 24171 Japatul Rd Descanso, CA:* This underground storage tank site case located approximately 1.6 miles southeast of the Proposed Project was closed December 21, 2005. This closure was made based on findings that the site investigation and corrective action were completed in accordance with applicable regulations and no further action related to the petroleum release at this site was required.

The Phase I ESA had the following relevant findings and conclusions with regard to the Proposed Project:

- No relevant nearby hazardous wastes or materials sites or facilities were listed in the supplemental databases search.
- No wells, evidence of underground storage tanks, or evidence of spills, staining, or leaking of hazardous materials or petroleum products were found within the Proposed Project area.
- Review of historical aerial photographs and topographic maps did not identify any past uses of the Proposed Project area considered to be RECs.
- No potential sources of vapor intrusion or vapor encroachment were identified that would be considered to be RECs for the Proposed Project.
- No evidence of RECs were identified in connection with the Proposed Project.

An addendum (Addendum 3) to the Phase I ESA prepared for Sunrise Powerlink similarly did not identify any RECs to the portions of that project in the vicinity of the Proposed Project area, including the existing SDG&E Suncrest Substation (Geosyntec 2009).

4.7.3.2. Fire Hazards

California law requires CAL FIRE to identify areas based on the severity of fire hazard that is expected to prevail there. These areas, or "zones," are based on factors such as fuel (material that can burn), slope, and fire weather. There are three zones, based on increasing fire hazard: medium, high, and very high. The Proposed Project is within the Guatay Fireshed, an area designated as a Very High Fire Hazard Severity Zone by CAL FIRE (Figure 4.7-1). In the fall, at the height of the fire season, extreme fire weather conditions include low humidity, sustained high-speed winds, and strong gusts. Topographical features within the fireshed align in such a way as to create one of the most active fire corridors in San Diego County. Winds originating from the Great Basin, known locally as Santa Anas, are forced through coastal mountain passes. Typically blowing from the northeast over the Peninsular Ranges, Santa Ana winds can have sustained speeds of 40 mph with gusts over 100 mph possible. Santa Ana winds have been the primary driver of the majority of California's most catastrophic wildfires. Humans are the primary wildfire ignition source in San Diego County, accounting for 88% of wildfire ignitions

over the last 13 years in the Guatay Fireshed (CPUC 2008). San Diego County has identified wildfire as the single greatest hazard to the San Diego region (OES 2010).

Damaging wildfires are common within the Guatay Fireshed with the greatest concentration of ignitions along the I-8 corridor located north of the Proposed Project area (CPUC 2008). Two of the three largest fires in San Diego County's recorded history, the 2003 Cedar Fire and the 1970 Laguna Fire, partially burned within the Guatay Fireshed. The 2007 Witch Fire burned up to the fireshed's northern border. The Cedar Fire burned over 273,000 acres and is considered the largest California wildfire within the last 100 years. The predominant vegetation type within this watershed is fire-adapted chaparral with species including manzanita, chamise, and ceanothus. The average annual rainfall of this fireshed ranges between 22.5 and 27.5 inches, and supports dense stands of chaparral with some scattered conifers in the Pine Valley area.

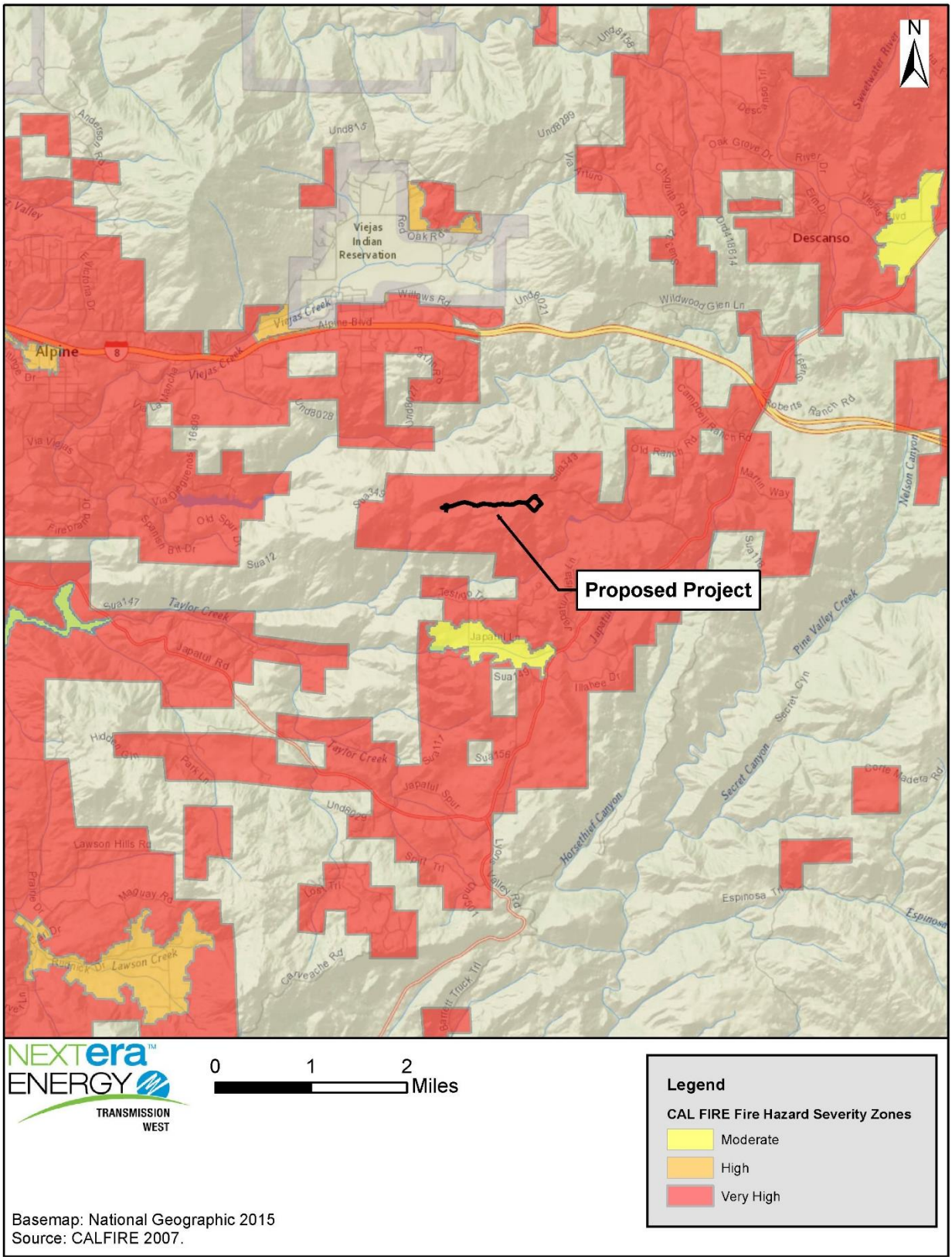
The fireshed is categorized as an Intermix Wildland Urban Interface with an average population density of approximately 213 people per square mile on private land. Intermix Wildland Urban Interface areas are characterized by scattered structures interspersed in wildland areas with wildland fuels continuous outside of and within developed areas. This relatively contiguous matrix of wildlands and fuel loads may be prone to large fires and an elevated risk of wildfires from human ignition due to the highly interspersed development (CPUC 2008).

The Proposed Project is within the territory of the San Diego County Rural Fire Protection District (RPD). In May 2015, the San Diego County Fire Authority (County Fire Authority) took the RPD under its umbrella and all fire responsibilities of the RPD are expected to be transferred to County Fire Authority by the end of the year. When the transfer is complete, the County Fire Authority will be responsible for services in 1.59 million acres. The County Fire Authority will continue to support fire services in the RPD by funding CAL FIRE, the operational lead in the County Fire Authority, to augment fire coverage in the RPD's territory (East County Magazine 2015).

As the operational lead for the County Fire Authority, any fire emergencies that may occur at the Proposed Project will be primarily responded to by the Flinn Springs CAL FIRE Station, 9711 Flinn Springs Road, El Cajon, which is approximately 10.6 miles to the northwest of the Proposed Project site. Secondary response is expected to come from the County Fire Authority Station 25, 5425 Dehesa Road, El Cajon, which is approximately 8.6 miles west-southwest of the Proposed Project area. The CAL FIRE San Diego Unit has prepared a Pre-Fire Management Plan that covers over 1.2 million acres within San Diego County and western portions of Imperial County. By proclamation of the Governor, CAL FIRE has taken steps to reduce the fire hazard by allowing the immediate removal of dead and dying trees from landowners' properties.

This proclamation also directs CAL FIRE to protect public safety by clearing effective evacuation and emergency response routes of vegetation and by establishing fire safe evacuation centers. Landowners within the Very High Fire Hazard Severity Zone are also required to implement measures to reduce potential fire risk, such as brush clearing at specified distances from structures, use of specific building materials, and design and construction requirements, among others (CAL FIRE 2014).

Figure 4.7-1. Fire Hazard Severity Zones



4.7.3.3. Schools

Children in schools are considered sensitive receptors and are therefore considered in the analysis for potential impacts relative to hazards and hazardous materials. Public schools and educational facilities in the county are administered by the San Diego County Board of Education and the San Diego County Office of Education. The Alpine Union School District and Mountain Empire Unified School District serve the Proposed Project area. The nearest school to the Proposed Project, Descanso Elementary School, is located approximately 4.4 miles to the northeast.

4.7.3.4. Airports and Airstrips

The Proposed Project area is not located within 2 miles of a public or private airport. However, the Proposed Project is located approximately 3.8 miles northeast of a non-towered private airstrip (On the Rocks Airport).

4.7.3.5. Emergency Response and Evacuation Plans

The San Diego County OES coordinates the overall County response to disasters. OES is responsible for alerting and notifying appropriate agencies when disaster strikes, coordinating all agencies that respond, ensuring resources are available and mobilized in times of disaster, developing plans and procedures for response to and recovery from disasters, and developing and providing preparedness materials for the public. The OES implements the San Diego County Emergency Operations Plan. The Emergency Operations Plan is used by the County and all of the cities within the county to respond to major emergencies and disasters. It describes the roles and responsibilities of all County departments (including many city departments), and the relationship between the County and its departments and the jurisdictions within the county. It states that if a disaster occurs in an unincorporated area of the county, the County Chief Administrative Officer will direct the emergency as Director of Emergency Services. Along with the OES, other agencies such as the San Diego County Sheriff's Department and CAL FIRE offer coordinated services in the event of an emergency or evacuation. The Proposed Project area is also located within the extent of the Alpine Evacuation and Protection Plan. This plan provides specific information regarding evacuation plans and strategies for the community of Alpine as well as current mitigation strategies to minimize hazards, particularly wildfire.

The San Diego County DEH Hazardous Incident Response Team consists of 10 California State Certified Hazardous Material Specialists. This team services all of unincorporated San Diego County. The Hazardous Incident Response Team responds jointly with the San Diego Fire and Life Safety Services Department, Hazardous Incident Response Team to respond to chemically related emergencies.

Fire protection and emergency response within the Proposed Project area are discussed in detail in Section 4.12, Public Services.

4.7.4. Applicant-Proposed Measures and Potential Impacts

The following sections describe significance criteria, impacts, and APMs related to hazards and hazardous materials.

4.7.4.1. Significance Criteria

According to Appendix G of the State CEQA Guidelines, impacts from hazards and hazardous materials may be considered significant if they were to:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public or private airport and would result in a safety hazard for people residing or working in the project area;
- Be within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response or evacuation plan; or,
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.7.4.2. Applicant-Proposed Measures

The following APMs relating to hazards and hazardous materials (HAZ) include measures that are already required by existing regulations and/or requirements, or are standard practices that will minimize or prevent any potentially significant impacts.

Table 4.7-2. Applicant Proposed Measures for Hazards and Hazardous Materials

APM No.	Description
	HAZARDS AND HAZARDOUS MATERIALS
APM HAZ-1	**Hazardous Materials and Waste Management Plan.** A HMWMP will be prepared and implemented for the Proposed Project. Construction will not begin until the plan is complete. The plan will be prepared in accordance with relevant state and federal guidelines and regulations (e.g., Cal/OSHA). The plan will include the following information related to hazardous materials and waste, as applicable: ▪ A list of hazardous materials present on-site during construction and operation to be updated as needed along with product Safety Data Sheets and other information regarding storage, application, transportation, and disposal requirements; ▪ A Hazardous Materials Communication (i.e., HAZCOM) Plan; ▪ Assignments and responsibilities of Proposed Project Health and Safety roles; ▪ Standards for any secondary containment and countermeasures that will be required for hazardous materials; ▪ Spill response procedures based on product and quantity. The procedures will include materials to be used, location of such materials within the Proposed Project area, and disposal protocols; and ▪ Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction. This will include termination of work within the area of suspected contamination sampling by an OSHA trained individual, and testing at a certified laboratory. A copy of the plan will be provided to the CPUC for recordkeeping prior to the start of construction. Plan updates will be made and submitted as needed if construction activities change whereas the existing plan does not adequately address the Proposed Project.
APM HAZ-2	**Environmental and Hazardous Materials Safety and Management Plans.** In addition to the HMWMP, all necessary environmental and hazardous materials safety and management plans will be developed for the Proposed Project. This may include but is not limited to the preparation of a Hazardous Materials Business Plan, Spill-Response Plan, 90-day temporary storage and disposal facility permit, and a Spill Prevention Control and Countermeasure Plan (i.e., if the Proposed Project will result in storage of over 1,320 gallons of oil at any one location).
APM HAZ-3	**Weed Control Plan.** A Proposed Project-specific weed control plan will be prepared and implemented. The plan will include methods for controlling the introduction and distribution of weeds during construction such as cleaning of tires and surfaces of all trucks and construction equipment prior to commencing work in off-road areas, using rocks/grates at the Proposed Project entry points to physically dislodge seeds, using certified weed-free mulch for stabilizing areas of disturbed soil, utilizing on-site soil to the maximum extent practicable for fill. Following construction annual maintenance actives will track the presence and proliferation of non-native, invasive plants known to potential increase wildland fire hazards (e.g., cheatgrass [*Bromus tectorum*], Saharan mustard [*Brassica tournefortii*], and medusa head [*Taeniatherum caputmedusae*]. The plan will establish performance criteria and metrics for the presence of weed species based on reducing fire hazards and include methods for control of these species to generated acceptability thresholds.
APM HAZ-4	**Develop and implement a Fire Prevention Plan.** Following Proposed Project approval, a Fire Prevention Plan will be prepared and implemented for the Proposed Project. The Plan is intended to reduce or eliminate the causes of fire, and prevent loss of life and property by fire. The goals of the Plan are to further minimize or eliminate identifiable fire risks associated with the Proposed Project and minimize or eliminate impedances to local fire protection service responders through design improvements or aid agreements. The Plan will be prepared based on evaluation of potential fire risks as they relate to required building standards, structural protection, fire protection systems, access requirements, fuel management requirements, water supply, and emergency response adequacy. This evaluation will be augmented by fire behavior modeling (utilizing BehavePlus 5.05) to determine site-specific priority hazard areas, appropriate setbacks from wild land field, and stable defensible space distances. The Plan will outline recommendations and site-specific measures or requirements for construction, operation and maintenance of the Proposed Project. The Plan will be prepared with a similar intent to the Occupational Safety and Health Administration's standard on fire prevention, 29 CFR 1926.24, 8 CCR 3221 and in consideration of the San Diego County Consolidated Fire Code (Ordinance No. 10172). The Plan will be developed in coordination with the San Diego County Fire Authority (SDCFA).

Table 4.7-2. Applicant Proposed Measures for Hazards and Hazardous Materials

APM No.	Description
APM HAZ-5	**Remove hazards from work area.** The removal of hazards (i.e., fuels) from the work area will reduce the severity of construction- and maintenance-related ignitions that escape initial containment efforts by minimizing fuel loads. This will reduce the potential impact to communities and natural resources in the event of a project construction- or maintenance-related ignition.
APM HAZ-6	**Establish and maintain adequate equipment clearances.** Establishing and maintaining adequate clearances from electrical equipment, such as the riser pole structure or SVC transformer components, will reduce the risk of vegetation contact with the 300-foot overhead conductor and provide a defensible space around the SVC site. Maintenance of vegetation will be in accordance with CPUC General Order No. 95, Section 3, Rule 35, Vegetation Management.
APM HAZ-7	**Fire Safe Working Conditions and Best Management Practices.** The following measures will be implemented during construction and operation to reduce the potential for ignitions and minimize fire related hazards: ▪ All work vehicles will be required to carry fire suppression equipment. Workers will be trained in the use of equipment for incipient stage fire suppression (see APM HAZ-3). ▪ Smoking will be confined to vehicles or approved smoking areas where fire suppression equipment and appropriate disposal facilities are present. All smoking materials will be disposed of in appropriate disposal bins. ▪ All on-road vehicle parking will be restricted to paved or graveled surfaces unless parking is required during an emergency or required for worker safety. ▪ Require spark arrestors on all off-road equipment. ▪ Restrict work activities during Red Flag Warnings issued by the National Weather Service to the extent possible. Where it is not possible to stop or restrict work activities due to safety or time sensitive activities, work activities will be limited to those needed to complete the current task and establish safe working conditions. During Red Flag Warnings a crew member will be assigned to fire watch for each separate and distinct active work area. ▪ Weather and fire danger will be monitored on a daily basis. ▪ Fire suppression equipment such as backpack water pumps or water buffaloes will be kept on-site at a minimum of 50 feet from each separate and distinct active work area.
APM HAZ-8	**Blasting Plan.** If blasting is deemed necessary for the construction of Proposed Project components, NEET West shall conduct a pre-blast survey and prepare a blasting plan. A written report of the pre-blast survey and final blasting plan shall be provided to the appropriate regulatory agency and approved prior to any rock removal using explosives. In addition to any other requirements established by the appropriate regulatory agencies, the pre-blast survey and blasting plan shall meet the following conditions, as well as those outlined in APM NOI-2: ▪ The pre-blast survey shall be conducted for structures within a minimum radius of 1,000 feet from the identified blast site to be specified by NEET West. Notification that blasting will occur shall be provided to all owners of the identified structures to be surveyed prior to commencement of blasting. The pre-blast survey shall be included in the final blasting plan. ▪ The final blasting plan shall address air-blast limits, ground vibrations, and maximum peak particle velocity for ground movement, including provisions to monitor and assess compliance with the air-blast, ground vibration, and peak particle velocity requirements. The blasting plan shall meet criteria established in Chapter 3 (Control of Adverse Effects) in the Blasting Guidance Manual of the U.S. Department of Interior Office of Surface Mining Reclamation and Enforcement. ▪ The blasting plan shall outline the anticipated blasting procedures for the removal of rock material at the proposed SVC, riser pole and underground transmission line structures. The blasting procedures shall incorporate line control to full depth and controlled blasting techniques to create minimum breakage outside the line control and maximum rock fragmentation within the target area. Prior to blasting, all applicable regulatory measures shall be met. NEET West, or its subcontractor (as appropriate) shall keep a record of each blast for at least 1 year from the date of the last blast. ▪ The blasting plan shall incorporate provisions to post signage along roads and trails within a minimum of 1000 feet of the identified blast site. Precautions such as fencing or taping will be incorporated that limit access to recreationalists and the general public.

4.7.4.3. Potential Impacts

Impact HAZ-1: The Proposed Project will not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous material. (Less than Significant)

Project construction will require the routine use of construction equipment that will use or contains hazardous materials including but not limited to diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and cement slurry. Equipment containing or transporting these materials will regularly travel throughout the Proposed Project area and region during construction periods. Additionally, the SVC will include transformers containing mineral oil, which is considered a hazardous material in the State of California. Such materials have the potential to result in accidental releases that may affect the public or environment (e.g., contamination of soils, surface water and/or groundwater quality impairment, and floral/faunal toxicity effects). The Proposed Project is located within an isolated area where on-site spills or releases have limited potential for direct contact and impact to the general public. However, off-site transport of released materials in contaminated soils, surface waters, and/or groundwater has the potential to result in impacts. On-site releases also have the potential to impact workers and the environment through direct contact. Additionally, the improper disposal of hazardous wastes on- or off-site may impact the public, workers, and/or the environment. The potential for off-site material transport in surface and groundwater resources is discussed in Section 4.8, Hydrology and Water Quality.

Dependent upon the results of geotechnical investigation, the Proposed Project may require the use of blasting explosives for the construction of the SVC and underground transmission line. Based on preliminary geotechnical analysis, rock blasting may be required for 15 to 20% of the SVC and transmission line excavations. Further analysis will be required to determine the quantity, type, and amount of blast media required. Blasting activities will be limited to areas where conventional excavation methods are not feasible. At the most, blasting will be conducted once per hour and more realistically once or twice per day during excavation. In the event that rock blasting is used during construction, NEET West (or the blasting subcontractor) will be required to obtain a blasting permit (issued by the Sheriff or Chief Officer of the fire department serving the area, pursuant to Article 77 of the Uniform Fire Code) and explosive permit (issued by the Sheriff pursuant to Section 12000, et seq. of the California Health and Safety Code and Article 77 of the Uniform Fire Code) and will ensure compliance with all relevant federal, State, and local regulations relating to blasting activities. NEET West (or the blasting subcontractor) will also be responsible for limiting vibration from the blast to prevent damage to any structures. Micropiles or similar will be used to install the riser pole as opposed to blasting due to the close proximity to SDG&E facilities.

Precautions will be taken to limit accessibility to recreational users and the general public during blasting activities. Prior to blasting, signage will be posted on roads and trails within a minimum of 1,000 feet from the identified blast site. Prior to removing earth or rock with the use of explosives, a pre-blast survey and blasting plan will be prepared for the Proposed Project (APM HAZ-8). The pre-blast survey will be conducted for structures within a minimum radius of 1,000 feet from the identified blast site. If SDG&E facilities are within the survey radius, NEET West will consult with SDG&E engineers in the pre-blast survey (no other structures fall within

1,000 feet of any part of the project). The blasting plan will outline the anticipated blasting procedures for the removal of rock material and will address air blast limits, ground vibrations, and maximum peak particle velocity for ground movement. Impacts related to noise associated with blasting activities are further described in Section 4.10, Noise.

The potential for the Proposed Project to result in a significant hazard to the public or environment through the transport, use, or disposal of hazardous materials will be less than significant. Prior to construction, a HMWMP will be prepared describing hazardous materials use, transport, storage, management, and disposal protocols (APM HAZ-1). Implementation of the HMWMP, SWPPP, APMs WQ-1 through WQ-3, as well as implementation of APM GEN-1 and APM HAZ-2, including worker training and preparation of environmental and hazardous materials safety and management plans, and HAZ-8, will ensure that impacts will remain less than significant.

Construction of the SVC, underground transmission line, and 300-foot overhead span will incorporate design features and operational/maintenance procedures in order to minimize the potential for the release or improper disposal of hazardous materials during project operation. Maintenance activities will occur regularly at the Proposed Project facilities. These activities may include use of new pollutant sources including but not limited to fertilizers or soil additives for landscaping and oils, paints, and solvents used for routine maintenance. All materials used during operation and maintenance will be applied, stored, and disposed of consistent with manufacturer recommendations by licensed professionals, if necessary, and in accordance with applicable regulations. Operation of the Proposed Project will implement standard operational BMPs consistent with APMs WQ-2 through WQ-7 and HAZ-1; as such, operational impacts will remain less than significant.

Impact HAZ-2: The Proposed Project will not 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 Proposed Project is not located on or within close proximity to a known hazardous material site. Prior to the construction of the Suncrest Substation, Sunrise Powerlink and associated improvements, the Proposed Project area has remained relatively undeveloped since the early 1900s. No spills or hazardous materials releases were documented within the Proposed Project area associated with construction of these facilities (CPUC 2013). Grading and excavation are not expected to expose historic or undocumented contamination; however, the possibility cannot be completely discounted. Exposure of existing hazardous materials during construction has the potential to impact on-site workers, the public, or the environment through direct contact, off-site transport, or improper disposal. However, the potential is low and impacts from the Proposed Project will be less than significant. Implementation of the HMWMP (APM HAZ-1) will include protocols for the handling of discovered hazardous waste materials and worker training in the identification of potential hazardous wastes (APM GEN-1). Implementation of APMs will ensure that impacts will remain less than significant.

As discussed in Impact HAZ-1, construction equipment and SVC facilities have the potential to result in the accidental release of hazardous materials that may affect the public, workers, and/or

the environment. The most likely incidents of construction related accidental release will include small spills or drips that can be easily caught in drip pans as described in APM BIO-12 to avoid impacts or quickly cleaned up to further reduce any less-than-significant impacts. Larger spill events increase the potential for soil contamination and off-site transport intensifying the associated impacts. Such events are unlikely to occur given the small quantities of hazardous materials present during construction. Furthermore, as part of the design of the SVC each power transformer will have a secondary containment basin to retain any potential oil spill. The basins will be designed to retain 100% of the oil in the transformer plus a 24-hour 25-year storm. Therefore, the potential for the Proposed Project to result in a significant hazard to the public or environment through the accidental release of hazardous materials will be less than significant. Implementation of the HMWMP, SWPPP, APMs WQ-1 through WQ-3, as well as implementation of APMs GEN-1 and HAZ-2, including worker training and preparation of environmental and hazardous materials safety and management plans, will ensure that impacts will remain less than significant.

In some geologic conditions, hazardous substances released during construction have the potential to infiltrate subsurface groundwater resources. In addition, construction activities such as paving or grading may permanently alter the existing drainage and groundwater infiltration patterns. The potential for encountering or impacting groundwater resources as well as protocols for groundwater management are discussed in Section 4.8, Hydrology and Water Quality.

Similar to Impact HAZ 1, the Proposed Project design specifications and maintenance procedures will minimize the potential for the release of hazardous materials during project operation. Operation of the Proposed Project will implement standard operational BMPs consistent with APMs WQ-2 through WQ-7 and HAZ-1; as such, operational impacts will remain less than significant.

Impact HAZ-3: The Proposed Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (No Impact)

The nearest school to the Proposed Project, Descanso Elementary School, is located approximately 4.4 miles to the northeast; therefore, there will be no impact.

Impact HAZ-4: The Proposed Project will not be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment. (No Impact)

The Proposed Project is not known to be located on a hazardous material site; therefore, there will be no impact.

Impact HAZ-5: The Proposed Project will not be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public or private airport and would result in a safety hazard for people residing or working in the project area. (No Impact)

The Proposed Project site is not located within 2 miles of a public or private airport. The nearest public airport (Gillespie Field Airport) is located approximately 17 miles to the west. The nearest private airstrip (On the Rocks Airport) is located approximately 3.8 miles to the southwest. Utilizing the Federal Aviation Administration (FAA) Notice Criteria Tool, data (latitude, longitude, ground elevation, and new riser pole height) was entered into the FAA Website (FAA 2015). The FAA Notice Criteria Tool results indicated that the proposed underground transmission line, riser pole, and SVC structures do not impact FAA airspace/jurisdiction (see Appendix L). The Proposed Project site will not result in a safety hazard for people residing or working in the Proposed Project area. No formal notification to the FAA is required for this project; therefore, there will be no impact.

Impact HAZ-6: The Proposed Project will not be located within the vicinity of a private airstrip, or result in a safety hazard for people residing or working in the project area related to being within the vicinity of a private airstrip. (No Impact)

The Proposed Project is not located in the vicinity of a private airstrip; therefore, there will be no impact.

Impact HAZ-7: The Proposed Project will not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. (Less than Significant)

Construction or operation of the Proposed Project will not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. The Proposed Project is not located within any emergency evacuation route. Access to the Proposed Project is along Bell Bluff Truck Trail, a private access road that does not serve any residential or commercial uses behind the existing security gate and beyond which traffic along the roadway and is generally limited to visitation of the Suncrest Substation. Emergency vehicles may utilize Bell Bluff Truck Trail in the event of emergency response activities in the area (e.g., wildfire suppression). The presence of large construction vehicles and equipment on area roadways could impede emergency access such that emergency response times may be temporarily affected; however, the Suncrest Substation and SDG&E's associated water tank are the only infrastructure located on the private road past the SVC site. For a discussion of traffic impacts, refer to Section 4.14, Transportation and Traffic. As described in Section 4.12, Public Services, the Proposed Project is located in an area that exceeds the San Diego County minimum travel time of 20 minutes from the nearest fire services; however, fire and emergency response capabilities and response times will not likely deteriorate, as the limited, temporary construction activities are not expected to substantially affect traffic times. Furthermore, NEET West is in the process of negotiating Fire Services Agreement with San Diego County fire officials to provide emergency services for the Proposed Project. The SVC and underground transmission line are also located along a private road, where few if any residents or evacuees would traverse. As such, a less-than-significant impact is expected on emergency response and evacuation planning.

Impact HAZ-8: The Proposed Project will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. (Less than Significant)

Although fires are a natural process in the chaparral ecosystems of San Diego County, wildfires can have damaging effects on natural resources including air quality, biological resources, and water quality. During construction, the Proposed Project will require the use of heavy construction equipment and construction personnel, both of which have the potential to increase the likelihood of a wildland fire. In addition, construction and particularly ground clearing activities have the potential for the introduction and spread of non-native, invasive plants. Several non-native, invasive plants are known to change the timing, frequency, and spread of wildland fires by increasing or modifying the spatial and temporal distribution of fuel loads (CPUC 2008). The introduction of such species during construction has the potential to increase ignition potential and spread of wildland fires.

Operation of the proposed underground transmission line, which will be buried under Bell Bluff Truck Trail in a concrete-lined duct bank, will be well insulated and will not introduce any significant risk of causing surface fire ignitions. Outside of the SVC site, aboveground equipment is limited to the riser pole structure and 300-foot overhead span. Although any overhead electrical equipment carries some inherent risk of fire ignition[2], the overhead span will amount to a negligible increase in power line length in the area, relative to existing transmission facilities within or connecting to Sunrise Substation.

In general, power line-initiated fires are rare and more common in small transmission and distribution lines due to the shorter distance from conductors to the ground, and because the conductor phases are closer together. For example, based on a study of similar existing SDG&E transmission lines in southern California, the spark rate (i.e., the possibility of equipment igniting a fire) for 230 kV transmission lines is 0.00215 fires per year, per mile. Distribution and secondary lines have a slightly higher spark rate of 0.00403 fires per year, per mile (Johnson 2014). The fire risk associated with the Proposed Project's 300-foot overhead span equates to an approximately 0.000122% chance of a spark (i.e., fire) per year. To address these risks, transmission line protection and control systems are designed to detect faults (such as arcing from debris contacting the line) and rapidly shut off power flow in 1/60 to 1/20 of a second, and routine vegetation maintenance will reduce this potential impact to less than significant. Operation of the Proposed Project will include implementation of vegetation clearance maintenance as required by PRC Sections 4291, 4292, and 4293 and CPUC General Order 95.

To further reduce or eliminate identified fire risks associated with the Proposed Project, a Fire Prevention Plan will be prepared and implemented during construction, operations, and

[2] Fires can be started by power lines in a variety of ways including vegetation contact with conductors; exploding hardware such as transformers and capacitors; floating or wind-blown debris contact with conductors or insulators; conductor-to-conductor contact; dust or dirt on insulators; bullet, airplane, or helicopter contact with conductors or support structures; and other third-party contact (e.g., Mylar balloons, kites, and wildlife) (CPUC 2008, p. D.15-3). Transmission lines also have an inherent but low probability risk of electrical arcing, an electrical discharge that occurs when electrons are able to jump a gap in a circuit. Because higher voltage transmission line conductors are spaced much further apart and structures are taller, this phenomenon is rare in 230 kV transmission lines.

maintenance activities (APM HAZ-4). The Plan will be prepared based on evaluation of site-specific fire risks as they relate to required building standards, structural protection, fire protection systems, access requirements, fuel management requirements, water supply, and emergency response adequacy. The Plan will include, but not be limited to, the following: site and project description; site specific risk assessment; vegetation descriptions; fire behavior modeling results; proposed water supply and storage; proposed fire protection systems; proposed emergency access/egress; fire department response and aid agreements; project impacts; vegetation management and defensible space; structural protection; and fuel management zone maintenance recommendations. This evaluation will be augmented by fire behavior modeling with BehavePlus to determine site-specific priority hazard areas, appropriate setbacks from wildland fields, and stable defensible space distances. BehavePlus is a computer program that is composed of a collection of mathematical models that describe fire behavior, fire effects, and the fire environment based on specified fuel and moisture conditions. The program simulates rate of fire spread, spotting distance, scorch height, tree mortality, fuel moisture, wind adjustment factor, and many other fire behaviors and effects; it is commonly used to predict fire behavior in multiple situations (USDA 2014).

The Fire Prevention Plan will outline recommendations and site-specific measures or requirements for reducing fire risk. NEET West has met with County fire officials to solicit feedback regarding design of the SVC and underground transmission line and the contents of the Plan. The Plan will be prepared in coordination with the San Diego County Fire Authority to address site-specific comments and feedback. The Plan will also address topics related to fire department resources and the development of a fire services agreement. Potential impacts to the provision of fire services are further discussed in Section 4.12, Public Services.

The potential for the Proposed Project to result in a significant hazard through the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires will be less than significant. Vegetation management measures (APMs HAZ-5 and HAZ-6) will be implemented during construction and operation to remove potential fuel from work areas and to reduce the severity of construction- and maintenance-related ignitions by minimizing fuel loads near the 300-foot overhead span and SVC footprint. Implementation of these APMs, as well as APMs GEN-1, HAZ-3, and HAZ-7, including worker training, preparation of a Weed Control Plan, and implementing fire safety BMPs during construction and operation, will ensure that impacts will remain less than significant.

Impact HAZ-9: The Proposed Project will not conflict with wildfire containment operations. (Less than Significant)

The presence of overhead transmission lines has the potential to restrict wildfire containment operations by creating obstructions that reduce defensible space and obstructing historic fire containment boundaries. Factors to be considered include existing wildfire history (last 50 years) and specifically the presence of historic containment boundaries within the area, existing access roads intersecting or paralleling the proposed line, topography, wildfire fuels, historic ignitions, the presence of communities/assets at risk, and the presence of existing transmission lines.

No existing communities are present along the proposed transmission line that will conflict with wildfire containment, including the 300-foot overhead span and underground route. The Proposed Project is lower in elevation than surrounding topography. No recorded ignitions are known to have occurred along or in close proximity (0.25 mile) to the proposed underground transmission line in the past 13 years (USGS 2013). The 300-foot overhead span will parallel the two existing 230 kV SDG&E Sunrise Powerlink transmission lines as they exit the Suncrest Substation to the north. There are no existing overhead transmission lines parallel to the proposed underground transmission line.

Two recent (last 50 years) wildfire containment boundaries are located in close proximity (0.25 mile) to the Proposed Project—the 1970 Laguna fire and the 2001 Viejas fire (CAL FIRE 2015). Fuels are present in greater than 30% cover for the entirety of the land surrounding Bell Bluff Truck Trail and the proposed underground transmission line. The fuels present correspond to fuel model codes of 141–204 (Scott and Burgan 2005). Based on preliminary analysis of available data, the existing SDG&E Suncrest Substation, Sunrise Powerlink, and Proposed Project facilities represent assets that would need fire protection.

Delays in the ability to control wildfire may result in fires building in size and intensity endangering firefighting crews and potentially adjacent property and people. The proposed transmission line will be primarily located underground beneath Bell Bluff Truck Trail and will not create any new barriers or boundaries. The SVC site will be accessible from existing roads and will not obstruct emergency fire routes. Bell Bluff Truck Trail is a well-maintained 30-foot-wide paved roadway for the majority of its length and may provide a minimal firebreak and ground access during containment operations. Bell Bluff Truck Trail reduces to a 12-foot-wide paved road in the vicinity of the Suncrest Substation and turns to an unpaved truck trail west of SDG&E's 230 kV transmission lines. The unpaved truck trail is not used as a common travel route, although it may provide emergency vehicles with access to undeveloped forestlands. The proposed 300-foot overhead span will cross over the 12-foot-wide section of Bell Bluff Truck Trail, but it will not cross the access road/driveway to Suncrest Substation. An existing SDG&E transmission line crossing already occurs near this segment of Bell Bluff Truck Trail, within 150 feet of the proposed overhead span. As such, the overhead span and SVC will not present a conflict with containment operations.

Hazards to firefighters or individuals close to lines can also include electrocution from downed lines and current transferred through smoke. Such hazards can typically be eliminated through installation of remote system monitoring equipment that senses a broken line condition and actuates circuit breakers to de-energize the line in as little as 0.10 second. This procedure has proven to be a reliable safety measure and minimizes the risk of fire.

The potential for the Proposed Project to result in a significant hazard through the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires will be less than significant. NEET West will prepare a Fire Prevention Plan (APM HAZ-4) for the Proposed Project detailing specific fire prevention measures to be employed during construction and operations in coordination with the San Diego County Fire Authority. Additionally, feedback will be solicited from County fire officials and incorporated into the final SVC and transmission line design and the Fire Prevention Plan. Implementation of the Fire Prevention

Plan, as well as APM GEN-1 and APM HAZ-4 through HAZ-7, will ensure that impacts will remain less than significant.

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4.8. HYDROLOGY AND WATER QUALITY

4.8.1. Introduction

This section presents information regarding the existing hydrologic setting (surface water and groundwater resources) and water quality conditions within the vicinity of the Proposed Project. Additionally, this chapter documents the potential for project impacts from flood hazards or inundation from seiche, tsunami, or mudflow. An analysis of likely impacts associated with project construction and operation to such resources is included.

Construction of the Proposed Project will require grading and excavation that will temporarily expose ground surfaces and result in minor modification of on-site topographic relief. Project construction and operation will not result in substantial modification of drainage patterns in the region, nor will it affect regional or localized groundwater, flood, or sediment transport regimes or represent a substantial source of polluted runoff. NEET West will prepare and implement a SWPPP according to federal and State regulations. This analysis concludes that impacts to hydrology and water quality will be less than significant. Implementation of the APMs described in Section 4.8.4.2 will ensure that impacts will remain less than significant.

Table 4.8-1. CEQA Initial Study Checklist for Hydrology and Water Quality

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
HYDROLOGY AND WATER QUALITY Would the project:				
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) 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?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

4.8.2. Existing Conditions

4.1.1.1. Regulatory Background

Federal

Clean Water Act

The Proposed Project will not result in impacts to "waters of the United States" and, therefore, reference to the Clean Water Act (CWA) is provided here for informational purposes only. The CWA (33 U.S.C. Section 1251 et seq.) is the primary federal legislation that addresses water quality, pollution, and protection of the chemical, physical, and biological integrity of most waters in the United States. The CWA chiefly addresses the quality of surface waters, while groundwater contamination is addressed by other legislation, including the Resource Conservation and Recovery Act. Section 402 of the CWA established a permit system, the NPDES, to regulate point sources of discharge into navigable waters of the United States.

Under Section 404, the CWA regulates the placement of dredged or fill material into "waters of the U.S.," and, under Section 401, the CWA ensures that federally permitted activities comply with the federal CWA and State water quality laws.

Clean Water Act Sections 303 and 304

Pursuant to Section 303 of the CWA, states are required to adopt water quality standards applicable to all Waters of the United States (33 U.S.C. Section 1313). When adopting water quality standards, the states are required to consider the designated uses of the waters involved and the associated water quality criteria based upon those uses. Such standards are established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and their use and value for navigation. Standards are also required to protect the public health or welfare, and enhance the quality of water. Preferably, adopted water quality standards consist of specific numerical criteria; however, non-numeric criteria (e.g., narrative criteria, species dependent criteria, ecological criteria) based on bioassessment or monitoring may be utilized where numeric criteria are not available.

Under Section 303(d) states, territories, and authorized tribes are required to develop lists of "impaired waters" identifying those waters where pollution controls are not sufficient to meet designated water quality standards resulting in the impairment of beneficial uses. In making such designations it is required that the jurisdiction establish a priority ranking system accounting for the severity of the pollution. This prioritization system is used in the development of Total Maximum Daily Loads (TMDL) for these waters to address water quality issues and the restoration of beneficial uses.

Section 304(a) requires that the EPA develop criteria for water quality that reflect the latest scientific knowledge based on data and scientific judgments on pollutant concentrations and environmental or human health effects. Criteria are grouped into six categories: aquatic life, biological, nutrients, human health, microbial (pathogen), and recreational.

Implementation of Section 303 of the CWA (i.e., adoption of water quality standards, identification of beneficial uses, and identification of impaired waters) in California is performed by the SWRCB and nine RWQCBs. The Proposed Project is within the jurisdiction of the SDRWQCB.

Clean Water Act Section 401

Section 401 of the CWA provides states and authorized tribes the opportunity to protect water quality by requiring that any applicant for a federal license or permit conducting an activity that may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the state in which the discharge originates (33 U.S.C Section 1341). This authority ensures that federally permitted activities comply with the CWA and state water quality laws. Section 401 is implemented through a review process conducted by the RWQCB, or, in the case of multiple RWQCB jurisdictions having authority, by the SWRCB. The Proposed Project is within the jurisdiction of the SDRWQCB.

Clean Water Act Section 402

The NPDES program, established in 1972 as part of the CWA, controls water pollution through regulation of point source pollutants discharging to waters of the United States (33 U.S.C. Section 1342). Under the NPDES program, all facilities discharging pollutants from any point source into waters of the United States are required to obtain a NPDES permit. Though broadly defined, pollutants typically include any type of industrial, municipal, and agricultural waste and, for regulatory purposes, have been grouped into three categories: conventional (Section 304(a)(4) of the CWA), toxic (Section 307(a)(1) of the CWA), and non-conventional (pollutants not otherwise defined including many nutrient or water quality parameters). The primary focus of the federal NPDES permitting program has historically been municipal and non-municipal (industrial) discharges.

In 1987, with the issuance of the 1987 Water Quality Act, Section 402 of the CWA was amended, requiring regulation of additional storm water dischargers (NPDES Storm Water Program). Phase I of the NPDES Storm Water Program addresses five categories of dischargers (Phase I Facilities) including certain industrial activities, MS4s, and facilities considered to be significant contributors of pollutants. The Phase I industrial storm water program regulations include provisions requiring construction sites disturbing greater than 5 acres to obtain NPDES permits. Phase II regulations of the NPDES Storm Water Program, issued in 1999, address additional dischargers not covered by Phase I regulations. The Phase II regulations expand permitting requirements to small MS4s, construction sites of 1 to 5 acres, and certain previously exempt industrial facilities.

The EPA is the primary authority to implement NPDES, although the CWA allows the EPA to delegate NPDES authority to the states. The CWA is implemented on a state and local level in California primarily by the SWRCB and nine RWQCBs, collectively. Whereas the federal NPDES program mostly deals with point source control, current focus and regulation is shifting to nonpoint source pollution control under the authority of the RWQCBs.

Clean Water Act Section 404

Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the USACE. The Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) establishes the specific definition of the term "waters of the United States," which for informational purposes, has been generalized below as the following eight classifications:

1. Waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. Interstate waters, including interstate wetlands;
3. The territorial seas;
4. Impoundments of waters otherwise identified by 1 through 3 above;
5. Tributaries of waters identified by 1 through 3 above;
6. Waters adjacent to a water identified by 1 through 5 above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;
7. Waters determined, on a case-specific basis, to have a significant nexus to other waters of the United States; and
8. Waters located within the 100-year floodplain of a water identified in 1 through 3 above and all waters located within 4,000 feet of the high tide line or OHWM of a water identified in 1 through 5 above where they are determined on a case-specific basis to have a significant nexus to a water identified in 1 through 3 above.

On the other hand, even where they otherwise meet the terms of the above descriptions, the following are not "waters of the United States":

- Ditches with ephemeral or intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands;
- Ditches that do not flow, either directly or through another water, into other waters of the United States;
- Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water; and
- Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

The EPA also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions.

National Flood Insurance Program

The National Flood Insurance Act of 1968 establishes the National Flood Insurance Program (NFIP), which insures private company flood insurance by the federal government. The NFIP relies on the national mapping system known as the Flood Insurance Rate Map (FIRM), which denotes special hazard areas associated with 100- and 500-year flood events. Lower rates are provided through the program for communities that encourage mitigation of flood hazards.

FEMA has primary authority for preparation, response, and mitigation of natural hazards, including coastal and inland floods. FEMA provides financial and technical support to local agencies in the drafting and implementation of hazard mitigation plans. CFR Title 44, Part 60 provides criteria for communities participating in the NFIP to adopt flood plain management regulations consistent with federal criteria for lands within flood-prone, mudslide (i.e., mudflow) -prone, or flood-related erosion-prone areas.

State

Porter-Cologne Water Quality Control Act

The Proposed Project will not result in impacts to "waters of State" and, therefore, reference to the Porter-Cologne Water Quality Control Act is provided here for informational purposes only. The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides guidance for the protection of water quality and beneficial uses of water throughout the State and, along with the CWA, provides the overarching legislation governing the SWRCB and RWQCBs. Waters of the State are defined as any surface water or groundwater, including saline waters, which are within the boundaries of the State (California Codes: PRC Section 71200). This differs from the CWA definition of waters of the United States by its inclusion of groundwater and waters outside the OHWM in its jurisdiction.

The Act requires that each regional board adopt a water quality control plan (Basin Plan) for their region. Pursuant to Porter-Cologne, these Basin Plans become part of the California Water Plan, when such plans have been reported to the Legislature (Section 13141, California Water Code). The Proposed Project is located within the jurisdiction of the SDRWQCB (Region 9) and subject to the criteria within the SDRWQCB's Basin Plan.

In 1972, amendments to the Porter-Cologne Act gave California the authority and ability to operate the federal NPDES permits program. Before a permit may be issued, Section 401 of the CWA requires that the local RWQCB, or, in the case of multiple RWQCB jurisdictions having authority, the SWRCB, certify that the discharge will comply with applicable water quality standards. In addition, under Porter-Cologne, the RWQCB or SWRCB may also issue waste discharge requirements that set conditions on the discharge of a waste. These requirements must be consistent with the water quality control plan for the body of water that receives the waste discharge, as well as protect the beneficial uses of those receiving waters. On August 19, 1999, the SWRCB reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), later amending it to apply to sites as small as 1 acre. On September 2, 2009, the SWRCB adopted Order No. 2009-0009-DWQ, which reissued Water Quality Order 99-08-DWQ. Order No. 2009-0009-DWQ has subsequently been amended by Order No. 2010-0014-DWQ and most recently by Order No. 2012-0006-DWQ on July 17, 2012 (CGP).

The CGP authorizes discharges of storm water and regulates discharges of pollutants in storm water associated with construction activities from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface where the rainfall erosivity waiver does not apply. The CGP requires proposed dischargers to file a public NOI, submit Permit Registration Documents to the SWRCB's SMARTS website, and obtain a Waste Discharger Identification Number prior to beginning regulated activities. Applicability of the CGP is contingent on meeting all order conditions and requirements including the implementation of a SWPPP. In accordance with Order No. 2010-0014-DWQ, the SWPPP must be prepared and certified by a Qualified SWPPP Developer and include information to conclude:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity, are controlled;
- Where not otherwise required to be under a RWQCB permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the BAT/BCT standard;
- Calculations and design details as well as BMP controls for site run-on are complete and correct; and,
- Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

The SWRCB and RWQCBs also implement Section 402 of the CWA, which allows the State to issue a single discharge permit for storm water runoff for the purposes of both federal and State law, as well as Section 303(d) of the CWA pursuant to the authority of the Porter-Cologne Act.

California Fish and Game Code Section 1602 – Lake and Streambed Alteration Notification/Agreement

The Proposed Project will not result in alteration or substantial disturbance of any lake or streambed and, therefore, reference to the California Fish and Game Code, Sections 1601-1607) is provided here for informational purposes only. Section 1602 of the California Fish and Game Code requires that a Lake and Streambed Alteration Application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to biological resources. Although County and other local polices are provided below, they are provided for disclosure purposes only.

SDRWQCB Basin Plan

The Basin Plan encompasses an approximately 3,900-square-mile area covering most of San Diego County as well as the very southern portions of Orange and Riverside Counties. In an effort to preserve and enhance the region's waters, the Basin Plan establishes beneficial uses for surface and ground waters, sets narrative and numerical objectives, describes implementation programs to protect the beneficial uses of all waters in the region, and describes surveillance and monitoring activities to evaluate the effectiveness of the plan. To minimize and control adverse effects on the quality and beneficial uses of the region's ground and surface waters, the SDRWQCB regulates waste discharge and reclaimed water use (SDRWQCB 2012).

Beneficial use designations in the plan include: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Navigation (NAV), Hydropower Generation (POW), Contact Water Recreation (REC-1), Non-contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Aquaculture (AQUA), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Inland Saline Water Habitat (SAL), Estuarine Habitat (EST), Marine Habitat (MAR), Wildlife Habitat (WILD), Preservation of Biological Habitats of Special Significance (BIOL), Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

In order to attain specified designated uses, the SDRWQCB is required to identify water quality objectives for all surface and ground waters in the region. These objectives must be consistent with federal and State anti-degradation polices (40 CFR section 131.12) and State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*.

County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance

In accordance with the SDRWQCB Municipal Storm Water Permit, the County is required to develop new and updated Urban Runoff Management Programs. Within unincorporated portions of the County, permit requirements are generally implemented under authority of the Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) with certain

construction and development-related provisions of the County's programs implemented through the San Diego County Grading Ordinance. In addition to the WPO, the County has developed a Standard Urban Storm Water Mitigation Plan for land development and public improvement projects. This plan focuses on project design requirements and related post-construction requirements.

4.8.2.1. Methodology

Hydrologic resources and water quality conditions in the Proposed Project area were evaluated through review of the following available resources:

- Water quality studies and environmental documents prepared for the region;
- USGS 7.5-minute series topographic quadrangle maps and online GIS resources;
- USGS national water information system stream gauge data;
- NOAA atmospheric data;
- Online GIS resources from the California Department of Water Resources (DWR) (Water Data Library) and SWRCB (GeoTracker); and,
- Aerial imagery of the Proposed Project area.

The SDRWQCB's Basin Plan as well as other local plans, including the San Diego Bay WQIP and San Diego Bay Watershed Urban Runoff Management Program Document, were reviewed for consistency with the Proposed Project design and regulatory obligations. FEMA FIRM maps were referenced to determine the location and Proposed Project proximity to flood zones. A reconnaissance-level survey of the Proposed Project area including a delineation of jurisdictional water of the United States and waters of the State was conducted by SWCA.

4.8.3. Environmental Setting

The Proposed Project is located in the inland portion of the South Coast hydrologic region on the west side of the Peninsular Range. The Peninsular Range, which includes the Santa Ana, Agu Tibia, Palomar, Vulcan, Cuyamaca, and Laguna Mountains, is the most prominent physical feature in the region. This northwest trending mountain range forms the divide between the eastern South Coast Basin draining westward to the Pacific Ocean and the western Colorado River Basin generally draining eastward toward the Salton Sea and Colorado River (SDRWQCB 2012).

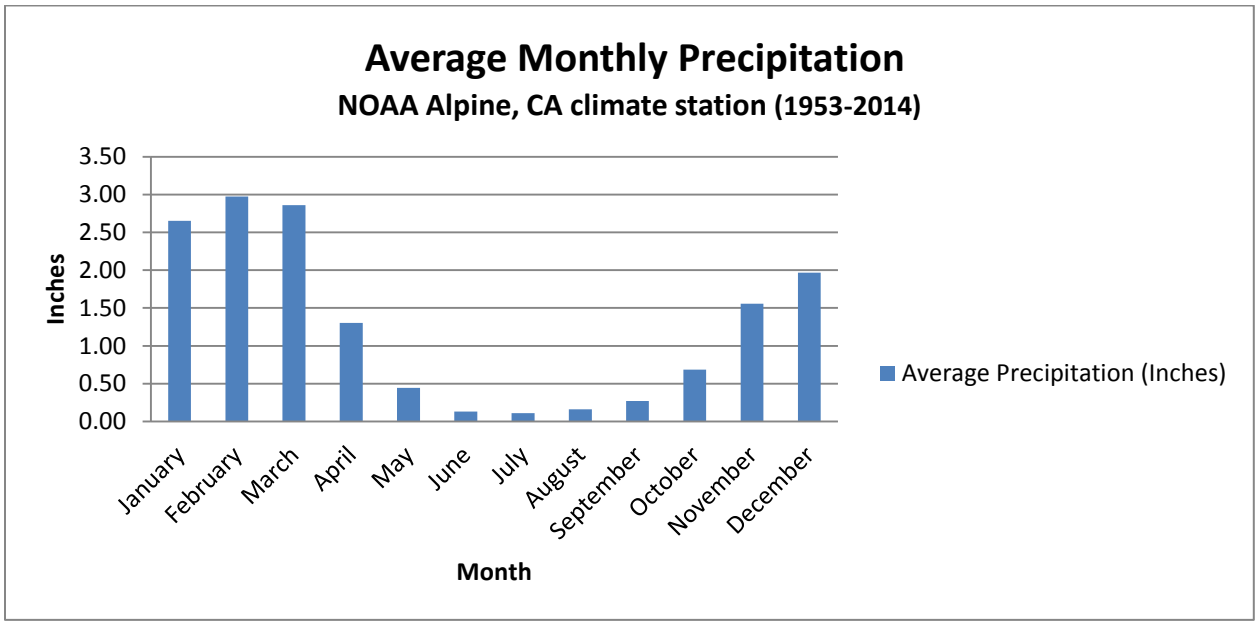
The San Diego Basin occupies the southern portion of the South Coast hydrologic region and is characterized by three west-to-east trending physiographic areas: a coastal plain, a central-mountain area, and an eastern mountain area. The coastal area comprises a series of benches covered by thin terrace deposits extending from the coast approximately 10 miles inland. The terrace deposits are deeply dissected by streams draining to the Pacific Ocean. The central-mountain area lies adjacent to the coastal area and consists of a series of ridges and intermontane basins ranging in elevation from 500 to 5,000 feet above sea level. Along the Elsinore fault zone, the central-mountain area transitions to the eastern mountain area. This area consists of broad, relatively flat valleys and surrounding mountains upwards of 4,000 to 7,500 feet above

sea level (SDRWQCB 2012). Based on topography, surface and groundwater flow in the San Diego Basin is typically from east to west toward San Diego Bay and the Pacific Ocean.

San Diego is considered to have a Mediterranean climate with warm to hot, dry summers and mild to cool, wet winters. The costal climate is generally mild with average temperatures of 65°F. Inland temperatures are typically cooler with increasing elevation, with an average temperature of 57°F in the Laguna Mountain Area (SDRWQCB 2012). Mean monthly temperatures near the Proposed Project area range from a low of 53.70°F in December to a high of 76.12°F in August. Precipitation in the region also varies spatially and temporally with increasing precipitation typically occurring from the coast landward toward the western rim of the Peninsular Range. Average annual rainfall near the Proposed Project area is 14.71 inches with approximately 90% occurring between November and April. Average monthly rainfall drops substantially during summer months, with less than 0.68 inches per month between May and October (Figure 4.8-1). Temperature and precipitation data are based on mean monthly data from the NOAA Alpine, CA climate station (GHCND:USC00040136) located approximately 6.7 miles west of the Proposed Project area for the period between 1953-2014 (NOAA 2015).

Topography near the Proposed Project is undulating with steep hills interspersed by narrow valleys and deep canyons with entrenched high gradient drainage corridors. Elevations in the Proposed Project area range between 3,000 and 3,200 feet above mean sea level.

Figure 4.8-1. Average Monthly Precipitation



Source: NOAA 2015.

4.8.3.1. Watershed Description

The Proposed Project area is within the drainage area of the San Diego Bay watershed. The San Diego Bay watershed comprises approximately 414 square miles made up of three distinct Hydrologic Units: the Pueblo San Diego, Sweetwater River, and Otay River. The Proposed

Project area is specifically located within the Loveland Hydrologic Sub-Area in the Upper Sweetwater River Hydrologic Area of the Sweetwater River Hydrologic Unit. The Sweetwater River Hydrologic Unit encompasses a total area of approximately 230 square miles. The Sweetwater River is the central drainage feature within the watershed flowing east-to-west through Sweetwater Reservoir and Loveland Reservoir before discharging to San Diego Bay, located approximately 37.8 miles west of the Proposed Project area. Dominant land uses in the Sweetwater River Hydrologic Unit are urban (29%), open space/agriculture (22%), and undeveloped (49%) (Project Clean Water 2015).

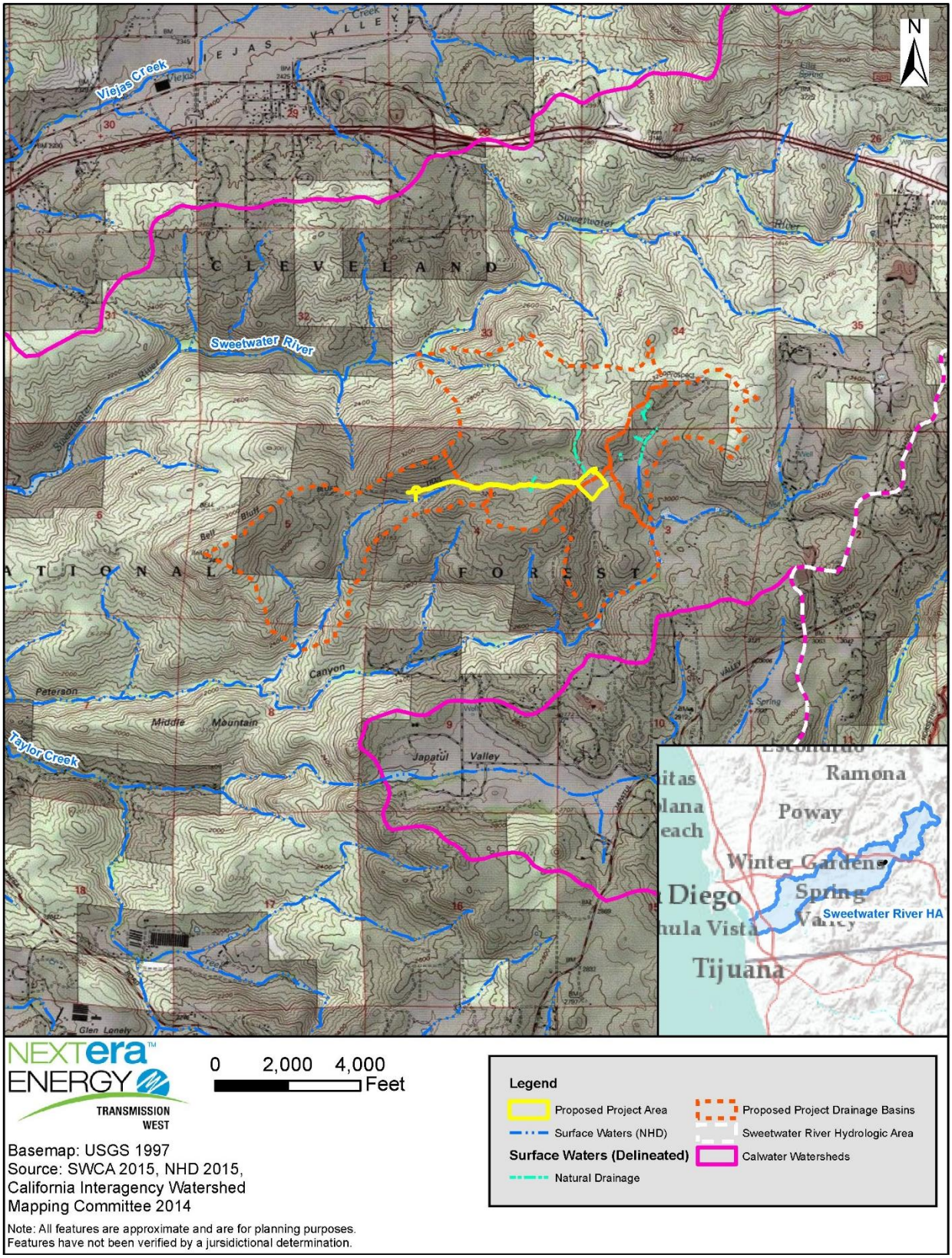
Localized drainage in the immediate vicinity of the Proposed Project area is toward several ephemeral drainages along valley or canyon bottomlands that eventually flow to the Sweetwater River (Figure 4.8-2). Surface drainage in the Proposed Project area is generally dictated by two main surface water systems: the Sweetwater River and several unnamed drainages to the north and Peterson Creek (a tributary to Taylor Creek that drains to the Sweetwater River) and several unnamed drainages to the south. A nearly east-west trending drainage divide bisects the center of the proposed SVC. Areas within the northern portion of the SVC drain northward toward an existing culvert under Bell Bluff Tuck Trail that conveys flow toward an unnamed ephemeral drainage discharging to the Sweetwater River. The southern portion of the SVC drains southward toward an unnamed ephemeral drainage that discharges to Peterson Creek. Portions of the proposed underground transmission line drain both north and south toward the drainage systems described above.

The basins draining the Proposed Project area are generally small, ranging from approximately 0.26 to 0.73 square miles (basins measured at the confluence with the nearest downstream receiving surface water of greater stream order), consisting of predominately undeveloped chaparral with the exception of Bell Bluff Truck Trail and the existing SDG&E Suncrest Substation. Comparatively, the localized basins draining the Proposed Project area represent approximately 0.79% of the total area of the Sweetwater River drainage basin and approximately 3.5% of the Sweetwater River's drainage area as measured upstream of Proposed Project area.

4.8.3.2. Surface Waters

Surface waters in the vicinity of the Proposed Project area are typified by narrow, often high gradient, ephemeral washes with poorly sorted bed materials and undefined or transient geomorphology (e.g., bed, bank, and flow paths). These features lack significant riparian habitats and provide limited ecological or anthropic functions beyond flow transport, limited groundwater recharge, limited habitat value, and limited sediment/nutrient transport. These drainage features lack surface flows most of the year with active flow and sediment transport initiated only by rainfall events. Given the small contributing drainage areas, such features generally do not have surface flow for extended periods following flow-forming rainfall events. Similarly, subsurface base flow (e.g., groundwater flow just below the surface) is expected to be minimal or negligible during most time periods.

Figure 4.8-2. Hydrologic Setting

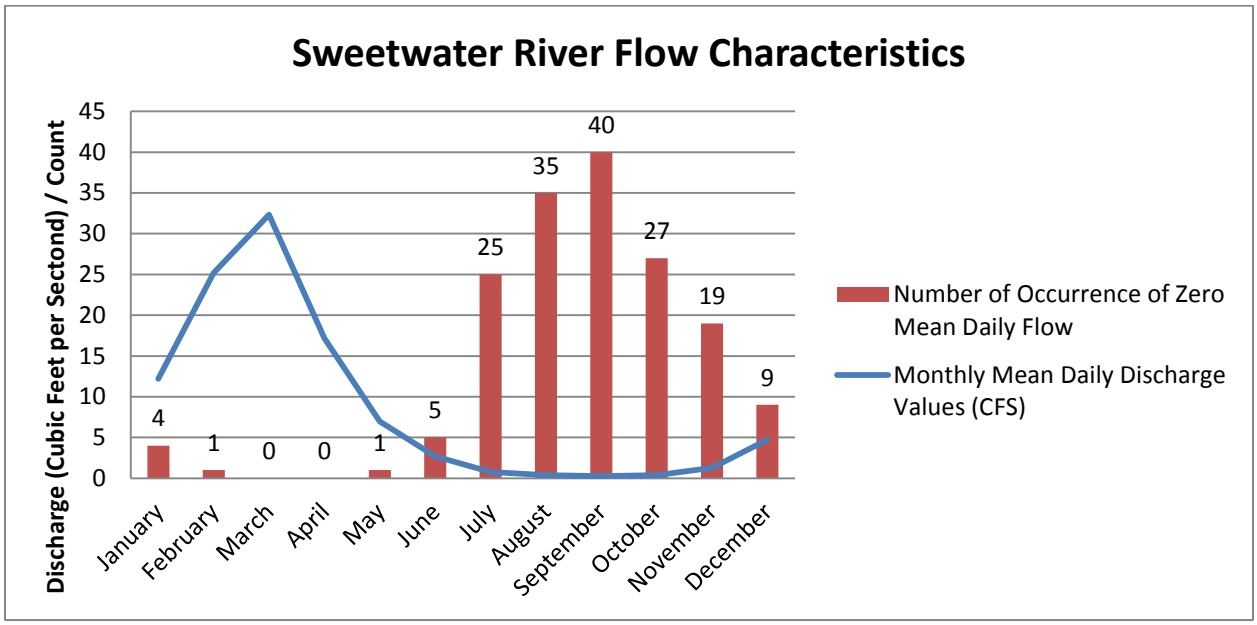


There are three ephemeral surface waters in the Proposed Project area, which drain northward toward the Sweetwater River. Figure 4.4-3 in Section 4.4, Biological Resources, depicts the location of surface water features near the Proposed Project. In addition to the natural drainages, a stormwater conveyance system is present within the Proposed Project area. The stormwater conveyance system, located along Bell Bluff Truck Trail, serves to convey runoff from along the roadway. Features within this system include a series of man-made concrete-lined ditches and riprap bio-swales excavated wholly from uplands. Culverts present along the roadway convey waters from the roadside ditches/swale and natural drainages from one side of the road to the other to localized basins or the area's surface water network. Many of the surface waters in the area did not have an apparent connection to downstream waters, essentially transitioning from shallow semi-confined flow paths to overland sheetflow. Additional discussion of surface water is included in Section 4.4, Biological Resources.

The Sweetwater River, located approximately 1 mile north of the Proposed Project area, represents a much larger, intermittent system than the features within the Proposed Project area. However, even this significantly larger watercourse is characterized by transient flow regimes and is often dry for sustained periods during the summer, fall, and winter. Figure 4.8-3 depicts the monthly mean of daily discharge values for the Sweetwater River over a 57-year period between 1957 and 2014. Overlaid on this figure are bars representing the total number of occurrences within this same 57-year when monthly mean of daily discharge were equal to zero (e.g., the number of times each respective month over the period had no recorded discharge for the entire month). Only during March and April has the river consistently had average discharge values greater than zero. Discharge information is based on data from the USGS Sweetwater River near Descanso, CA stream gauge station (11015000), located approximately 2.85 miles northeast of the Proposed Project area, for the period between 1957-2014 (USGS 2015).

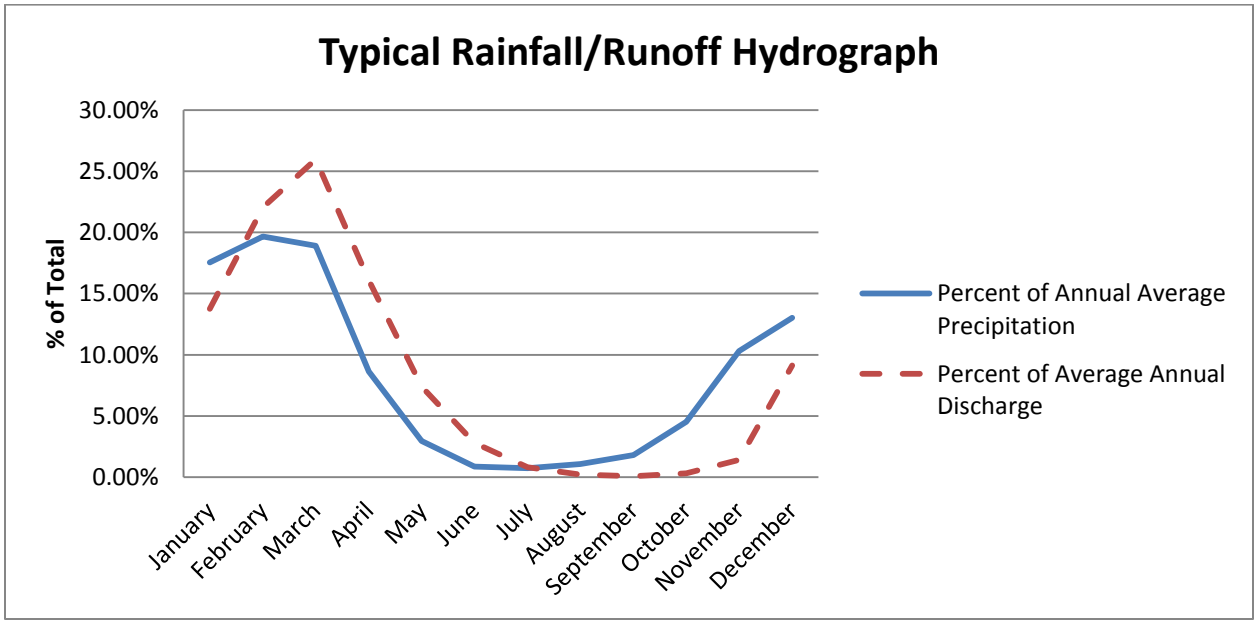
To further illustrate the response to rainfall and seasonal nature of flows in the region, Figure 4.8-4 shows a comparison of the monthly percent of total annual runoff to the monthly percentage of total annual precipitation for the Sweetwater River at this gauge station. Runoff quickly drops following spring peak flows and precipitation with the lowest flows (September) approximately 2 months after the minimum precipitation (July). The Sweetwater River at this gauge station has a drainage area approximately 30 times larger than the drainage features located near the Proposed Project. As such, not only is it likely that there is a much higher potential for low or no flow in these features, but the flow response to rain events will also likely be more drastic with flows rapidly receding following events.

Figure 4.8-3. Sweetwater River Discharge



Source: USGS 2015.

Figure 4.8-4. Sweetwater River Hydrograph



Source: USGS 2015.

The SDRWQCB's Basin Plan has designated beneficial uses for the portions of the Sweetwater River and Taylor Creek near the Proposed Project area (Table 4.8-2). No specific beneficial uses have been assigned to Peterson Creek or unnamed drainages to these waters; however, the same beneficial use designations of the nearest downstream tributary are considered to apply to these

features (SDRWQCB 2012). Water quality objectives for inland waters in the Upper Sweetwater River Hydrologic Area are depicted in Table 4.8-3.

Table 4.8-2. SDRWQCB Surface Water Beneficial Use Designations

Inland Surface Water	Hydrologic Unit Basin Number	Beneficial Uses*														
		MUN	AGR	IND	PROC	GWR	FRSH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
Sweetwater River	9.31	X	X	x	x				X	X		X	X	X		X
Taylor Creek	9.31	X	X	x	x				X	X		X		X		

Source: SDRWQCB 2012

* *MUN* = Municipal and Domestic Supply, *AGR* = Agricultural Supply, *IND* = Industrial Service Supply, *PROC* = Industrial Process Supply, *GWR* = Ground Water Recharge, *FRSH* = Freshwater Replenishment, *POW* = Hydropower Generation, *REC-1* = Contact Water Recreation, *REC-2* = Non-contact Water Recreation, *BIOL* = Preservation of Biological Habitats of Special Significance, *WARM* = Warm Freshwater Habitat, *COLD* = Cold Freshwater Habitat, *WILD* = Wildlife Habitat, *RARE* = Rare, Threatened, or Endangered Species, *SPWN* = Spawning, Reproduction, and/or Early Development

Table 4.8-3. SDRWQCB Surface Water Quality Objectives*

Inland Surface Water	Hydrologic Unit Basin Number	Constituent (mg/L or as noted)**												
		TDS	CL	SO_4	%Na	N&P	Fe	Mn	MBAS	B	Odor	Turb NTU	Color Units	F
Upper Sweetwater River	9.30	500	250	250	60	A	0.3	0.05	0.5	0.75	None	20	20	1.0

Source: SDRWQCB 2012

*Concentrations not to be exceeded more than 10% of the time during any 1-year period.

****Constituents:** TDS = Total Dissolved Solid, CL = Chloride, SO4 = Sulfate, %Na = Percent Sodium, N&P = Nitrates and Phosphates, Fe = Iron, Mn = Manganese, MBAS = Methylene Blue Active Substances, B = Boron, Turb NTU = Turbidity Nephelometric Turbidity Units, F = Flourine

Color Units = When a water is rated as having a color of 20 units, the color of this water is equal in intensity to the color of distilled water containing 20 milligrams of platinum as potassium chloroplatinate per liter.

No surface waters near the Proposed Project are listed as impaired by the SDRWQCB on the most recently approved Section 303(d) listing (SDRWQCB 2009). However, several of the receiving waters of the Sweetwater River, including Loveland Reservoir, San Diego Bay, Sweetwater Reservoir, and the Lower Sweetwater River (below Sweetwater Reservoir), have been identified as having water quality issues resulting in potential impairment of beneficial uses. Table 4.8-4 depicts the listed water, limiting pollutant(s), source, and expected TMDL completion date.

Table 4.8-4. SDRWQCB 303(d) Listing

Water Body	CALWATER Number	Pollutant	Source	Expected TMDL Completion Date
Loveland Reservoir	90931000	Aluminum	Source Unknown	01-01-2019
Loveland Reservoir	90931000	Manganese	Source Unknown	01-01-2019
Loveland Reservoir	90931000	Oxygen, Dissolved	Source Unknown	01-01-2019
Loveland Reservoir	90931000	pH	Source Unknown	01-01-2019
San Diego Bay	91010000	PCBs (Polychlorinated biphenyls)	Source Unknown	01-01-2019
Sweetwater Reservoir	90921000	Oxygen, Dissolved	Agriculture-grazing, Source Unknown, Unknown Nonpoint Source, Unknown Point Source, Urban Runoff/Storm Sewers	01-01-2019
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Enterococcus	Other Urban Runoff, Unknown Nonpoint Source, Unknown Point Source	01-01-2021
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Fecal Coliform	Other Urban Runoff, Unknown Nonpoint Source, Unknown Point Source	01-01-2021
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Phosphorus	Other Urban Runoff, Point Source, Unknown Nonpoint Source, Unknown Point Source	01-01-2021
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Selenium	Other Urban Runoff, Unknown Nonpoint Source, Unknown Point Source	01-01-2021
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Total Dissolved Solids	Other Urban Runoff, Unknown Nonpoint Source, Unknown Point Source	01-01-2021
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Total Nitrogen as N	Other Urban Runoff, Point Source, Unknown Nonpoint Source, Unknown Point Source	01-01-2021
Sweetwater River, Lower (below Sweetwater Reservoir)	90912000	Toxicity	Other Urban Runoff, Unknown Nonpoint Source, Unknown Point Source	01-01-2021

Source: SDRWQCB 2009.

4.8.3.3. Groundwater

All the major drainage basins in the San Diego Hydrologic Region contain groundwater basins. Basins are typically relatively small and usually shallow with groundwater found in unconfined alluvial aquifers (DWR 2003; SDRWQCB 2012). Basin characteristics (e.g., depth, size, aquifer thickness) as well as well productivity vary throughout the region. Although often limited in size, the groundwater yields in the area have been historically important to the development. Groundwater in the San Diego subregion has mainly calcium and sodium cations and bicarbonate and sulfate anions. The San Diego subregion is also known to have local impairments by nitrate, sulfate, and total dissolved solids (TDS) (DWR 2003).

No designated groundwater basins are located within the vicinity of the Proposed Project. Surface waters in the vicinity of the Proposed Project all drain to the Sweetwater Valley groundwater basin located near the confluence with San Diego Bay. The primary water-bearing formation in this basin is quaternary alluvium consisting of unconsolidated stream deposits of sand silt, sand, and cobbles with an average thickness of 80 to 100 feet. Well yields in the Sweetwater Valley groundwater basin average 300 gallons per minute, with maximum yields near 1,500 gallons per minute. Groundwater has generally been found to exceed recommended drinking limits for TDS, chloride, and sodium. Basin recharge is driven from runoff from the Sweetwater River Valley, discharge from the Sweetwater Reservoir, and underflow from the reservoir (DWR 2004). Designated beneficial uses for the Sweetwater Valley groundwater basin include MUN and AGR (Table 4.8-5).

Table 4.8-5. SDRWQCB Groundwater Quality Objectives*

Inland Surface Water	Hydrologic Unit Basin Number	Constituent (mg/L or as noted)**												
		TDS	CL	SO_4	%Na	NO_3	Fe	Mn	MBAS	B	Odor	Turb NTU	Color Units	F
Upper Sweetwater River	9.30	500	250	250	60	10	0.3	0.05	0.5	0.75	None	5	15	1.0

Source: SDRWQCB 2012

*Concentrations not to be exceeded more than 10% of the time during any 1-year period.

****Constituents:** TDS = Total Dissolved Solid, CL = Chloride, SO4 = Sulfate, %Na = Percent Sodium, N&P = Nitrates and Phosphates, Fe = Iron, Mn = Manganese, MBAS = Methylene Blue Active Substances, B = Boron, Turb NTU = Turbidity Nephelometric Turbidity Units, F = Flourine

Color Units = When a water is rated as having a color of 20 units, the color of this water is equal in intensity to the color of distilled water containing 20 milligrams of platinum as potassium chloroplatinate per liter.

No water supply or other groundwater wells are mapped within the immediate vicinity of the Proposed Project (DWR 2015; SWRCB 2015). Monitoring wells located at the Viejas Sanitary Landfill located approximately 2 miles east of the Proposed Project document groundwater levels ranging between 9.51 to 66.94 feet below ground surface (bgs) with an average recorded depth of 36.95 feet bgs (based on 121 values recorded between 2005-2015) (SWRCB 2015). A number of private wells also located approximately 2 miles east of the Proposed Project indicate similar findings, with groundwater levels ranging between 25.32 to 120.85 feet bgs and an average depth of 49.52 feet bgs (based on 21 values recorded between 1987 and 1988) (DWR 2015). Geotechnical investigation completed in the vicinity of the Proposed Project area for the SDG&E Suncrest Substation found groundwater at depths from 44, 56, and 60 feet bgs (URS 2009). The investigation found groundwater approximately 8 to 12 feet bgs in one location; however, the investigators attributed this finding to shallow subsurface flow or water in fractured rock. Groundwater is not expected to be encountered during any subsurface excavation, and it is unlikely that the Proposed Project will require any dewatering operations.

4.8.3.4. Floodplains

According to the FEMA FIRM, the Proposed Project area is located within Zone X and is outside of any mapped 100-year or 500-year floodplains (FEMA 2012). As discussed in Section 4.8.3.2, surface water features in the vicinity of the Proposed Project are ephemeral,

typically having low discharge flows that would not result in potential flood risks. The Proposed Project will result in a minimal increase in impervious surface but will not increase potential for flooding on or in the region.

4.8.3.5. Inundation Hazards

The California OES maintains maps and reports representing the extent of areas that will flood downstream of a collapsed dam. This information is reported to local jurisdictions for incorporation into hazard planning. No dams are located upstream of the Proposed Project (OES 2010). Additionally the Proposed Project is not located within any identified Tsunami inundation or run-up area (OES 2010; CDOC 2015).

4.8.4. Applicant-Proposed Measures and Potential Impacts

The following sections describe significance criteria, impacts, and APMs related to hydrologic and water quality resources.

4.8.4.1. Significance Criteria

According to Appendix G of the State CEQA Guidelines, impacts to hydrologic and water quality resources may be considered significant if they were to:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner, which would result in substantial erosion or sedimentation on- or off-site;
- 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;
- 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;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or,
- Cause inundation by seiche, tsunami, or mudflow.

4.8.4.2. Applicant-Proposed Measures

The following APMs relating to hydrologic and water quality resources (WQ) include measures that are already required by existing regulations and/or requirements, or are standard practices that will minimize or prevent any potentially significant impacts.

Table 4.8-6. Applicant Proposed Measures

APM No.	Description
	HYDROLOGY AND WATER QUALITY
APM WQ-1	**Limited On-site Vehicle and Equipment Fueling.** Construction equipment will use off-site fueling stations to the extent possible. Where off-site fueling is not possible, all on-site fueling will adhere to measures specified in the SWPPP and Hazardous Materials and Waste Management Plan. On-site fueling will occur within approved work areas only. No refueling or fuel storage will occur within 100 feet of environmentally sensitive areas (i.e., jurisdictional waters, and riparian areas; rare plant localities; or existing storm drains) or within 200 feet of water supply wells, unless otherwise approved by the environmental inspector or in the event of an emergency that threatens life or property. If fueling is required within these buffer zones, the environmental inspector or on-site biologist must be contacted and secondary containment devices must be utilized to ensure no fuel spills occur.
APM WQ-2	**Proper Sanitary/Septic Waste Management.** Sanitary facilities will be located at least 100 feet from environmentally sensitive areas (i.e., jurisdictional waters and riparian areas; rare plant localities; or existing storm drains) at locations convenient for pump-out. Facilities will be sited and maintained (including scheduling regular waste collection by a licensed hauler) to ensure there is no overflow.
APM WQ-3	**Source Water Protection and Identification.** Source water for the Proposed Project will be obtained from a permitted source. There will be no unauthorized withdrawal or capture of surface waters for use or consumption. Contact will occur with affected landowners (i.e., the owner of each tax parcel crossed by the Proposed Project) prior to construction to identify the location of unknown water supply wells.
APM WQ-4	**Groundwater Management.** Groundwater encountered during construction will be handled and discharged in accordance with all State and federal regulations including the following: • Recovered groundwater will be contained on site and tested prior to discharge. • If testing determines water is suitable for land application, discharge may be applied to flat, vegetated, upland areas, used for dust control, or used in other suitable construction operations (e.g., concrete mixing). • Land application will be made in a manner that discharge does not result in substantial erosion and will not be made directly to receiving waters or storm drains. • Water unsuitable for land application will be disposed of at an appropriately permitted facility. • Discharge to surfaces waters or storm drains may occur only if permitted by the agency(ies) with jurisdiction over the resource (e.g., USACE, RWQCB, and/or CDFW, as applicable) .
APM WQ-5	**Identification and Flagging of Sensitive Aquatic Features.** Prior to construction, sensitive aquatic features (i.e., jurisdictional wetlands, waters, and riparian areas; and existing storm drains, culverts, or drainage ditches), where disturbance is not already approved pursuant to permits issued by the USACE, CDFW, RWQCB or other authorizing agency, will be identified in the field and clearly marked for avoidance using flagging tape or other high-visibility signage. Construction personnel will be trained on feature avoidance marking and associated restrictions.
APM WQ-6	**Avoidance of Sensitive Aquatic Features.** The Proposed Project will be designed to avoid sensitive aquatic features (i.e., jurisdictional wetlands, waters, riparian areas, and stormwater conveyance structures) to the extent feasible. Specific avoidance strategies include: • Siting splice vault structures and the riser pole structure within or immediately adjacent to Bell Bluff Truck Trail or in uplands outside of existing drainage features and the storm water conveyance system along Bell Bluff Truck Trail. • Siting of laydown and other temporary staging/materials storage areas within Bell Bluff Truck Trail. • Constructing the SVC, access drives, and riser pole structure within uplands while avoiding other sensitive features (e.g., steep slopes, rare plant localities, sensitive wildlife habitats). • Where feasible based on geotechnical investigation, avoiding culverts within Bell Bluff Truck Trail during construction of the underground transmission line by bracing or stabilizing culvert structures and excavating beneath the culvert structures to maintain culvert function. Where it is infeasible to

Table 4.8-6. Applicant Proposed Measures

APM No.	Description
	avoid impacts to existing culverts, work will not occur within 48 hours of a forecasted rain event of 0.5 inches or greater and temporary piping will be onsite to maintain any unexpected water flow. • All regulated activities within jurisdictional wetlands and waters (e.g., waters of the United States and waters of the State) will require regulatory approval/permitting from the appropriate agency including USACE, CDFW, and/or RWQCB prior to any work within jurisdictional features.

4.8.4.3. Potential Impacts

Impact WQ-1: The Proposed Project will not violate any water quality standards or waste discharge requirements. (Less than Significant)

Discharge of wastewater could potentially violate water quality standards or waste discharge requirements. Construction activities will include ground disturbance and expose surfaces, increasing the potential for erosion and downstream sedimentation. There is also increased potential for storm water discharge from disturbed areas and new impervious surfaces. Eroded materials transported in storm water have the potential to affect receiving surface waters through impairment of beneficial uses and exceedance of water quality objectives (e.g., increased levels of TDSs, turbidity, nutrients, suspended solids, or other constituents or parameters).

The Proposed Project will utilize construction equipment and includes facilities that use or contain hazardous materials including, but not limited to, diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and cement slurry. Construction is scheduled to occur between the months of September and March where the average precipitation from 1953 to 2014 ranges between under 0.5 inches to 3.0 inches per month, as shown in Figure 4.8-1. The discharge of pollutants from spills, leaks, or other accidental releases could be transported in storm water to receiving surface waters or infiltrate into soil and potential groundwater resources. Limited groundwater resources, shallow soils, and nearly impervious subsurface geology (see Section 4.6, Geology and Soils) limit the potential for groundwater impairment. More than likely, released materials would be immobilized in soils with very limited transport of soluble materials to receiving surface waters within shallow subsurface flow following precipitation. The discharge of hazardous materials in storm water, through subsurface flow, or directly into water resources has the potential to impact receiving surface and groundwater resources through impairments of beneficial uses and exceedance of water quality objectives (e.g., inorganic chemicals, oil and grease, toxicity, and toxic pollutants).

The Proposed Project will involve ground disturbance over 1 acre and therefore will be required to obtain coverage under the CGP and prepare and implement a SWPPP (APM GEO-3). The SWPPP will include measures to limit erosion from construction activities, operating and spill prevention procedures for equipment using hazardous materials, and measures to minimize pollution of storm water runoff through containment of any materials release before it can enter storm water or receiving waters. Prior to construction, a Hazardous Materials and Waste Management Plan will be prepared, describing materials storage, management, and disposal protocols (APM HAZ-1). The plan will also include protocols for spill prevention and response.

For additional discussion and APMs regarding hazardous materials, see Section 4.7, Hazards and Hazardous Materials.

Operations and maintenance activities may include use of new pollutant sources including, but not limited to, oils, paints, and solvents used for routine maintenance. All materials will be applied, stored, and disposed of in a manner consistent with manufacturer recommendations by licensed professionals, if necessary, and in accordance with applicable regulations. Operation of the Proposed Project will implement standard operational BMPs consistent with APMs WQ-1 through WQ-6 and HAZ-1.

The potential for the Proposed Project to violate water quality standards or waste discharge requirements, including through excess erosion, hazardous pollutant discharge, or contaminated storm water runoff that might impact groundwater or surface water quality in the region, will be less than significant. Implementation of the above-referenced plans and APMs, as well as with the implementation of APMs GEN-1, WQ-1 and WQ-2, which include worker training and on-site hazardous materials/pollutant management, will ensure that impacts will remain less than significant.

Impact WQ-2: The Proposed Project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

The Proposed Project will require water for dust control and excavation. Multiple water sources are available for the Proposed Project and include local non-potable, recycled, and reclaimed water sources. To the extent practicable, efforts to obtain water for the Proposed Project will be prioritized first to local, recycled, or municipal reclaimed water sources, followed by potential local non-potable water from the property owner of the SVC site (APM UT-1). NEET West has identified a non-potable reclaimed water source as PDMWD's Water Recycling Facility (PDMWD 2015) and is in the process of obtaining a water services agreement with PDMWD.

To reduce the number of truck trips required to and from the site to deliver water from PDMWD, NEET West is also coordinating with the property owner to obtain a secondary, on-site water source to provide non-potable water from nearby man-made ponds. The ponds are connected to an existing pump and piping system ending at a drop tank near the Proposed Project. Trucks could be filled at the drop tank and transported to the Proposed Project.

No groundwater supplies will be used by the Proposed Project for construction or operation. As discussed in Section 4.8.3.3, the Proposed Project area is not within a designated groundwater basin, and no water supply or other groundwater wells are mapped within the immediate vicinity. Groundwater depths near the Proposed Project were identified at approximately 44, 56, and 60 feet bgs. Shallow soils and the density of underlying materials limit infiltration, and most precipitation in the Proposed Project area is likely transported as shallow subsurface flow and does not contribute significantly to groundwater recharge. The SVC will result in a small net increase in impervious surfaces (2.58-acre SVC pad and two 20-foot-by-95-foot access drives). The SVC will be designed to maintain pre-construction and post-construction runoff and, as such, will not result in a substantial decrease in groundwater recharge.

Based on groundwater depths in the vicinity as described above, it is unlikely excavation for the SVC and underground transmission facilities to encounter shallow subsurface water requiring dewatering. However, should excavation encounter groundwater, all dewatering operations will be conducted in conformance with the SWPPP and applicable regulatory requirements. Furthermore, due to the temporary nature of the work, the density of subsurface materials, and the approximate depth of groundwater, Proposed Project activities are not expected to affect wells or regional groundwater levels.

Operation of the SVC will require a minimal amount of source water for on-site use for cleaning equipment and watering restored areas. This water would be trucked in or obtained from a nearby non-potable water source such as the PDMWD. The Proposed Project's water needs and source water are discussed in more detail in Chapter 3, Project Description, and Section 4.15, Utilities and Service Systems.

The potential for the Proposed Project to deplete groundwater supplies or substantially reduce groundwater recharge will be less than significant. Implementation of APM UT-1 as well as APMs WQ-3 and WQ-4, including source water identification and protection and groundwater management procedures, will ensure that impacts will remain less than significant.

Impact WQ-3: The Proposed Project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which will result in substantial erosion or sedimentation on- or off-site. (Less than Significant)

The Proposed Project will require the clearing of vegetation and grading for construction of the SVC, access driveways, riser pole structure, vault structures, and underground transmission line installation. Construction will involve activities that expose ground surfaces to erosion and could potentially affect existing drainage patterns in the Proposed Project area. Only minimal grading and/or scraping and vegetation clearing would be required for underground transmission line and vault structure installation, as most locations are sited along Bell Bluff Truck Trail and will not require substantial ground disturbance or grading. Permanent structures such as the SVC or riser pole will be located outside of existing drainages in order to eliminate impacts, particularly the potential for scour.

Construction of the SVC and underground transmission line will result in greater than 1 acre of total ground disturbance. The Proposed Project will include approximately 2.58 acres of new impervious surfaces from the SVC pad and two 20-foot by 95-foot access drives. The SVC pad will be graded such that storm water runoff will be directed to the stormwater detention pond. Similarly, run-on from the east of the SVC will be captured with an on-grade drainage ditch on top of the retaining wall proposed at the SVC. This drainage ditch will also convey water to the stormwater detention basin on the south side of the SVC.

Construction of the underground transmission line will encounter an existing stormwater conveyance system along Bell Bluff Truck Road. Existing culverts within the roadway will be located prior to construction to ensure proper separation and avoidance by the proposed underground transmission line. It is NEET West's intent to avoid impacts to existing culverts by utilizing shoring and bracing of the culverts and conventional excavation techniques to excavate underneath culverts to maintain their function. Based on preliminary geotechnical analysis,

blasting is not anticipated at the SVC site, but may be required for less than 10 % of the transmission line and splice vault excavations. If culverts have to be temporarily removed, work would not take place within 48 hours of a forecasted rain event of 0.5 inches or greater and temporary piping will be installed to maintain unexpected water flow. Although drainages near the Proposed Project are typically not flowing for most of the year and are generally only active during rain events, there is potential for contaminated materials to be transported through stormwater runoff if left unmanaged. As a result, blasting will only be utilized where conventional excavation methods are not feasible. After construction, any temporarily removed culverts will be reinstalled and work areas restored to preconstruction condition. As a result, the connectivity of the waters conveyed by the culverts will remain unchanged during implementation of the Proposed Project and existing drainage patterns would not be permanently modified due to construction or operation of the Proposed Project.

While erosion is a natural and important process essential to maintaining the geomorphology of receiving waters, excess erosion and sedimentation can impair habitat functions and transport pollutants. All areas of exposed ground have the potential to result in increased erosion during rain events and the transport of soil particles and other materials into nearby receiving water. The Proposed Project is located within a drainage headwater representing a very small portion of the Sweetwater River watershed. Soils in the area are highly erosive and, as such, existing sediment loading to nearby drainages may already be high, comparatively. Regardless of the existing sediment loading, the potential for sediment to be transported to the Sweetwater River and downstream reservoirs as a result of the Proposed Project remains.

Construction and operation of the Proposed Project will not result in substantial erosion or sedimentation on- or off-site. Impacts will be less than significant. Implementation of the SWPPP (APM GEO-3), as well as APM GEN-1 and APM WQ-5 through WQ-7, including worker training and the identification and avoidance of sensitive aquatic features, will ensure that impacts will remain less than significant.

Impact WQ-4: The Proposed Project will 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 will result in flooding on or off site. (Less than Significant)

Construction activities and specifically ground disturbance have the potential to affect surficial drainage patterns. Impervious surfaces as well as other compacted soils will result in a reduction in the infiltration and absorption capacity of the affected areas and a potential increase in runoff. Construction of the SVC and underground transmission line will result in greater than 1 acre of total ground disturbance. The Proposed Project will include approximately 2.58 acres of new impervious surfaces as a result of the SVC pad and 0.06 acre for two 20-foot by 95-foot access drives. The SVC pad will be graded such that storm water runoff will be directed to the stormwater detention pond. The Proposed Project has been designed to avoid direct impacts to surface waters and wetlands, and, as described in Impact WQ-3, no permanent alteration of drainage patterns of existing jurisdictional waters would occur as a result of project operation.

The Proposed Project will be required to prepare and implement a SWPPP (APM GEO-3). The Proposed Project will also be designed to demonstrate compliance with CGP Post-Construction Standards. This requires that the Proposed Project's post-construction run-off match the pre-construction run-off and not only reduces the risk of impact to the receiving water's channel morphology but also provides some protection of water quality.

The Proposed Project will not result in a substantial increase in surface water or flooding on- or off-site, and impacts will be less than significant. Implementation of the SWPPP, as well as APM-GEN-1, BIO-3, and WQ-5 through WQ-7, including working training and the identification and avoidance of sensitive aquatic features, will ensure impacts will remain less than significant. For additional discussion regarding the Proposed Project's impacts to drainages and drainage patterns, see Section 4.4, Biological Resources.

Impact WQ-5: The Proposed Project will not create or contribute runoff water that will exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. (Less than Significant)

The majority of storm water runoff in the Proposed Project area will continue to sheet flow, similar to pre-construction conditions, toward the three existing natural drainages and manmade ditches and culverts constructed along Bell Bluff Truck Trail, each eventually draining to the Sweetwater River, as described in Section 4.4, Biological Resources. As described in Section 3.8.4., water will be used throughout the course of construction for sawcutting of pavement, dust control, fire suppression, concrete washout, and other construction activities. Daily usage of water will be minimized to the smallest amount necessary to perform work activities and mitigate dust to encourage conservation and prevent excessive surface runoff. A water truck will accompany the construction crews to provide immediate fire suppression if necessary. The Proposed Project will not generate substantial runoff water during construction.

Impervious surfaces as well as other compacted soils will result in the potential for increased runoff. Construction of the SVC will result in a small net increase in impervious surfaces (2.58-acre pad, retaining wall, and 20-foot by 95-foot access driveways). The SVC includes a stormwater management system consisting of a stormwater drainage and conveyance system and a stormwater detention basin. The SVC will be graded to drain directly toward the detention basin or to a series of adjacent earthen swales that will drain via a rip-rap-lined ditch to the basin. Similarly, an on-grade drainage ditch will be installed at the top of the retaining wall on the east side of the SVC to capture run-on and convey it to the stormwater detention basin on the south side of the SVC. The earthen detention basin will not be lined, allowing for infiltration and groundwater recharge. As described in Section 3.6.1, the basin will be designed to capture the runoff from the 85th percentile, 24-hour rainfall event and then release the captured water over 48 hours. Overflow from the basin will occur through a riprap spillway that will sheet-flow to the adjacent land surface during storms that exceed the design capacity. A series of earthen swales around the SVC and on top of the retaining wall will convey stormwater run-on around the facility, similar to existing conditions. These features will discharge run-on water via shallow concentrated sheet flow to the adjacent land surface. Riprap aprons or similar energy-dissipating features will control erosion and prevent scouring at discharge locations. Grading and drainage improvements for the SVC are shown in Figure 3-6 in Chapter 3, Project

Description. Furthermore, as required by the post-construction standards of the CGP (Section XIII), the Proposed Project will incorporate design measures necessary to demonstrate that post-construction runoff matches pre-construction runoff.

As discussed in Impact WQ-1, Water Quality Standards, the Proposed Project will utilize construction equipment that uses or contains hazardous materials. Additionally, the SVC will include transformers containing mineral oil. The discharge of pollutants from spills, leaks, or other accidental releases has the potential to impact receiving surface and groundwater resources, resulting in water quality degradation.

Operational maintenance activities will occur along existing access roads but may include use of new pollutant sources. All materials will be applied, stored, and disposed of consistent with manufacturer recommendations by licensed professionals, if necessary, and in accordance with applicable regulations. Operation of the Proposed Project will implement standard operational BMPs consistent with APMs WQ-1 through WQ-6 and HAZ-1.

The Proposed Project will not substantially degrade water quality, and impacts will be less than significant. As described above, in the design of the SVC, each power transformer will have a containment basin to retain any potential oil spill. Furthermore, implementation of APMs GEN-1, WQ-1 and WQ-2, which include worker training and hazardous materials/pollutant management, will further ensure that impacts remain less than significant. APMs contained in Section 4.4, Biological Resources, and Section 4.7, Hazards and Hazardous Materials, will further prevent contamination of nearby waterways.

Impact WQ-6: The Proposed Project will not otherwise substantially degrade water quality. (Less than Significant)

Impact WQ-5, above, discusses the potential for the generation of polluted runoff and water quality impacts. This potential impact to substantially degrade water quality considered less than significant. Implementation of APMs GEN-1, GEO-3, and WQ-1 through WQ-2, which include preparation and implementation of a SWPPP, worker training, and on-site hazardous materials/pollutant management, will ensure that impacts will remain less than significant.

Impact WQ-7: The Proposed Project will not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map. (No Impact)

The Proposed Project does not include development of residences or other occupied structures. As discussed in Section 4.8.3.4, the Proposed Project area is located within Zone X and is outside of any mapped 100-year or 500-year floodplains and thus would not expose individuals or structures to risk from flooding.

The Proposed Project will result in a small net increase in impervious surfaces (2.58 acres plus one 480-foot-long retaining wall and two 20-foot by 95-foot access driveways). Incorporated into the design of the SVC is a storm water basin designed to retain the 25-year 24-hour storm. Additionally, the project will require the preparation and implementation of a SWPPP. In accordance with Order No. 2010-0014-DWQ (CGP), the Proposed Project will be required to demonstrate compliance with CGP Section XIII (Post-Construction Standards). The Post-

Construction Standards require calculations demonstrating that post-construction runoff from the Proposed Project match pre-construction runoff for the 85th percentile storm event. Compliance with these requirements will also ensure that downstream flood hazards are not increased. Thus, there will be no impact.

Impact WQ-8: The Proposed Project will not place within a 100-year flood hazard area structures that would impede or redirect flood flows. (No Impact)

The Proposed Project area is located within Zone X and is outside of any mapped 100-year or 500-year floodplains. The Proposed Project will not involve the construction or operation of structures that will be an impediment to or redirect flood flows; therefore, no impacts will occur.

Impact WQ-9: The Proposed Project will not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (No Impact)

No dams are located upstream, and the Proposed Project area is not located in a dam failure inundation hazard area; therefore, no impacts will occur.

Impact WQ-10: The Proposed Project will not cause inundation by seiche, tsunami, or mudflow. (No Impact)

The Proposed Project is not located within any identified tsunami inundation or run-up area or within a basin subject to seiche; therefore, no impacts will occur.

The potential for landslides and mudflow is discussed in Section 4.6, Geology and Soils.

4.8.5. References

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4.9. LAND USE AND PLANNING

4.9.1. Introduction

This section of the PEA describes the existing land uses in the vicinity of the Proposed Project, and analyzes potential land use and planning impacts associated with the construction, operation, and maintenance of the Proposed Project. This section also describes environmental and regulatory settings. The Proposed Project would not result in significant impacts to existing or proposed land uses, conflict with applicable land use plans and policies, or physically divide an established community.

Table 4.9-1. CEQA Initial Study Checklist for Land Use and Planning

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
LAND USE AND PLANNING Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

4.9.2. Existing Conditions

4.9.2.1. Regulatory Background

Federal

U.S. Forest Service

The Proposed Project is located on private property within the administrative boundary of the USFS CNF; however, the Proposed Project does not traverse any CNF or other federal lands and is therefore not subject to USFS jurisdiction. While the Proposed Project is not subject to the

policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, the Proposed Project has considered relevant elements of the plan during the design of the Proposed Project.

Land Management Plan, Part 1

- **Goal 7.1:** Retain natural areas as a core for a regional network while focusing the built environment into the minimum land area needed to support growing public needs.
- **Design Criteria CNF S5:** Consolidate major transportation and utility corridors by co-locating facilities and/or expanding existing corridors.

Land Management Plan Part 3

- **Standard S12:** When implementing new projects in areas that provide for threatened, endangered, proposed, and candidate species, use design criteria and conservation practices (see Appendix H) so that discretionary uses and facilities promote the conservation and recovery of these species and their habitats. Accept short-term impacts where long-term effects would provide a net benefit for the species and its habitat where needed to achieve multiple-use objectives.

State

There are no state land use policies or requirements that are relevant to the Proposed Project.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County General Plan

The Proposed Project lies within the San Diego County General Plan area (County of San Diego 2011a) which is bordered on the north by Orange and Riverside Counties and on the east by Imperial County. According to the San Diego County General Plan, the Proposed Project is within the unincorporated areas of Alpine and Central Mountain communities. The Proposed Project is also within a Forest Conservation Initiative (FCI) area; however, the FCI expired in 2010 and is therefore no longer applicable to the Proposed Project (County of San Diego 2015a). Also, planning efforts associated with the expiration of the FCI were not completed as part of the County's 2011 General Plan update. Currently, the County Board of Supervisors has endorsed a land use map for areas that were subject to the now-expired initiative, and a revised Draft Supplemental Environmental Impact Report (DSEIR) will be circulated for public review in

2015. Upon expiration of the FCI, land in affected areas reverted to the San Diego County General Plan land use designation under the pre-FCI General Plan (County of San Diego 2013).

The San Diego County General Plan, which guides future development within the county, provides a framework for land use and development decisions that are consistent with established community visions. The majority of policies listed in the General Plan are applicable at the County level. Relevant countywide policies provided in the San Diego County General Plan are listed below. Note that parenthetical content at the end of some policies denotes additional content that was included adjacent to the policy within the plan (i.e., typically as a side-note to the policy itself).

Land and Use Element

- **Goal LU-4, Inter-jurisdictional Coordination:** Coordination with the plans and activities of other agencies and tribal governments that relate to issues such as land use, community character, transportation, energy, other infrastructure, public safety, and resource conservation and management in the unincorporated County and the region.
- **Policy LU-4.3, Relationship of Plans in Adjoining Jurisdictions:** Consider the plans and projects of overlapping or neighboring agencies in the planning of unincorporated lands, and invite comments and coordination when appropriate.
- **Goal LU-12, Infrastructure and Services Supporting Development:** Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.
- **Policy LU-12.3, Infrastructure and Services Compatibility:** Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.
- **Policy LU-12.4, Planning for Compatibility:** Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas. Require context sensitive Mobility Element road design that is compatible with community character and minimizes visual and environmental impacts; for Mobility Element roads identified in Table M-4, an LOS D or better may not be achieved.
- **Policy LU 10.2, Development—Environmental Resource Relationship:** Require development in Semi-Rural and Rural areas to respect and conserve the unique natural features and rural character, and avoid sensitive or intact environmental resources and hazard areas.
- **COS-14.3, Sustainable Development:** Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.
- **COS-14.10, Low-Emission Construction Vehicles and Equipment:** Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

- **COS-17.1, Reduction of Solid Waste Materials:** Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.
- **COS-17.2, Construction and Demolition Waste:** Require recycling, reduction and reuse of construction and demolition debris.
- **COS-19.1, Sustainable Development Practices:** Require land development, building design, landscaping, and operational practices that minimize water consumption.

Mobility Element

- **Policy M-4.4, Accommodate Emergency Vehicles:** Design and construct public and private roads to allow for necessary access for appropriately-sized fire apparatus and emergency vehicles while accommodating outgoing vehicles from evacuating residents.

Safety Element

- **Policy S-7.3, Land Use Location:** Prohibit high occupancy uses, essential public facilities, and uses that permit significant amounts of hazardous materials within Alquist-Priolo and County special studies zones.
- **Policy S-1.2, Public Facilities Location:** Advise, and where appropriate require, new development to locate future public facilities, including new essential and sensitive facilities, with respect to the County's hazardous areas and State law.

Alpine Community Plan

The Alpine Community Plan (a component of the San Diego County General Plan) serves as a specific guide for land use, conservation, and circulation, and provides recommendations to facilitate the coordination of plans developed by other public agencies and/or private sectors (County of San Diego 2010a). The Alpine Community Plan is specific to and reflective of the community's unique character and environment, while maintaining consistency with the San Diego General Plan goals and policies. The Alpine Community Plan was reviewed for policies that would be relevant to the Proposed Project, and these policies are provided below. For clarity, the policies below were named using the first letter in the chapter title followed by the policy number.

Land Use Chapter

- **Industrial 1:** Existing and new industrial development shall be consistent with the guidelines and standards of the Alpine Design Review Manual.
- **Industrial 8:** Industrial sites shall be large enough to permit adequate on-site parking, appropriate landscaping and loading facilities.
- **Industrial 11:** Encourage any needed expansion of industrial lands to be adjacent to existing industrially designated land.

Conservation Chapter

- **Conservation 16:** Development in Alpine which requires a discretionary permit shall be consistent with long-term groundwater availability as determined through the application of Policy I-77 and the Average Annual Precipitation Map for the County.

Central Mountain Subregional Plan

The Proposed Project is located west of the boundary of the Central Mountain Subregional Plan, but within several hundred feet of that Plan's coverage area. Therefore, given the Proposed Project's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. Similar to the Alpine Community Plan, the Central Mountain Subregional Plan (a component of the San Diego County General Plan) applies and elaborates the goals and policies of the County General Plan to fit the specific community planning area. Selected and potentially relevant goal and policy language is provided below (County of San Diego 2011b). However, because the Proposed Project is outside of the Central Mountain Subregional Plan area, the policies are not included in the consistency analysis at the end of this chapter.

Chapter 1- Community Character

- **Policy A.2:** Preserve mature healthy trees, whenever possible, in all public and private developments, except when recommended for removal by a professional forester or by a Fire Protection District to promote the health of the forest.
- **Policy A.5:** Discretionary permit requests should identify trees that may need to be removed and provide for three replacement trees, preferably of the same species, for each tree removed at appropriate locations elsewhere on the subject property. Replacement trees are to be healthy and maintained until established.

Chapter 2- Land Use

Land Use General

- **Goal A.1:** The preservation of the integrity of the Cleveland National Forest, Anza Borrego State Park, and the Cuyamaca Rancho State Park by minimizing impacts of activities on private inholdings or adjacent properties.
- **Goal A.4:** The preservation of the natural environment and natural habitat of wildlife to the greatest extent possible.
- **Policy A.7:** All new and existing electrical utilities, telephone, and cable shall be put underground for safety and a more reliable systems operation, whenever feasible, and not damaging the environment.

Private Inholdings in or Lands Adjacent to U.S. Forest Service Lands and State Parks

- **Policy 1:** All development on private inholdings or adjacent properties shall aim to minimize impacts on adjacent public lands, especially with regard to visual, biological, noise, and dark sky resources.

Chapter 5- Scenic Highways and Visual Resources

- **Policy 2e:** All utilities shall be undergrounded whenever feasible unless undergrounding would significantly impact environmental resources.

Chapter 6- Public Facilities and Services / Fire Protection

- **Policy P-6:** Encourage SDG&E to make a diligent effort to reduce the fire hazard potential of downed power lines.

Chapter 8- Conservation / Vegetation and Wildlife

- **Policy 1:** Grading for structures should be limited to the building footprint, garages and driveways.

San Diego County Multiple Species Conservation Program

The Proposed Project is within the boundaries of the San Diego County MSCP. The goal of the MSCP is to maintain and enhance biological diversity in the county, and conserve viable populations of endangered, threatened, and key sensitive species and their habitats (County of San Diego 1998). The MSCP Plan divides the county into north, east, and south subregions. The Proposed Project is within the East County MSCP boundary.

As of May 2015, the MSCP has been implemented for southwestern San Diego County. However, the East County Plan is currently in draft form and is not yet approved. According to the East County Plan available online, the County is waiting for additional funds so that plan development can resume in the future (County of San Diego 2015c). Also, as part of the MSCP, the County developed Multi-Habitat Planning Areas (MHPAs) which delineate core biological resource areas and corridors targeted for conservation, and contain land use polices. However, the Proposed Project does not lie within any MHPA areas.

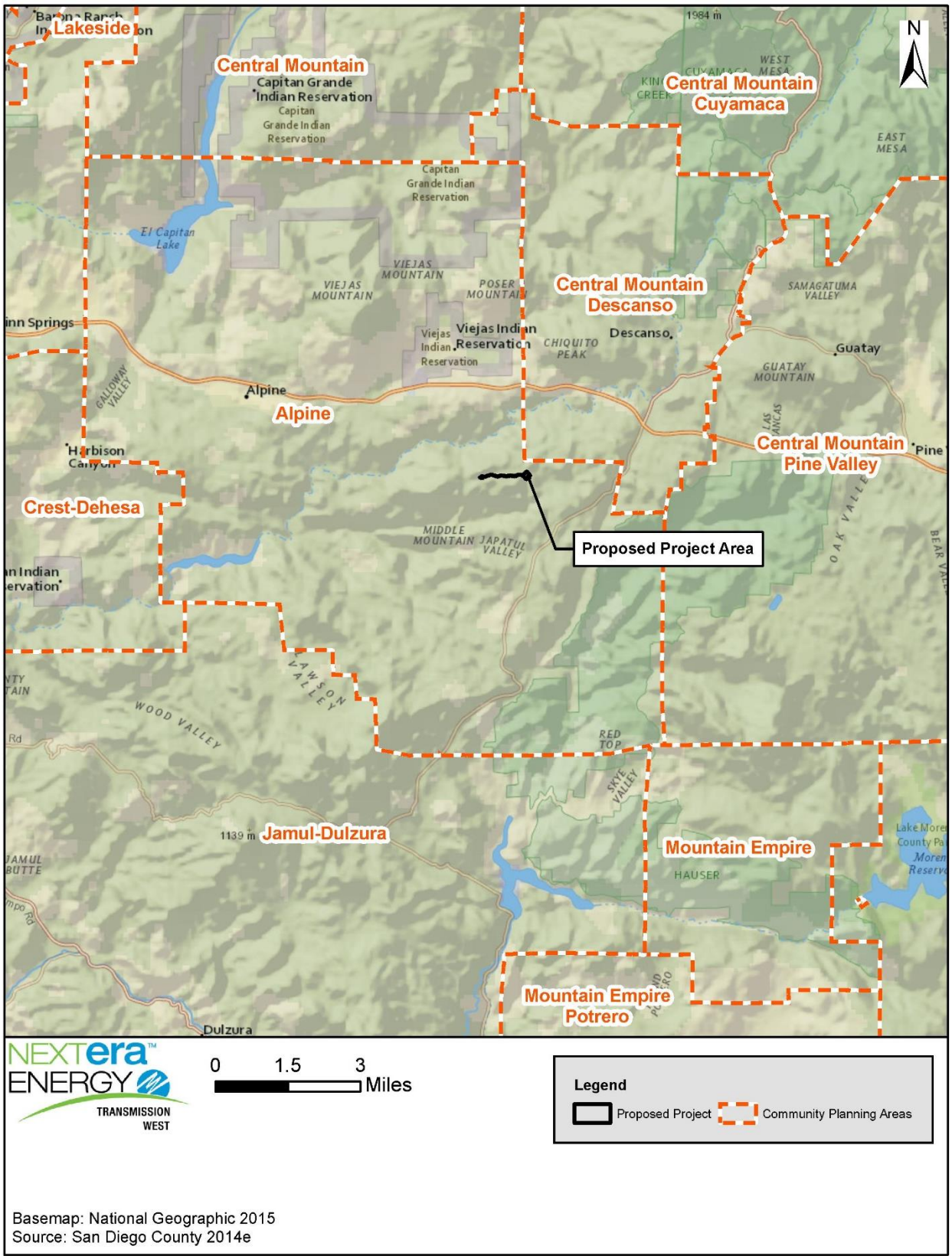
4.9.2.2. Methodology

The land use analysis included a review of land use plans, policies, and regulations for San Diego County, including the San Diego County General Plan, Alpine Community Plan, and Central Mountain Subregional Plan. Additionally, the San Diego County MSCP and CNF Land Management Plan were reviewed for relevant goals and policies. Site visits were also conducted to determine existing land uses in the vicinity of the Proposed Project.

4.9.3. Environmental Setting

The Proposed Project is located within an unincorporated area that is under the jurisdiction of the County. However, because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. A description of the regional land use and planning setting is provided below. Figure 4.9.1 illustrates the location of the Proposed Project in relation to the various planning areas described below.

Figure 4.9-1. Planning Area Map



4.9.3.1. San Diego County General Plan Area

The Proposed Project is located at approximately 3,000 to 3,200 feet elevation above mean sea level within an unincorporated area of San Diego County on private land in close proximity to the CNF. The Proposed Project is approximately 3.36 miles east of the community of Alpine, approximately 1.75 miles south of I-8, and 3.78 miles southwest of the community of Descanso. Bell Bluff Peak is located approximately 1.25 miles west-southwest of the Proposed Project. SDG&E's Suncrest Substation is located at the Proposed Project's western terminus. An electrical transmission line, also owned by SDG&E, enters the south side of the existing Suncrest Substation, and exits the north side of the substation and extends westward through CNF lands. The Proposed Project is located within lands that are zoned as Agricultural Use – General Agricultural Use Regulations (A72), and lands that are designated as Rural Lands 80 (RL-80) (Table 4.9-2).

Rural residences are located approximately 1.15 mile northeast and 0.81 mile south of the Proposed Project. The Sweetwater River is located approximately 0.85 mile northwest of the Proposed Project, and Palo Verde Lake is located approximately 1.84 miles west of the Proposed Project and downstream of the Sweetwater River. Both of these water features occur at lower elevations relative to the Proposed Project, and are part of the Sweetwater Watershed Area.

Rural land use is the lowest-density category in the San Diego County General Plan, and is represented by large, open space areas where only limited development may occur (County of San Diego 2011a, pp. 3–6). Also according to this plan, very low-density private and publicly-owned lands that provide for agriculture, managed resource production, conservation, and recreation also attribute to the retention of the rural character for which much of the unincorporated county is known. Rural areas are not intended for intensive residential or commercial uses due to significant topographical or environmental constraints, limited access, and the lack of public services and facilities.

4.9.3.2. Alpine Community Plan Area

The Proposed Project is located within the eastern section of the Alpine Community Plan area. The area within the Community Plan boundaries is rugged and diverse, ranging from densely vegetated lower drainages at 1,500 feet elevation to semi-arid and hilly terrain at 4,100 feet above sea level. A major transportation route, I-8, bisects the Alpine community. Existing development within the plan area is rural in character and is mostly comprised of light agricultural use practiced in conjunction with residential use. The plan area contains approximately 155,000 acres of the Descanso Ranger District's CNF Lands. Residential developments ranging from single-family houses to multi-family units are found within the community of Alpine. Major commercial development is generally restricted to properties along Alpine Boulevard, Arnold Way, and the Tavern Road/I-8 interchange area.

According to the County's General Plan for the Alpine Community Planning Area, the Proposed Project is located within the National Forest and State Parks land use designation. Additionally, according to the regional category map for the Alpine Community Planning Area, the Proposed Project is located within a rural land use area.

Table 4.9-2. Existing and Designated Land Uses

Proposed Project Components	General Plan Land Use Designation	Zoning Designation	Regional Category	Existing Land Use	Jurisdiction	Ownership
SVC site (approximately 6 acres)	RL-80[1]	A72 – Agricultural[1]	Rural (Alpine)	Undeveloped land / Restoration Area	Unincorporated San Diego County	Dean R. and Deborah S. Wilson[3]
Underground Electrical transmission line (approximately 5,050 feet)	RL-80[1]	A72 – Agricultural[2]	Rural (Alpine)	Undeveloped land / Road	Unincorporated San Diego County	SDG&E and Dean R. and Deborah S. Wilson[4]

Sources and Notes:

[1] Source: (County of San Diego 2015e)

[2] Source: (County of San Diego 2015d)

[3] The SVC portion of the Proposed Project that occurs within property owned by Dean R. and Deborah S. Wilson will be purchased and owned by NEET West prior to constructing the Proposed Project.

[4] The transmission line alignment will traverse two privately owned parcels: APNs 523-040-080 and 523-030-130. The portion of the Proposed Project that occurs within property owned by SDG&E (APN 523-030-130) will be obtained as an easement by NEET West prior to constructing the Proposed Project. A portion of APN 523-030-130 will be deeded over to the USFS CNF as part of a mitigation requirement for SDG&E's Sunrise Powerlink. However, an approximately 12-foot-wide permanent easement will be obtained from SDG&E and will remain in private ownership. The approximately 1 mile portion of the proposed underground transmission line will be located within this right-of-way that will remain under private ownership. As such, the transmission line will not be located within USFS jurisdiction. Property rights for the underground transmission line located on property owned by Dean R. and Deborah S. Wilson (APN 523-040-080) will be secured by an easement granted to NEET West prior to constructing the Proposed Project.

4.9.3.3. Descanso Subregional Planning Area

The Proposed Project lies adjacent to the southwestern section of the Descanso Subregional Planning Area, a subregional group area of the Central Mountain Subregional Plan. Most of the Descanso area is comprised of the CNF. Core developed areas in the Descanso planning area are centered on Viejas Grande Road and Oak Grove Road, and occur north of Viejas Boulevard to Manzanita Lane. The Descanso planning area contains high-density residential land use near the town center, and low-density residential land use in the outlying areas. High-density residential land use also occurs along Highway 79, which extends along the eastern boundary of the Descanso plan area.

According to the Central Mountain Subregional Planning Area map, the Proposed Project is adjacent to an area designated as a National Forest and State Parks land use area. Also, the Subregional Land Use Map for the Descanso planning area indicates the project is adjacent to areas that are designated as Public/Semi-Public Lands. According to the Subregional Regional Category Map for the Central Mountain Subregional Plan area and the Subregional Regional Category Map for the Descanso planning area, the Proposed Project is adjacent to land that is within a Rural category.

Additionally, the Proposed Project is depicted as adjacent to the Sweetwater River Canyon RCA (RCA 65) within the RCA Map in the Central Mountain Subregional Plan. Although the Descanso Subregional Planning Area RCA map indicates the Proposed Project will be located adjacent to RCA 65, a canyon area that contains undisturbed natural areas that can partially be seen from I-8, the Proposed Project is not located within the RCA. Therefore, RCA 65 is not applicable to the Proposed Project.

4.9.3.4. Cleveland National Forest Land Management Plan

As previously discussed, the Proposed Project is located in close proximity to the CNF, but it is located entirely on private property. The Proposed Project does not cross any CNF lands, and the transmission line has been routed underground within the Bell Bluff Truck Trail right-of-way which will remain in private ownership following SDG&E's land transfer to the CNF as part of their Sunrise Powerlink mitigation obligations. As such, the Proposed Project is not subject to the CNF Land Management Plan policies.

4.9.3.5. Land Ownership and Land Use

Land Ownership

Collectively, the proposed SVC site, underground transmission line, riser pole, and 300-foot-long overhead transmission span occur within privately-owned lands within an unincorporated portion of San Diego County east of the community of Alpine. These lands are bordered to the north, west, and south by CNF lands and private properties, and to the west by private properties. See Chapter 3.0, Project Description (Figure 3-2), for parcel boundary and APNs. Land ownership and jurisdiction status was identified for the Proposed Project based on available mapping and data sources. Descriptions of these are given in Table 4.9-1, Existing and Designated Land Uses, above.

Existing Land Use

Existing land use within the vicinity of the Proposed Project includes rural, public/semi-public, and national forest/state parks land uses as shown on Figure 4.9-2. Adjacent to the transmission line, vegetation is comprised primarily of chaparral and oak woodland habitats, which are located north and west of rural residential properties. Also adjacent to the SVC and transmission line, land uses include agricultural lands (that are not currently in use), populated lands that include rural housing, public lands within the CNF (Figure 4.9-3), and lands currently in use by SDG&E—including the Suncrest Substation and 500 kV and 230 kV transmission lines to the south and north of the substation, respectively. Due to security reasons, the locations of the 500 kV and 230 kV power lines have been excluded from Figure 4.9-3 and have been provided under confidential Appendix A: Confidential Submittals, A-1: Confidential Maps and Figures, Existing Transmission Facilities.

The SVC site is currently undeveloped and includes a relatively flat, south-facing hilltop. The parcel is previously disturbed as it served as a staging area and laydown yard during SDG&E's construction of the Sunrise Powerlink and is now undergoing restoration. The majority of lands surrounding the Proposed Project are similar in terms of terrain and vegetation type and density. Surrounding land uses include rural residences approximately 1.15 miles to the northeast and 0.81 mile to the southeast of the SVC site. The existing approximately 60-acre SDG&E Suncrest Substation is located approximately 1 mile west of the SVC site.

According to the San Diego County General Plan Alpine Community Land Use map, the Proposed Project is located within the National Forest and State Parks land use designation; however, it is not located within any National Forest or State Park boundaries. Additionally, the San Diego County General Plan Alpine Community Regional Category map indicates the Proposed Project is located within a Rural use area.

The underground transmission line includes up to approximately five splice vaults and extends approximately 1 mile west from the SVC site under Bell Bluff Truck Trail. For the majority of its length, the proposed transmission line will be installed within the curbs of Bell Bluff Truck Trail. A riser pole will be installed at the end of the underground alignment where the line transitions to overhead, and will be located on the road shoulder approximately 10 feet north of Bell Bluff Truck Trail. Final entry into the Suncrest Substation will be via an approximately 300-foot-long overhead span to be installed by SDG&E. All portions of the transmission line occur within developed lands. The underground transmission line alignment, as it extends west from the SVC site, will be constructed adjacent to vegetated areas consisting primarily of mixed chaparral habitat. Approximately 1,000 feet of the alignment will be located adjacent to oak woodland habitat.

Zoning

The Proposed Project, is located within zone A72, Agricultural Use – General Agricultural Use Regulations. The zoning designation is illustrated in Figure 4.9-4. According to the San Diego County Zoning Ordinance, the Proposed Project would be considered an Essential Use category as a Minor Impact Utility (Section 1355) including electrical substations, and Essential Service (Section 1335) including utility lines and/or poles (County of San Diego 2006).

Figure 4.9-2. General Plan Land Use Designations

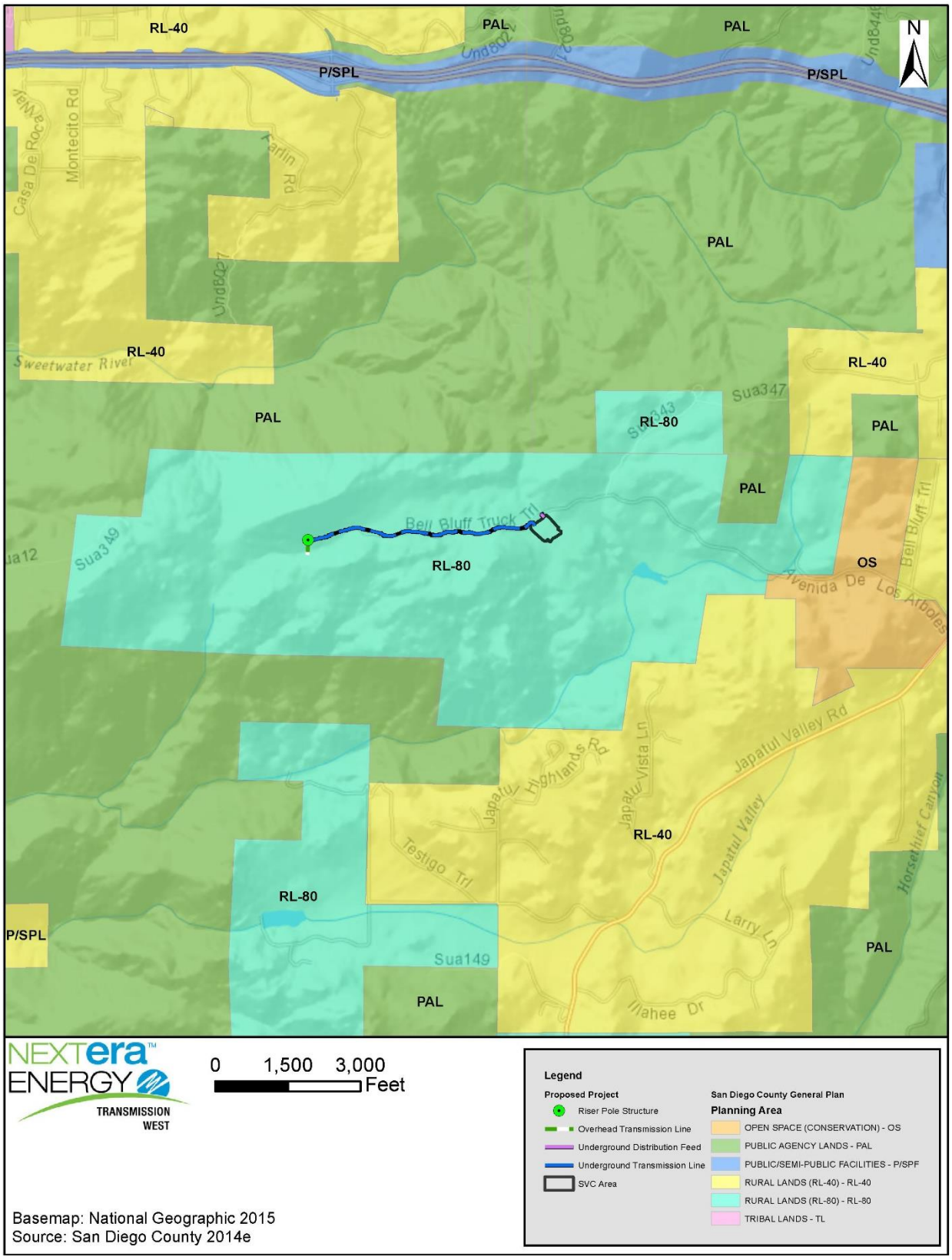


Figure 4.9-3. Overview of Adjacent Land Uses

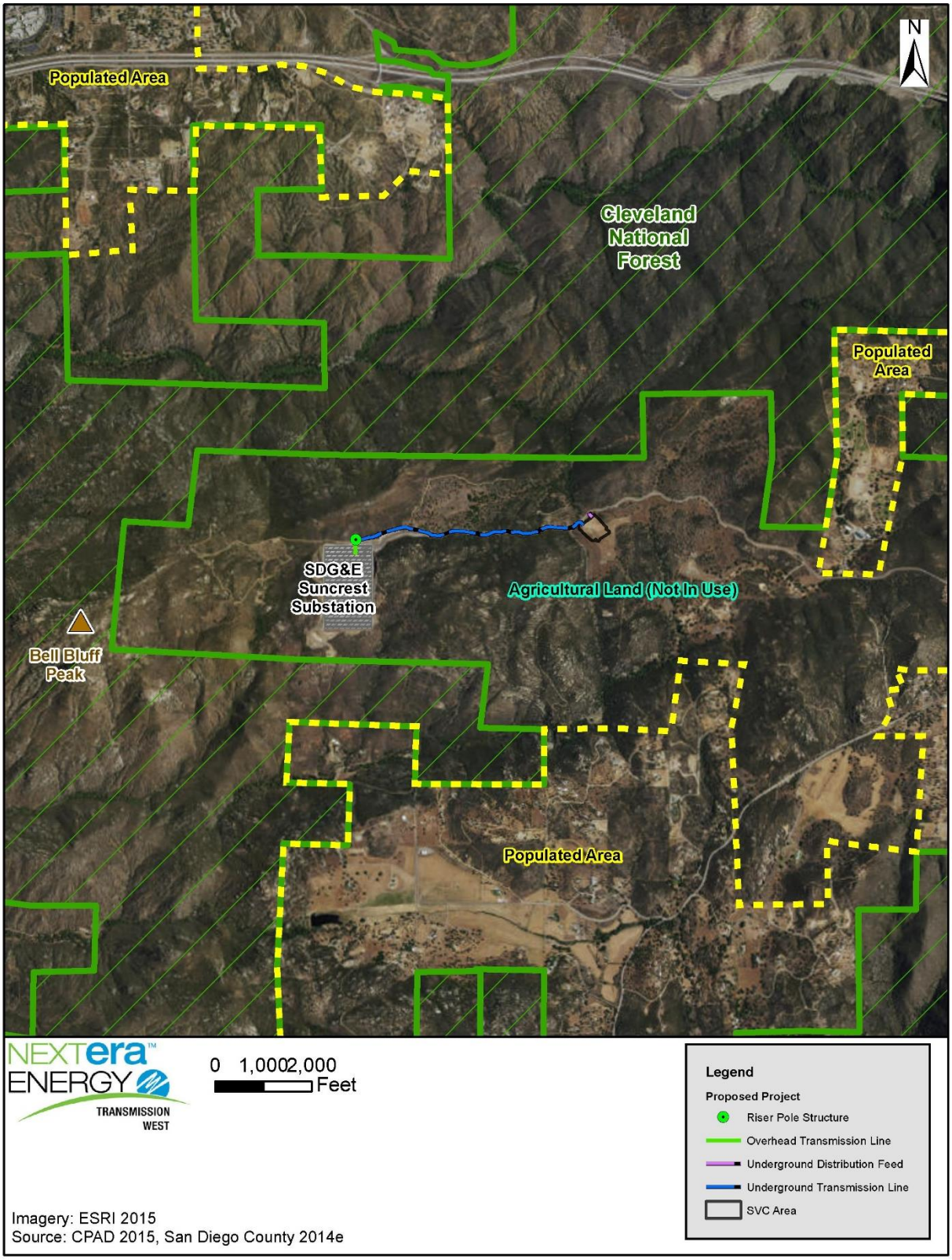
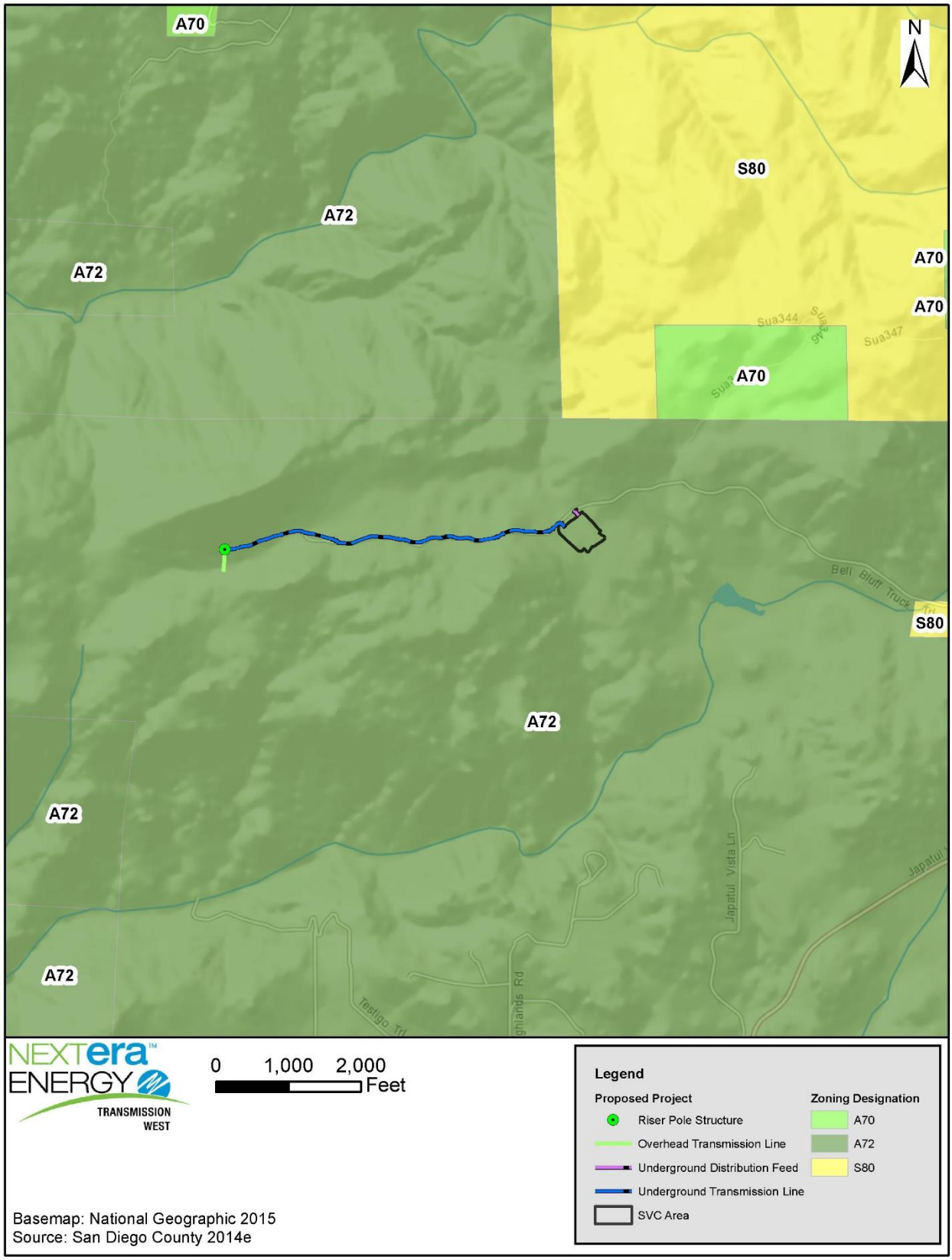


Figure 4.9-4. San Diego County Zoning Designations



San Diego County's Alphabetical List of Individual Land Uses, indicates that electrical substations are considered Minor Impact Utilities (Section 1355), and Distribution Lines and Poles and Transmission Lines are considered Essential Services (Section 1335). According to the County's zoning ordinance *Use and Enclosure Matrix*, Minor Impact Utilities can be permitted through a Minor Use Permit for A72 zoned lands. Additionally, per the County's *Use and Enclosure Matrix*, Essential Services are a permissible use for A72 zoned lands and do not require a permit. Additionally, due to the CPUC's exclusive jurisdiction over the Proposed Project, a Minor Use Permit would not be required.

4.9.3.6. SDG&E Mitigation and Restoration Obligations

Lightner Mitigation Site

As part of the Sunrise Powerlink, regulatory agencies with jurisdiction over that project required compensatory mitigation and restoration to offset permanent and temporary impacts. As a result, SDG&E established nine off-site mitigation areas to mitigate for temporary and permanent impacts associated with waters of the U.S. and State, as well as special-status species. One of these mitigation sites is located approximately 1 mile to the west of the Proposed Project site, referred to as the Lightner mitigation site, and managed under the *Final Habitat Mitigation and Monitoring Plan – Lightner Mitigation Site*.

While the Proposed Project is located on private property, a portion of the underground transmission line alignment lies adjacent to land (currently owned by SDG&E) that in the future will be deeded over to the USFS as part of SDG&E's mitigation obligations under the Sunrise Powerlink's Habitat Mitigation and Monitoring Plan (HMMP)/Lightner Mitigation Site conditions (WRA 2011). The Lightner Mitigation Site includes mitigation areas surrounding the Suncrest Substation and Bell Bluff Truck Trail. However, the Proposed Project's underground transmission line alignment and riser has been routed within, and immediately adjacent to, Bell Bluff Truck Trail that will be exclusive of adjacent HMMP mitigation lands, and will remain in private ownership following any land transfer to the USFS.

Wilson Laydown Area Site Restoration

To minimize environmental impacts, the site of the proposed SVC is located in an area that was previously used as a staging area as part of the Sunrise Powerlink to facilitate construction of that project (alternative sites available to NEET West are all in undisturbed, native habitat – see Chapter 5). In this PEA, this staging area is referred to as the Wilson Laydown Area (WLA). As part of the Sunrise Powerlink mitigation requirements, SDG&E was required to mitigate for temporary impacts to the WLA, and in compliance with Mitigation Measure B-01a, prepared a *Restoration Plan for Sensitive Vegetation in Temporary Impact Areas*. This plan was approved by the CPUC on November 3, 2010 and the Wildlife Agencies on November 10, 2010. The WLA was considered in this plan as a temporary impact area and now the approximately 10.3-acre site is currently undergoing restoration according to a *Site-Specific Restoration Plan (SRP AS-47 Southern Foothills; Link 3; Wilson)* and subject to a 5-year monitoring period (SDG&E 2011).

While the WLA had been disturbed even prior to the Sunrise Powerlink, the goal of the *Restoration Plan for Sensitive Vegetation in Temporary Impact Areas* and *Site-Specific Restoration Plan* was to recreate the WLA's former environmental condition (prior to historical disturbance or more recent use for laydown) which was valley needlegrass habitat.

In addition to onsite restoration of temporary impacts, SDG&E also established the nine off-site mitigation areas as described in the section above. While no special-status wildlife or plant species were observed on the WLA either during Sunrise Powerlink survey efforts or more recently for the Proposed Project, the *Restoration Plan for Sensitive Vegetation in Temporary Impact Areas,* indicates that the size or acreage included in the nine off-site mitigation parcels exceeded the amount required to offset Sunrise Powerlink's impacts (SDG&E 2008). The Sunrise Powerlink licensing documents demonstrate that SDG&E is providing compensatory mitigation at the 1.5:1 acre ratio for the WLA to cover any scenario where the restoration failed and impacts became permanent.

As the *Restoration Plan for Sensitive Vegetation in Temporary Impact Areas* states:

> *"The acres of habitat conserved on the nine HAP/HMP properties exceed the amount required to meet the offsite requirements specified for the Project. This provides assurances to the Agencies that temporary impacts will still be fully mitigated if restoration is not 100% successful.*

In addition, the Sunrise Powerlink *Habitat Acquisition Plan*/*Habitat Management Plan* states:

> *"The offsite properties also serve as back-up mitigation for the restoration efforts within temporary impacts areas. The MMCRP allows for the conservation or enhancement/restoration of sensitive vegetation types on offsite mitigation lands if restoration within temporary impact areas is not feasible or fails."*

4.9.3.7. Planned and Proposed Development

The following websites, resources, and databases were reviewed to identify approved or proposed land, energy, or transmission developments within close proximity to the Proposed Project:

- San Diego County Planning Department – http://www.sdcounty.ca.gov/pds/
- California Public Utilities Commission Current Projects and Transmission Project Tracking Spreadsheet – http://www.cpuc.ca.gov/puc/energy/environment/
- California Energy Commission Status of All Projects – http://www.energy.ca.gov/sitingcases/all_projects.html
- California Energy Commission Large Solar Energy Projects – http://www.energy.ca.gov/siting/solar/index.html
- California Independent System Operation Generator Interconnection Queue – http://www.caiso.com/participate/Pages/Generation/Default.aspx

Within 5 miles of the Proposed Project, seven projects were identified as either ongoing, under review and approval, or in the proposal development stage. These projects include:

- San Diego Gas & Electric Master Special Use Permit and Permit to Construct Power Line Replacement Projects – under NEPA analysis
- Alpine Community Defense (fire prevention and management) – under NEPA analysis
- Greater Alpine Community Defense Fuels Treatment on Non-Federal Lands (fire prevention and management) – under NEPA analysis
- Cleveland National Forest: Forest-Wide Unauthorized Route Decommissioning – under NEPA analysis
- Cleveland National Forest: Invasive Weed Management – on-going
- Pavement Rehabilitation and Maintenance – on-going
- AT&T Master Permit Renewal for Telephone Lines – in proposal development

These projects are described in Section 4.16, Cumulative Analysis.

4.9.4. Applicant-Proposed Measures and Potential Impacts

CEQA requires that projects be evaluated for potential conflicts with applicable land use plans, policies, and regulations set forth by any agency with jurisdiction over the project, and that are used for the purpose of avoiding or mitigating environmental effects (such as general plans, specific plans, local coastal programs, zoning ordinances, and/or any conservation plans).

The following analysis evaluates the proposed project's conformance with applicable land use plans, policies, and regulations. A summary of relevant goals, policies, and regulations are provided, and the project's consistency with these is considered.

4.9.4.1. Significance Criteria

Significance criteria standards were addressed per Appendix G of the State CEQA Guidelines. Potential impacts to land use and planning would be considered significant if the proposed project would:

- physically divide an established community;
- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or,
- conflict with any applicable habitat conservation plan or natural community conservation plan.

4.9.4.2. Applicant-Proposed Measures

Because the Proposed Project will not divide an established community; conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project; or

conflict with any applicable habitat conservation plan or natural community conservation plan, no APMs are proposed.

4.9.4.3. Potential Impacts

Impact LUP-1: The Proposed Project will not result in the physical division of an established community. (No Impact)

The Proposed Project is located in an unincorporated area within San Diego County. The area consists of mostly undisturbed rural landscapes. The nearest rural residential areas are located approximately 1.15 miles to the northeast and 0.81 mile southeast of the Proposed Project. A paved road, Bell Bluff Truck Trail, would be used as the primary travel route to access project areas. The paved portion of Bell Bluff Truck Trail is approximately 30 feet wide to the intersection of SDG&E's substation access road, at which point the road narrows to 12 feet wide. SDG&E's existing Suncrest Substation and associated transmission lines are located approximately 1 mile west of the SVC site. The CNF lands are located to the north, west, and south of the project area. I-8 is located approximately 1.75 miles to the north, and the communities of Alpine and Descanso are located approximately 3.36 miles west and 3.78 miles northeast of the Proposed Project, respectively.

Given that the Proposed Project is located in an isolated, undeveloped area on private lands, there are no existing established communities that would be physically divided as a result of construction or operation of the Proposed Project. As such, no impacts will occur.

Impact LUP-2: The Proposed Project will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

Consistency with Local Plans and Policies

A summary of the Proposed Project's consistency with applicable goals and policies of the San Diego County General Plan and Alpine Community Plan is provided in Table 4.9-3, below. The Proposed Project will be located within areas designated as Rural (San Diego County General Plan and Alpine Community Plan) and National Forest and State Parks (Alpine Community Plan) land use. While these areas are zoned as Agricultural (A72), Minor Impact Utility and Essential Services land uses are allowed uses within the A72 zone designation. As such, the Proposed Project would be compatible with the County's land use, zoning, and future planning and impacts would be less than significant.

Consistency with Existing Mitigation and Restoration Obligations

The Proposed Project is located in an area that was utilized as a materials staging and laydown area to facilitate construction of the Sunrise Powerlink, referred to in the Sunrise Powerlink documents as the WLA. The approximate 10.3-acre WLA is subject to an active 5-year restoration monitoring program required by the Sunrise Powerlink's *Mitigation, Monitoring, and Reporting Program* to restore the historic site conditions of valley needlegrass habitat. However,

as described in Section 4.9.3.6, the Sunrise Powerlink documents show that SDG&E is providing compensatory mitigation at a 1.5:1 acre ratio for the WLA to cover any scenario where the restoration failed and impacts became permanent. Therefore, siting the SVC at the WLA would not reduce the total mitigation provided by Sunrise Powerlink nor require any additional off-site mitigation or restoration. It is NEET West's intention to notify the agencies with jurisdiction over the restoration of the WLA of NEET West's plans to site the SVC in the WLA so that SDG&E can be released of any further restoration obligations in the event the Proposed Project is approved before SDG&E's restoration obligations are deemed complete by the required agencies. In addition, the service list associated with Sunrise Powerlink will be noticed as part of the CPCN proceeding and CEQA process to inform interested parties of the change to the restoration plan associated with the Sunrise Powerlink within the WLA. As a result of these steps, the Proposed Project would be consistent with existing mitigation and restoration obligations and impacts would be less than significant.

Impact LUP-3: The Proposed Project will not conflict with conflict with any applicable habitat conservation plan or natural community conservation plan. (No impact)

As previously addressed, the Proposed Project is located within the eastern boundaries of the San Diego County MSCP. As of May 2015, the MSCP has been implemented for southwestern San Diego County. The area east of the community of Alpine, including the Proposed Project location, has not been incorporated into the MSCP at this time, although preliminary planning documents have been drafted. This program is, therefore, not applicable to the Proposed Project. Surveys conducted in spring 2015 have identified no special-status species (including those covered in the draft East County MSCP) in any of the areas to be impacted by the Proposed Project. Furthermore, implementation of APMs as described in Section 4.4, Biological Resources, would further reduce impacts to wildlife and wildlife habitats. As a result, even if the area east of the community of Alpine were to be included in the MSCP prior to construction, the Proposed Project would be consistent with MSCP provisions. In addition, the CPUC has exclusive jurisdiction over the siting, design, installation, operations and maintenance, and repair of electric transmission facilities. As such, the Proposed Project is not subject to local discretionary authority and compliance with the MSCP regulations. Therefore, there will be no conflicts with the San Diego County MSCP and no impacts will occur.

Table 4.9-3. Land Use Plans, Policies, and Regulations Consistency Analysis

Plan, Policy or Regulation	Potentially Consistent? (Yes/No)	Discussion
Cleveland National Forest Land Management Plan		
Land Management Plan, Part 1		
Goal 7.1: Retain natural areas as a core for a regional network while focusing the built environment into the minimum land area needed to support growing public needs. Facilities supporting urban infrastructure needs are clustered on existing sites or designated corridors, minimizing the number of acres encumbered by special-use authorizations. Special-uses serve public needs, provide public benefits, and conform to resource management and protection objectives. All uses are in full compliance with the terms and conditions of the authorization. There is a low level of increase in the developed portion of the landscape as measured by road densities; in fact, over time, the built environment is shifted away from or designed to better protect resource values.	Yes	The Proposed Project is located adjacent to existing electrical utility infrastructure (i.e., SDG&E's Suncrest Substation, associated utility lines, and access roads). The SVC site will be located on a previously impacted staging area used during the construction of the existing Suncrest Substation, and the Proposed Project's underground transmission line will be located within the right-of-way of an existing paved roadway (Bell Bluff Truck Trail). Access to the Proposed Project will be via existing rights-of-way, including but not limited to Bell Bluff Truck Trail. As such, the Proposed Project is consistent with this goal.
Land Management Plan, Part 2		
Design Criteria CNF S5 Consolidate major transportation and utility corridors by co-locating facilities and/or expanding existing corridors.	Yes	The Proposed Project is located in an area that was previously used as a staging area for the Sunrise Powerlink and, therefore, minimizes impacts to undisturbed, native habitats. Similarly, the associated transmission line between the SVC and SDG&E's Suncrest Substation is routed underground along Bell Bluff Truck Trail in an effort to consolidate project impacts to an existing roadway corridor. As such, the Proposed Project is consistent with this design criteria.
Land Management Plan, Part 3		
Standard S12 When implementing new projects in areas that provide for threatened, endangered, proposed, and candidate species, use design criteria and conservation practices (see Appendix H) so that discretionary uses and facilities promote the conservation and recovery of these species and their habitats. Accept short-term impacts where long-term effects would provide a net benefit for the species and its habitat where needed to achieve multiple-use objectives.	Yes	The Proposed Project has been sited and routed to utilize previously disturbed areas to the maximum extent possible. The SVC is located in an area that was used as a staging area for the Sunrise Powerlink and the underground transmission line has been routed along Bell Bluff Truck Trail to consolidate impacts to an existing roadway corridor. Biological surveys conducted in spring 2015 identified no special-status species within project impact areas. Additionally, APMs identified in Section 4.4, Biological Resources, will further reduce impacts to rare plant populations. As such, the Proposed Project is consistent with this standard.

Table 4.9-3. Land Use Plans, Policies, and Regulations Consistency Analysis

Plan, Policy or Regulation	Potentially Consistent? (Yes/No)	Discussion
San Diego County General Plan		
Land and Use Element		
Goal LU-4 Inter-jurisdictional Coordination Coordination with the plans and activities of other agencies and tribal governments that relate to issues such as land use, community character, transportation, energy, other infrastructure, public safety, and resource conservation and management in the unincorporated County and the region.	Yes	NEET West is coordinating with federal, state and local agencies and governments in the development, construction and operation of the Proposed Project to ensure compliance all agencies and governments. As such, the Proposed Project is consistent with this policy.
Policy LU-4.3 Relationship of Plans in Adjoining Jurisdictions Consider the plans and projects of overlapping or neighboring agencies in the planning of unincorporated lands, and invite comments and coordination when appropriate.	Yes	NEET West has considered the plans and projects of other agencies, including but not limited to the CNF, in the planning and permitting process. As such, the Proposed Project is consistent with this policy.
Goal LU-12: Infrastructure and Services Supporting Development Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.	Yes	The purpose of the Proposed Project is to provide dynamic reactive power support at the Suncrest Substation which will: (a) provide voltage control and other electric transmission grid benefits; (b) support the provision of safe, reliable, and adequate electricity service in the greater San Diego and Los Angeles metropolitan areas; and (c) facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals. A major goal of the Sunrise Powerlink was to distribute power to load-serving substations within the San Diego load center to accommodate future growth of the San Diego region. Given the above, the Proposed Project is a public facility (and defined as an essential service by the County) that is needed to meet community needs with respect to growth and development within San Diego County. As such, the Proposed Project is consistent with this goal.
Policy LU-12.3: Infrastructure and Services Compatibility Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.	Yes	The Proposed Project and associated transmission line has been sited to minimize effects to environmental resources. The majority of the underground transmission line alignment has been routed along the existing, paved Bell Bluff Truck Trail and within previously disturbed areas. As such, the Proposed Project is consistent with this policy.
Policy LU-12.4: Planning for Compatibility Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas. Require context sensitive Mobility	Yes	The Proposed Project and associated transmission line has been sited to minimize visual and environmental impacts. The Proposed Project area is not located with a preserve area or within a sensitive viewshed. APMs will further reduce visual contrast (refer to Section 4.1.4.2). Areas affected by construction, including temporary access roads/staging areas, will be restored to preconstruction conditions and native seed mixes will be used for

Table 4.9-3. Land Use Plans, Policies, and Regulations Consistency Analysis

Plan, Policy or Regulation	Potentially Consistent? (Yes/No)	Discussion
Element road design that is compatible with community character and minimizes visual and environmental impacts; for Mobility Element roads identified in Table M-4, an LOS D or better may not be achieved.		restoration purposes to ensure the project area blends with the natural landscape to the extent possible. As such, the Proposed Project is consistent with this policy.
Policy LU 10.2: Development—Environmental Resource Relationship Require development in Semi-Rural and Rural areas to respect and conserve the unique natural features and rural character, and avoid sensitive or intact environmental resources and hazard areas.	Yes	The Proposed Project has been sited and routed to utilize previously disturbed areas to the maximum extent possible. The SVC is located in an area that was used as a staging area for the Sunrise Powerlink and the underground transmission line has been routed along Bell Bluff Truck Trail to consolidate impacts to an existing roadway corridor. The project will avoid impacts to sensitive or intact environmental resources to the maximum extent possible. APMs to further reduce impacts to biological resources, cultural resources, wetlands and waters, and groundwater have been included in Sections 4.4, 4.5 and 4.8, respectively. As such, the Proposed Project is consistent with this policy.
Conservation and Open Space Element		
COS-14.3 Sustainable Development Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.	Yes	The Proposed Project will not contribute to a significant loss of energy, water, open space or natural resources. As such, conservation of these resources is inherent in the design of the project, and the Proposed Project is consistent with this policy.
COS-14.10 Low-Emission Construction Vehicles and Equipment Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.	Yes	Per APM-AIR-4, low-emission construction equipment will be utilized during construction of the project. Construction equipment will be maintained per manufacturing specifications. All off-road construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program shall meet at a minimum the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Sec. 2423(b)(1). As such, the Proposed Project is consistent with this policy.
COS-17.1 Reduction of Solid Waste Materials Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.	Yes	As part of the Proposed Project's APMs, the project will reduce and encourage the recycling of all types of solid waste that is generated as a result of construction, operation and maintenance of the facilities. To the extent feasible, solid waste will be diverted from landfills in a manner that is compliant will federal, state and local laws. As such, the Proposed Project is consistent with this policy.

Table 4.9-3. Land Use Plans, Policies, and Regulations Consistency Analysis

Plan, Policy or Regulation	Potentially Consistent? (Yes/No)	Discussion
COS-17.2 Construction and Demolition Waste Require recycling, reduction and reuse of construction and demolition debris.	Yes	As part of the Proposed Project's APMs, the project will reduce and encourage the recycling of all types of solid waste that is generated as a result of construction, operation and maintenance of the facilities. To the extent feasible, solid waste will be diverted from landfills in a manner that is compliant will federal, state and local laws. As such, the Proposed Project is consistent with this policy.
COS-19.1 Sustainable Development Practices Require land development, building design, landscaping, and operational practices that minimize water consumption.	Yes	The Proposed Project will require the use of water for dust suppression during construction. However, water use will be minimized, and alternate sources of water will be utilized whenever feasible. Water consumption during the operations and maintenance phase of the project will not be necessary. Given the above, the Proposed Project is consistent with this policy.
Mobility Element		
Policy M-4.4, Accommodate Emergency Vehicles Design and construct public and private roads to allow for necessary access for appropriately-sized fire apparatus and emergency vehicles while accommodating outgoing vehicles from evacuating residents.	Yes	Although the Proposed Project will not require the construction of any new roads, access to SVC site will be adequately sized (i.e., two driveways approximately 20 x 70 feet each will be constructed between the SVC site and Bell Bluff Truck Trail) to allow the passage of emergency vehicles. As such, the Proposed Project is consistent with this policy.
Safety Element		
Goal S-7: Reduced Seismic Hazards Minimized personal injury and property damage resulting from seismic hazards.	Yes	The Proposed Project area does not cross any known active faults and no known active faults are located in the immediate vicinity, nor is the Proposed Project area within a mapped Alquist-Priolo Earthquake Fault Zone. Furthermore, final design of the Proposed Project will adhere to all applicable building codes and seismic standards and incorporate engineering design elements from site specific geotechnical investigation to minimize impacts to people or structures from strong ground shaking. As such, the Proposed Project is consistent with this goal.
Policy S-7.3: Land Use Location Prohibit high occupancy uses, essential public facilities, and uses that permit significant amounts of hazardous materials within Alquist-Priolo and County special studies zones.	Yes	The Proposed Project is not located within a mapped Alquist-Priolo Earthquake Fault Zone, nor would the Proposed Project involve the use of significant amounts of hazardous materials per Section 4.6, Geology, Soils, and Seismic, and Section 4.7, Hazards and Hazardous Materials. Thus, the Proposed Project is consistent with this policy.

Table 4.9-3. Land Use Plans, Policies, and Regulations Consistency Analysis

Plan, Policy or Regulation	Potentially Consistent? (Yes/No)	Discussion
Policy S-1.2: Public Facilities Location Advise, and where appropriate require, new development to locate future public facilities, including new essential and sensitive facilities, with respect to the County's hazardous areas and State law.	Yes	The Proposed Project is not located within a mapped Alquist-Priolo Earthquake Fault Zone, nor would the Proposed Project involve the use of significant amounts of hazardous materials per Section 4.6, Geology, Soils, and Seismic, and Section 4.7, Hazards and Hazardous Materials. Thus, the Proposed Project is consistent with this policy.
Policy S-7.5: Retrofitting of Essential Facilities Seismic retrofit essential facilities to minimize damage in the event of seismic or geologic hazards.	Yes	The Proposed Project involves construction of a new SVC facility and a new underground transmission line. Therefore, no retrofitting is proposed as part of the Proposed Project. The Proposed Project will be designed in accordance with the Uniform Building Code and in accordance with industry standards which take into account seismic and geologic hazards. As such, the Proposed Project is consistent with this policy. Refer to Section 4.6, Geology, Soils, and Seismic.
Alpine Community Plan		
Land Use		
Industrial 8 Industrial sites shall be large enough to permit adequate on-site parking, appropriate landscaping and loading facilities.	Yes	During construction, vehicles will be staged and/or parked within the approved materials staging area. Alternatively, vehicles or equipment may be temporarily parked within work areas or along the shoulder of Bell Bluff Truck Trail during construction of the transmission line. Also, the project's staging area will be used for loading and offloading of materials during construction. For the purpose of operations and maintenance of the electrical facilities, the Proposed Project has been designed to accommodate an appropriate amount of landscaping and parking around the SVC facility, as well as any material loading or offloading. As such, the Proposed Project is consistent with this policy.
Industrial 11 Encourage any needed expansion of industrial lands to be adjacent to existing industrially designated land.	Yes	Although the Proposed Project is not located adjacent to an existing industrially-designated land, the SVC site is located approximately 1 mile west of SDG&E's existing Suncrest Substation, and the majority of the Proposed Project's underground transmission line will be installed adjacent to an existing underground electrical line owned by SDG&E and another private landowner. As such, the Proposed Project is consistent with this policy.

Table 4.9-3. Land Use Plans, Policies, and Regulations Consistency Analysis

Plan, Policy or Regulation	Potentially Consistent? (Yes/No)	Discussion
Conservation		
Conservation 16 Development in Alpine which requires a discretionary permit shall be consistent with long-term groundwater availability as determined through the application of Policy I-77 and the Average Annual Precipitation Map for the County.	Yes	PEA Chapter 4.8 (Hydrology and Water Quality) analyzes the project's potential impacts on hydrology and water, and concludes that with the implementation of project APMs impacts to hydrology and water quality will be less than significant. Chapter 4.8 also concludes that the Proposed Project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. As such, the Proposed Project is consistent with this policy.

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4.10. NOISE

4.10.1. Introduction

This section describes existing noise conditions in the area proposed for the SVC and the underground transmission line, and assesses the potential impacts from noise resulting from the construction and operation of the Proposed Project. This noise analysis was conducted in accordance with federal, state, and local noise and ground-borne vibration criteria, as described in the following sections.

The Proposed Project's potential effects on noise were evaluated using the significance criteria set forth in Appendix G of the State CEQA Guidelines, as shown in Table 4.10-1, CEQA Initial Study Checklist for Noise. The analysis determined that noise impacts will be less than significant or that no impact will occur.

Table 4.10-1. CEQA Initial Study Checklist for Noise

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
NOISE Would the project:				
a) Expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels?			X	
c) Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise				X

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
levels?				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

4.10.2. Existing Conditions

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. Although prolonged exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise; the perceived importance of the noise, and its appropriateness in the setting; the time of day and the type of activity during which the noise occurs; and the sensitivity of the individual.

Ground-borne vibration may be induced by traffic and construction activities, such as pile driving and earthmoving. The effects of ground-borne vibration may include perceptible movement of building floors, interference with vibration-sensitive instruments, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. The rumbling sounds heard is the noise radiated from the motion of the room surfaces. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance would be well below the damage threshold for normal buildings. Ground-borne vibration is almost never annoying to people who are outdoors; without the effects associated with the shaking of a building, the rumble noise of vibrations are not perceptible.

Unlike noise, human response to vibration is not dependent on existing vibration levels. Humans respond to a new source of vibration based on the frequency of such events.

4.10.2.1. Regulatory Background

Regulating noise and ground-borne vibration is typically the responsibility of local governments. However, federal and state agencies have developed recommended noise levels depending on the type of land use. A review of existing federal, state, and county noise laws, regulations, ordinances, and guidelines was conducted for the Proposed Project and is presented below.

Federal

There are no federal regulations that limit overall environmental noise levels. However, the EPA and other federal agencies have adopted suggested land use compatibility guidelines that indicate

that residential noise exposures of 55 to 65 decibels (dB) day-night level (L_{dn}) are acceptable. Table 4.10-2 presents a summary of federal agency guidelines and regulations for exterior noise.

Table 4.10-2. Summary of Federal Guidelines/Regulations for Exterior Noise (dBA)

Agency	L_{eq}	L_{dn}
EPA [1]	[49]	55
U.S. Department of Housing and Urban Development [2]	[59]	65

Notes:
dBA = A-weighted decibels, L_{eq} = energy equivalent sound level, L_{dn} = day-night level.
Brackets [59] indicate a calculated equivalent standard.
[1] EPA (1974).
[2] 24 CFR 51 Subpart B.

The Noise Control Act and the U.S. Department of Housing and Urban Development (HUD) guidelines (presented below) are primary federal regulatory criteria governing Proposed Project noise impacts.

U.S. Environmental Protection Agency, Noise Control Act of 1972

The Federal Noise Control Act of 1972 and subsequent amendments (42 U.S.C. 4901 et seq.) established a requirement that all federal agencies must administer their programs in a manner that promotes an environment free from noise that jeopardizes public health or welfare. The EPA was given the responsibility for providing information to the public regarding identifiable effects of noise on public health or welfare, publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety, coordinating federal research and activities related to noise control, and establishing federal noise emission standards for selected products distributed in interstate commerce (construction equipment; transportation equipment; motors and engines; and electrical or electronic equipment). States and political subdivisions of states retain the right to establish and enforce controls on environmental noise through the licensing, regulation, or restriction of the use, operation, or movement of products or combinations of products. The Federal Noise Control Act also directed all federal agencies to comply with federal, state, interstate, and local noise control and abatement requirements to the same extent that any person is subject to such requirements.

In order to establish federal noise emission control requirements and to ensure assistance and guidance to states and localities, the EPA has published guidelines that address the issue of community noise and contains goals for noise levels affecting residential land use of day-night level (L_{dn}) of less than 55 A-weighted decibels (dBA) for exterior levels and L_{dn} of less than 45 dBA for interior levels (EPA 1974). Table 4.10-3 presents the noise levels identified as requisite to protect public health and welfare with an adequate margin of safety.

Table 4.10-3. Noise Levels Identified to Protect Public Health and Welfare with an Adequate Margin of Safety

Effect	Level	Area
Hearing loss	$L_{eq(24)} \leq 70$ dB	All areas
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use
	$L_{eq(24)} \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{dn} \leq 45$ dB	Indoor residential areas
	$L_{eq(24)} \leq 45$ dB	Other indoor areas with human activities such as schools, etc.

Note:
$L_{eq(24)}$ = The continuous sound pressure level integrated over a 24-hour time period.
Source: EPA (1974).

State

The State of California Office of Planning and Research (OPR) has published General Plan guidelines, which include Noise Element Guidelines for recommended exterior and interior noise levels. These are not regulations, but are intended to be used as guidelines for local jurisdictions to identify appropriate sound levels for various land uses in preparing a General Plan. The guidelines identify a noise level of 50 to 60 dBA Community Noise Equivalent Level (CNEL) to be normally acceptable for residential uses. The Guidelines also recognize that more restrictive standards than the maximum levels cited may be appropriate under certain conditions.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to noise. The following General Plan policies and noise ordinance standards are provided for information purposes and are generally used for evaluation of impacts.

San Diego County Guidelines for Determining Significance for Noise

The San Diego County Guidelines for Determining Significance for Noise (County of San Diego 2009) is used by County staff for review of projects subject to CEQA. The guidelines are intended to provide a consistent, objective, and predictable evaluation of significant effects, but are not binding and do not substitute for the independent judgment of any County decision

maker. The guidelines are primarily concerned with the impacts to residences, hospitals, schools, hotels, resorts, libraries, and similar facilities where quiet is an important attribute of the environment, collectively referred to as Noise Sensitive Land Uses (NSLUs).

A project may be considered significant if it does not comply with the relevant portions of the San Diego County Noise Control Ordinance (discussed below), or if it is anticipated to result in the exposure of any on- or off-site, existing or reasonably foreseeable future NSLU to exterior noise (including noise generated from a project together with noise from roads, railroads, airports, heliports, and all other noise sources) that is either in excess of 60 dB CNEL, or an increase of 10 dB CNEL over pre-existing noise. For single-family residential detached NSLUs, exterior noise is measured at an outdoor living area which adjoins and is on the same lot as the dwelling (the guidelines define the size of the outdoor living area as about 10% of the lot size, a minimum of 400 square feet, and a maximum of 1 acre). For all other NSLUs, exterior noise may be measured at any usable open space.

San Diego County General Plan, Noise Element

The County has adopted noise compatibility guidelines for various land uses as part of the San Diego County General Plan, Chapter 8 "Noise Element." The noise compatibility guidelines, as presented in Table N-1 of the San Diego County General Plan, are presented in Table 4.10-4 and are similar to those of the Significance Guidelines above, in particular, that exterior noise levels of up to 60 dBA CNEL are compatible with single-family residential use. If the exterior noise level is between 60 and 75 dBA CNEL, the noise level is "conditionally acceptable." The new development should only be undertaken after a detailed noise analysis is conducted to determine if noise reduction measures are required. If a project's exterior noise level cannot be mitigated to less than 60 dBA CNEL and interior noise level to 45 dBA, then the appropriate County decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist. If the exterior noise level at an NSLU is projected to be over 75 dBA CNEL, the development will not be approved under any circumstances.

Table 4.10-4. San Diego County General Plan Noise Compatibility Guidelines

	Land Use Category	Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
A	Residential – single-family residences, mobile homes, senior housing, convalescent homes						
B	Residential – multi-family residences, mixed-use (commercial/residential)						
C	Transient lodging – motels, hotels, resorts						
D*	Schools, churches, hospitals, nursing homes, child care facilities						
E*	Passive recreational parks, nature preserves, contemplative spaces, cemeteries						

Table 4.10-4. San Diego County General Plan Noise Compatibility Guidelines

	Land Use Category	Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
F*	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G*	Office/professional, government, medical/dental, commercial, retail, laboratories						
H*	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair						

	ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.
	CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table N-2, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate county decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.
	UNACCEPTABLE—New construction or development shall not be undertaken.

* Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL.

The Noise Element of the General Plan also includes special provisions for County road construction projects and interior noise levels in rooms that are usually occupied for only a part of the day (e.g., schools, libraries, etc.). Because the nearest NSLU to the Proposed Project is single-family residential, requirements for these other land uses are not detailed in this section.

The San Diego County General Plan seeks to preserve rural areas from the encroachment of urban noise, by preventing the exposure of residents to excessive noise levels while protecting facilities and operations that may generate noise but are essential to the economic viability of the county. The General Plan identifies goals and the policies used to meet those goals to promote compatibility between land uses. Goals and polices that apply to the Proposed Project are summarized below.

- **Goal N-1, Land Use Compatibility:** A noise environment throughout the unincorporated county that is compatible with the land uses.
    - **Policy N-1.1, Noise Compatibility Guidelines:** Use the Noise Compatibility Guidelines (Table 4.10-4 above) as a guide in determining the acceptability of exterior and interior noise for proposed land uses.
    - **Policy N-1.2, Noise Management Strategies:** When abatement is necessary, strategies such as avoiding placement of NSLUs in noisy areas and increasing setbacks between noise generators and NSLUs should be used in place of conventional noise barriers.
    - **Policy N-1.3, Sound Walls:** The use of sound walls is discouraged in favor of noise management strategies. If sound walls cannot be avoided, visual screening methods (such as vegetation) shall be used to soften the visual appearance of the wall.

- **Goal N-2, Protection of Noise Sensitive Uses:** A noise environment that minimizes exposure of NSLUs to excessive, unsafe, or otherwise disruptive noise levels.
    - **Policy N-2.1, Development Impacts to Noise Sensitive Land Uses:** An acoustical study is required to identify and mitigate inappropriate noise levels where development may result in exterior noise levels of greater than 60 dBA CNEL.
- **Goal N-3, Groundborne Vibration:** An environment that minimizes exposure of sensitive land uses to the harmful effects of excessive groundborne vibration.
    - **Policy N-3.1, Groundborne Vibration:** Use appropriate Federal Transit Administration and Federal Railroad Administration guidelines to limit the exposure of sensitive land uses to groundborne vibrations from trains, construction equipment, and other sources.
- **Goal N-6, Temporary and/or Nuisance Noise:** Minimal effects of intermittent, short-term, or other nuisance noise sources to noise sensitive land uses.
    - **Policy N-6.4, Hours of Construction:** Require development to limit the hours of operation as appropriate for non-emergency construction and maintenance, trash collection, and parking lot sweeper activity near noise sensitive land uses.

County of San Diego Noise Ordinance

The County of San Diego Noise Ordinance (County of San Diego 2008) is codified at Title 3, Division 6, Chapter 4 of the San Diego County Code. The Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise and contains provisions, such as sound level limits, for the purpose of securing and promoting public health, comfort, safety, peace, and quiet. The limits for non-construction noise are found in Section 36.404 and presented in Table 4.10-5. Noise limits are 1-hour averages that are dependent on the zoning of the source and receiving properties.

Table 4.10-5. Sound Level Limits in Decibels (dBA)

Zone	Time	1-Hour Average Sound Level Limits (dBA)
Residential use: single-family (RS), duplex/two-family (RD), rural (RR), mobile home (RMH), variable family (RV), urban residential (RU) with a density of less than 11 dwelling units per acre **Agricultural use**: limited (A70), general (A72) **Special purpose use**: open space (S80), ecological resource area (S81), holding area (S90), general rural (S92)	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	50 45
Residential use: recreation-oriented (RRO), residential/commercial (RC), multi-family (RM), variable family (RV), urban residential (RU) with a density of more than 11 dwelling units per acre **Special purpose use**: parking (S86)	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	55 50
Special purpose use: transportation and utility corridor (S94) **All commercial uses**	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	60 55
Manufacturing and industrial use: basic industrial (M50), limited-impact industrial (M52), general impact industrial (M54)	Anytime	70

Table 4.10-5. Sound Level Limits in Decibels (dBA)

Zone	Time	1-Hour Average Sound Level Limits (dBA)
Special purpose use: extractive (S82) **Manufacturing and industrial use:** mixed-industrial (M56), high-impact industrial (M58)	Anytime	75

The area surrounding the Proposed Project is zoned in the first category, which has a maximum 1-hour average of 50 dBA during the daytime and 45 dBA at night. If the ambient noise level exceeds the limit, then the limit is the ambient noise level plus three decibels, as described in Section 36.404(d):

> *If the measured ambient noise level exceeds the applicable limit in Table 36.404, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.*

The Noise Ordinance establishes separate noise limitations for the operation of construction equipment. Section 36.409 states:

> *Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 decibels for an eight-hour period, between 7:00 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.*

The sections of the ordinance summarized above are average noise level limits; Section 36.410 provides limits on impulsive noise. Impulsive noise is defined by the noise ordinance as:

> *A single noise event or a series of single noise events, which causes a high peak noise level of short duration (one second or less), measured at a specific location. Examples include, but are not limited to, a gun shot, an explosion or a noise generated by construction equipment.*

For non-emergency, non-public road projects, the limits on impulsive noise are presented in Table 4.10-6 below. The limits shown are measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received. To determine compliance, a sound level meter must be set up in a location to record the maximum noise level every minute for a period of at least 1 hour. If the readings exceed the noise level in Table 4.10-6 for more than 25% of the minutes in the measurement period, then the project is in violation of the ordinance.

Table 4.10-6. Maximum Sound Level (Impulsive) Measured at Occupied Property in Decibels (dBA)

Occupied Property Use	Decibels (dBA)
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

4.10.2.2. Methodology

This section describes the noise analysis area, the assumptions and methodology used to calculate noise impacts, a description of the impact approach, and identification of what would be considered a significant noise impact from the construction and operation of the SVC and transmission line.

Analysis Area

The analysis area for the evaluation of noise impacts is 1 kilometer (km) (0.62 mile) from the Proposed Project, as noise generated by the operation of the SVC will be 20.1 dBA at this distance, well below background for most hours. The analysis area for the evaluation of Proposed Project noise impacts is depicted in Figure 4.10-1.

Analysis Assumptions

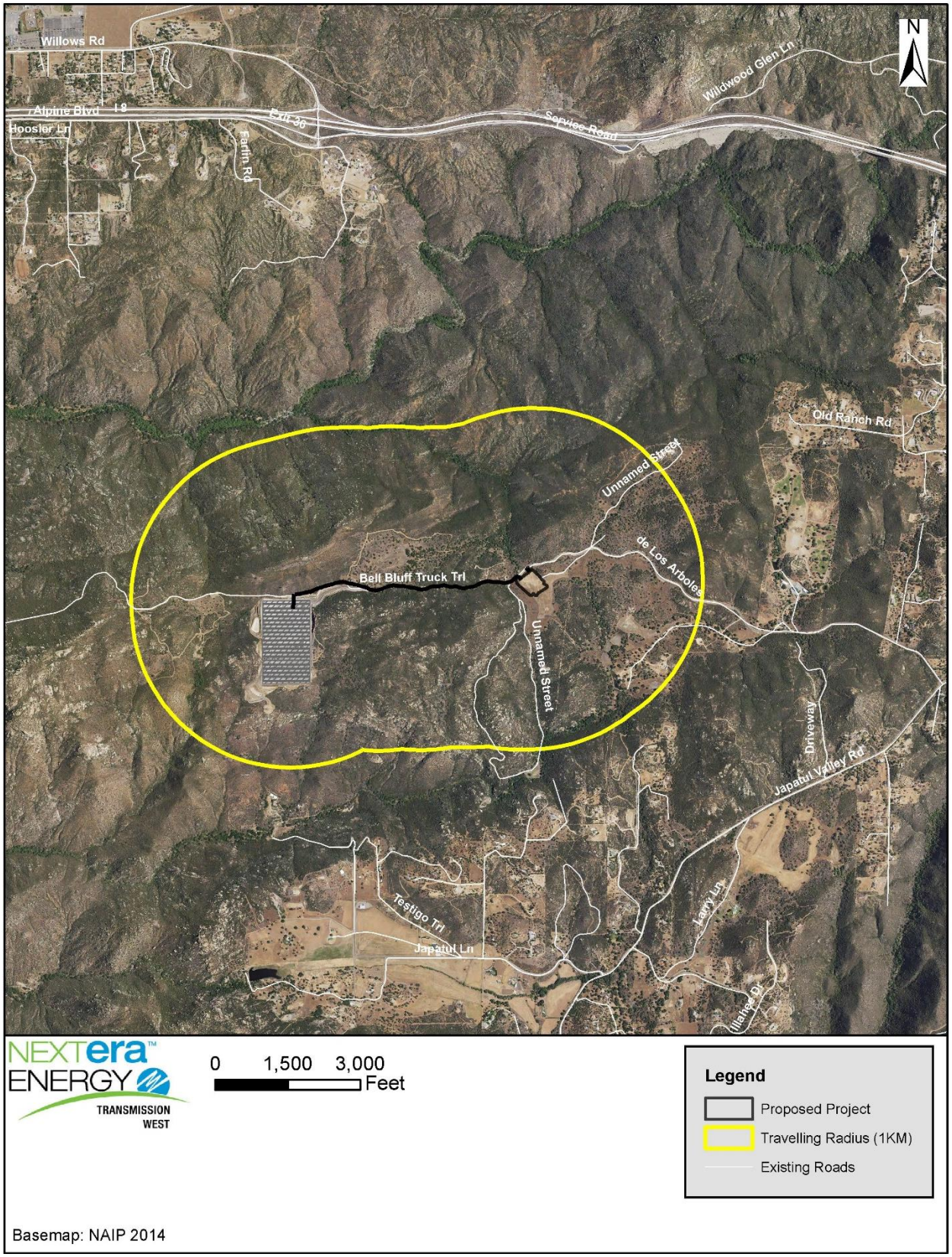
The noise analysis is based on the methods and assumptions described below. While construction and operational activities will result in additional traffic from worker commutes, material deliveries, etc., these impacts are transient, and not evaluated because noise standards are given as a 1-hour average. Any additional commute traffic noise on the roads in or around the analysis area will be short in duration and have a small effect on the hourly average noise level. The addition of additional commute traffic to highways in the region will similarly have a minimal effect on noise levels.

Construction

The construction noise level was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). The RCNM is the FHWA's national model for the prediction of construction noise. This software is based on actual sound level measurements from various equipment types taken during the Central Artery/Tunnel project conducted in Boston, Massachusetts, during the early 1990s. The maximum noise levels presented at the nearest occupied property line are based on a roster of likely construction equipment operating and average distance of construction equipment to the occupied property line. Although the Proposed Project is not a road construction project, the RCNM includes the same types of equipment that will be used in the construction of the Proposed Project.

In compliance with the San Diego County Noise Ordinance (County of San Diego 2008), noise generating construction activities will take place between 7:00 a.m. and 7:00 p.m., unless authorized by the CPUC for longer hours.

Figure 4.10-1. Noise Analysis Area



Ground-borne vibration impacts are only expected to occur rock excavation activities. Should scraping, ripping, drilling, hammering, and cutting and localized low energy blasting be required during construction, it would only occur intermittently for a short period of time and would be conducted during daytime hours to minimize the potential for disturbance. Based on preliminary geotechnical analysis, blasting is not anticipated but may be required when mechanical means to break material into manageable size pieces is impracticable. Any blasts would be localized, low energy blasts. Though generally resulting in elevated noise levels at the time the blasting is performed, blasting would actually reduce overall construction time required, if utilized.

In the event that rock blasting is used during construction, NEET West (or the blasting subcontractor) will be required to obtain a blasting permit (issued by the Sheriff or Chief Officer of the fire department serving the area, pursuant to Article 77 of the Uniform Fire Code) and explosive permit (issued by the Sheriff pursuant to Section 12000, et seq. of the California Health and Safety Code and Article 77 of the Uniform Fire Code) and will ensure compliance with all relevant federal, state, and local regulations relating to blasting activities. NEET West (or the blasting subcontractor) will also be responsible for limiting vibration from the blast to prevent damage to any structures.

Operations and Maintenance

For noise generated by the SVC, standard acoustical engineering methods were used and were based on vendor supplied equipment noise levels. For simplicity, these noise levels were summed as a single large source operating at the center of the facility, and 1.5 meters off the ground. This simplification is reasonable because the equipment generating the most noise will be near the center of the SVC and the actual layout of the facility will have structures (including the noise generating equipment itself) that will function to block and attenuate sound from other sources. Predicted levels at distances of interest were calculated based on geometric spreading attenuation using International Organization for Standardization (ISO) 9613-2, "Acoustics—Sound Attenuation during Propagation Outdoors" (ISO 1996). Additional attenuation factors, such as intervening terrain, structures, and barriers cannot be considered with this methodology.

4.10.3. Environmental Setting

There are no existing major sources of noise in the vicinity of the Proposed Project. Minor sources of noise nearby are SDG&E's water tank/pump, existing SDG&E Suncrest Substation, and residential roads in the area. Noise from I-8 (over 1 mile away) is not detectable at the SVC site. Surrounding land uses are low-density, rural residential and national forest.

4.10.3.1. Existing Noise Levels

Existing noise levels at the Proposed Project were measured for approximately 48 hours from Saturday, April 11, through Monday, April 13, 2015. A Larson Davis LD 831 Sound Level Meter was placed near the road as close as possible to the proposed SVC location, and left undisturbed for the entire period to capture the noise background level as best as possible. The energy equivalent sound level (L_{eq}) for the sample period was 49.8 dBA, and the CNEL was 52.1 dBA. L_{eq} and CNEL are both averages of sound level, but CNEL adds 5 dBA to evening noise and 10 dBA to nighttime noise to account for increased human sensitivity to noise during these hours.

4.10.3.2. Sensitive Receptors

NSLUs are any residential areas, schools and day care facilities, hospitals, long-term care facilities, places of worship, libraries, parks, and recreational areas specifically known for their solitude and tranquility (such as wilderness areas). There are no NSLUs within 1 km (0.62 mile) of the Proposed Project. A 1-km (0.62-mile) radius represents a reasonable distance where sensitive noise receptors could potentially experience impacts because most typical construction equipment noise attenuates to less than 70 dBA at 330 feet and would not be discernable at a distance of 1 km (0.62 mile). The nearest NSLU is a residence located approximately 0.81 mile from the SVC.

The County also regulates noise levels at all property boundaries regardless of if they are NSLUs (Section 36.404 of the County Code). The closest property boundary is between the Dean R. and Deborah S. Wilson property and SDG&E property, approximately 395 feet from the center of the proposed SVC, where the property line is also crossed by the underground transmission line. Noise impacts are evaluated at this boundary. However, SDG&E property is unoccupied and used for electric utility purposes and therefore would not be classified as a sensitive receptor.

Vibratory impacts are not analyzed because there are no vibration-sensitive structures (as defined by the San Diego County Significance Guidelines) in the analysis area. Without a vibration sensitive structure, there are no significance levels for determining vibration impacts.

4.10.4. Applicant-Proposed Measures and Potential Impacts

4.10.4.1. Significance Criteria

According to State CEQA Guidelines Section 15002(g), "a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the Proposed Project." As stated in Section 15064(b) of the State CEQA Guidelines, the significance of an activity may vary with the setting. Per Appendix G of the State CEQA Guidelines, the potential significance of the Proposed Project's impacts on noise was evaluated for each of the criteria listed in Table 4.10-1, CEQA Initial Study Checklist for Noise, as discussed in below in Section 4.10.4.3, Potential Impacts.

Compliance with the Appendix G was determine using the significance levels in the San Diego County Guidelines for Determining Significance for Noise, as these guidelines are specific to CEQA and as stringent or more stringent than other potential significance levels (Noise Control Act, HUD guidelines, etc.)

County of San Diego: Noise

As discussed in Section 4.10.2.1, the County of San Diego has published guidelines for determining significance under CEQA, which have been considered in this analysis as described above. Based on these guidelines and the location of the Proposed Project, a significant impact could occur if the Proposed Project would:

- Result in exterior noise levels that exceed 60 CNEL or an increase of 10 dBA over pre-existing noise in NSLUs such as residential areas and outdoor recreational areas including parks;

- Result in interior noise levels that exceed 45 CNEL for single-family and multi-family residential homes;
- For non-construction noise, results in a noise level of over 50 dBA (7:00 a.m. to 10:00 p.m.) or 45 dBA (10:00 p.m. to 7:00 a.m.) when measured at any property line;
- For construction-related noise, results in a noise level over an 8-hour average of 75 dBA (from 7:00 a.m. to 7:00 p.m.) when measured at the nearest occupied property-property line, or exceeds the hourly average for non-construction noise from 7:00 p.m. to 7:00 a.m. when measured at any property line; or,
- For impulsive noise, result in noise levels exceeding 85 dBA for more than 25% of the minutes of the observation period (minimum of 1 hour) when measured at the nearest occupied property (an exceedance during any portion of the minute counts for the entire minute).

County of San Diego: Ground-Borne Vibration

The San Diego County guidelines also include significance levels for ground-borne vibration. However, vibration impacts are not determined for the Proposed Project because the significance levels for vibration are defined for several categories, including research and manufacturing facilities with special vibration constraints, buildings where people normally sleep, institutional land uses with primarily daytime use, concert halls, TV studios, recording studios, auditoriums, and theaters. As there are none of these facilities within 1 km (0.62 mile) of the Proposed Project, these significance levels do not apply. Man-made vibration issues are usually confined to short distances from the source.

4.10.4.2. Applicant-Proposed Measures

APMs were identified by NEET West and are part of the Proposed Project. Table 4.10-7 presents the APMs that are relevant to noise (NOI). The impact analysis assumes that all APMs will be implemented as part of the Proposed Project as defined in the table below.

Table 4.10-7. Applicant Proposed Measures for Noise

APM No.	Description
	NOISE
APM NOI-1	**Construction Work Hours.** Noise-generating construction activities will typically occur between 7:00 a.m. and 7:00 p.m. consistent with San Diego County's Noise Ordinance. Additional work days or hours will also be required for time sensitive work activities (e.g., concrete pours, underground transmission cable splicing, trenching, transformer oil filling, etc.) or as dictated by safety concerns. When noise-intensive construction work (which has the potential to exceed noise standards) is required earlier than 7:00 a.m. or later than 7:00 p.m., landowners will be notified at least 2 days prior to the activities beginning. The notice will provide details on the nature of the activity, noise levels anticipated, and duration of the activity.
APM NOI-2	**Reduction of Blasting Impacts.** NEET West will explore the use of alternative excavation techniques (micropiles, etc.) as an alternative to blasting. However, if blasting activities become necessary for excavation, blasting mats or similar attenuation measures will be used to reduce the impulsive noise associated with such activities. Additionally, NEET West shall conduct a pre-blast survey, prepare a blasting plan, and obtain appropriate blasting and explosive permits. A written report of the pre-blast survey and final blasting plan shall be provided to the appropriate regulatory agency and approved prior to any rock removal using explosives. In addition to any other requirements established by the appropriate

Table 4.10-7. Applicant Proposed Measures for Noise

APM No.	Description
	regulatory agencies, the pre-blast survey and blasting plan shall meet the following conditions: ▪ The pre-blast survey shall be conducted for structures within a minimum radius of 1,000 feet from the identified blast site to be specified by NEET West. Sensitive receptors that could reasonably be affected by blasting shall be surveyed as part of the pre-blast survey. Notification that blasting would occur shall be provided to all owners of the identified structures to be surveyed prior to commencement of blasting. If SDG&E facilities are within the survey radius, NEET West will consult with SDG&E engineers in the pre-blast survey (no other structures fall within 1,000 feet of any part of the Proposed Project). The pre-blast survey shall be included in the final blasting plan. ▪ The final blasting plan shall address air-blast limits, ground vibrations, and maximum peak particle velocity for ground movement, including provisions to monitor and assess compliance with the air-blast, ground vibration, and peak particle velocity requirements. The blasting plan shall meet criteria established in Chapter 3 (Control of Adverse Effects) in the Blasting Guidance Manual of the U.S. Department of Interior Office of Surface Mining Reclamation and Enforcement. ▪ The blasting plan shall outline the anticipated blasting procedures for the removal of rock material at the proposed SVC and underground transmission line structures. The blasting procedures shall incorporate line control to full depth and controlled blasting techniques to create minimum breakage outside the line control and maximum rock fragmentation within the target area. Prior to blasting, all applicable regulatory measures shall be met. NEET West, or its subcontractor (as appropriate), shall keep a record of each blast for at least 1 year from the date of the last blast.

4.10.4.3. Potential Impacts

Impact N-1: The Proposed Project will have a less than significant impact on exceeding noise standards in the general plan, noise ordinance, or other applicable standards. (Less than Significant)

Construction Noise

Estimates of noise from construction of the SVC are based on a roster of likely construction equipment at the station (presented in Table 4.10-8 below, this roster is a composite of the loudest equipment from each phase of construction), a distance of 985 feet from the center of the SVC construction area to the nearest occupied property-property line (for ease of calculation, all equipment is assumed to be operating at this single point), and the FHWA RCNM. The RCNM has noise levels for various types of equipment pre-programmed into the software; therefore, the noise level associated with the equipment is typical for the equipment type and not based on any specific make or model. However, the RCNM only allows 20 pieces of equipment to be included, so the list was used as a guide, in conjunction with the equipment available in the software, to select equipment for the model.

Table 4.10-8. Construction Equipment Roster Used for Noise Analysis

Equipment Type	Quantity
Excavator	4
Off-Highway Truck	8
Grader	1
2-Ton Truck	2

Equipment Type	Quantity
Rubber Tired Bulldozer	1
Tractors/Loaders/Backhoes	2
Concrete Truck	2
Bore/Drill Rigs	1
Dump Truck	11
Crane	3
Forklift	1
Puller/Tensioner	5
Off-Highway Tractor	2
Air Compressor	1
Blasting	1

The RCNM assumes that the maximum sound level for the project (L_{max}) is the maximum sound level for the loudest piece of equipment (in this case, blasting). L_{max} at the nearest occupied property-property line will be 68.1 dBA, and at 1 km (0.62 mile) it will attenuate to 57.7 dBA. The average noise level from construction at 1 km will be below 48 dBA, which is the maximum for all construction equipment, excluding blasting. Blasting is excluded when considering average noise levels, as blasting will only occur briefly throughout the day.

In order to assert these construction impacts are below significance, the project must meet three criteria, discussed below:

1. **Construction impacts must be less than an 8-hour average of 75 dBA when measured at the nearest occupied property-property line** (from San Diego County Significance Guidelines and San Diego County Code). As shown above the *maximum* sound level at this distance will be 68.1 dBA, during blasting. The average noise level will be much less, because blasting will only occur briefly in an 8-hour period.

2. **Construction impacts must be less than 60 dBA CNEL and less than 10 dBA above the baseline noise level when measured at the nearest residence** (from San Diego County General Plan). The model predicts the average noise level at 1 km will be less than 48 dBA. This level is less than 60 dBA CNEL and the background noise level measured by SWCA (49.8 dBA). All residences are more than 1 km away and will have even lower impacts.

3. **Impulsive noise impacts are limited to a maximum of 15 minutes per hour (25% of the minutes in an hour) for impacts to exceed 85 dBA at the nearest occupied property-property line** (from San Diego County Code). There is no upper limit, other than that the average sound level must still meet Criteria #1. A less-than-significant impact is predicted for impulsive noise, as the maximum noise level from blasting at the

nearest occupied property-property line will be 68.1 dBA, which is less than 85 dBA. Additionally, blasting will not occur for more than 15 minutes out of every hour.

The impacts, as shown above, are less than significant. No noise attenuation would be necessary to reduce impacts even if the Proposed Project were subject to the County rules. Noise impacts from construction of the underground transmission line will be less due to increased distance to occupied property lines. APM NOI-1 will ensure impacts remain less than significant.

Operational Noise

The main source of noise will be equipment operating at the SVC itself. Noise generating equipment at the SVC is presented in Table 4.10-9.

Table 4.10-9. SVC Noise Generating Equipment Roster Used for Noise Analysis

Equipment Type	Quantity	Sound Level at 1 meter (dB)
150 Mvar Thyristor Controlled Reactor	3	82
105 Mvar Transformer	3	87
TSC caps	6	67
FC caps	6	77
TSC reactor	6	67
FC reactors	6	77
Heat exchanger	2	77
HVAC	1	87
Aux transformer	1	67

Summing the noise level from these sources together, the noise level at the nearest property line (owned by SDG&E for the Suncrest Substation) will be 44.2 dBA. This is below both the daytime and nighttime significance levels of an hourly average of 50 and 44.2 dBA, respectively, for non-construction noise. Additionally, these noise calculations are based on the SVC operating at maximum capacity for 1 full hour, but the SVC is expected to be operating at full capacity for less than 10% of its lifetime. Any period of lower noise generation would further reduce the hourly noise impact. Therefore, the operation of the SVC will have a less-than-significant impact on noise levels in the vicinity of the Proposed Project.

Maintenance activities associated with the SVC and underground transmission line would be similar in noise level to construction-related activities, but would be anticipated to occur less frequently, include fewer individual noise point sources such as pieces of equipment and vehicles, and would be of shorter duration. Maintenance activities are primarily inspection and repair of damaged equipment. Actual maintenance activities would occur over a short period of time at any single location and typically would be of shorter duration than during initial construction activities. As a result, noise impacts from operation and maintenance activities will be less than significant.

Operation of the Proposed Project will have a less-than-significant impact and would not exceed noise standards in the general plan, noise ordinance, or other applicable standards.

Impact N-2: The Proposed Project will have no potential to expose persons to or generate excessive groundbourne vibration or groundborne noise levels. (Less than Significant)

As stated in Section 4.10.4.1, vibration impacts are assumed to have no impact because the County guidelines contain significance guidelines for the impact of vibration on buildings in the following categories: research and manufacturing facilities with special vibration constraints, buildings where people normally sleep, institutional land uses with primarily daytime use, concert halls, TV studios, recording studios, auditoriums, and theaters. As there are none of these facilities in the analysis area, there can be no significant impacts.

Regardless, the potential for vibration exists if blasting occurs and could be a concern for SDG&E during construction near the Suncrest Substation and 230 kV transmission lines. In the event blasting is required, NEET West (or the blasting subcontractor) will be required to implement APM NOI-2, which requires, in part:

- Exploration of alternative excavation techniques as an alternative to blasting, such as the use of micropiles or similar for the installation of the riser pole structure;
- A pre-blast survey of structures in the area and consultation with SDG&E engineers if SDG&E structures are within 1,000 feet of the blast (NEET West may reduce the size or quantity of charges in order to prevent damage to existing structures based on this step);
- A blasting plan, which addresses air-blast limits, ground vibrations, and maximum peak particle velocity for ground movement, including provisions to monitor during blasting and assess compliance with the air-blast, ground vibration, and peak particle velocity requirements;
- Blasting and explosive ministerial permits per the San Diego County Regulatory Ordinances; and,
- Compliance with all relevant federal, state, and local regulations relating to blasting activities.

APM NOI-2 may reduce the vibration impacts from blasting, although given that there are no vibration sensitive structures (as defined by the County Code), there are and will remain to be no significant or potential for significant vibration impacts.

Impact N-3: The Proposed Project will have no potential to result in a substantial permanent increase in ambient noise levels. (No Impact)

The only "significance" threshold presented in the impact criteria is a rise of 10 dBA over pre-existing noise when measured at the nearest noise sensitive land use. The nearest noise sensitive land uses (residences) are just over 0.81 mile away. At this distance, 8-hour average construction noise will attenuate to less than 48 dBA, and 1-hour average operational noise will attenuate to less than 15 dBA. As this is less than the average pre-existing noise level of 49.8 dBA, the Proposed Project will have no impact on ambient noise levels.

Impact N-4: The Proposed Project will have no potential to result in a substantial temporary or periodic increase in ambient noise levels. (No Impact)

As stated in Section 4.10.4.1, the only "significance" threshold presented is a rise of 10 dBA over pre-existing noise when measured at the nearest noise sensitive land use. The nearest noise sensitive land uses (residences) are just over 0.81 mile away. At this distance, 8-hour average construction noise will attenuate to less than 48 dBA, and 1-hour average operational noise will attenuate to less than 15 dBA. As this is less than the average pre-existing noise level of 49.8 dBA, the Proposed Project will have no impact.

Impact N-5: The Proposed Project will have no impact on a public airport, public use airport, or a private airstrip. (No Impact)

The Proposed Project is not in the vicinity of an airport; therefore, this section is not applicable.

4.10.5. References

County of San Diego. 2008. *San Diego County Noise Ordinance (Ordinance No. 9962), Chapter 4*. Adopted December 10, 2008. Available at: http://www.sandiegocounty.gov/cob/ordinances/ord9962.doc. Accessed May 2015.

———. 2009. *County of San Diego Guidelines for Determining Significance: Noise*. County of San Diego Land Use and Environment Group. First Revision: January 27, 2009. Available at: http://www.sandiegocounty.gov/dplu/docs/Noise-Guidelines.pdf. Accessed on May 7, 2015.

———. 2011. *San Diego County General Plan: Chapter 8, Noise Element*. Adopted August 3, 2011. Available at: http://www.sandiegocounty.gov/content/dam/sdc/pds/gpupdate/docs/GP/NoiseElement.pdf. Accessed May 2015.

International Organization for Standardization (ISO). 1996. *ISO 9613-2: Acoustics - Attenuation of sound during propagation outdoors; Part 2: General method of calculation*. International Organization for Standardization (ISO). December 2006.

SWCA Environmental Consultants (SWCA). 2015. *Technical Memorandum: Suncrest Noise Monitoring (April 9-April 13, 2015)*. April 20, 2015.

U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974. Available at: http://www.fican.org/pdf/EPA_Noise_Levels_Safety_1974.pdf. Accessed May 2015.

4.11. POPULATION AND HOUSING

4.11.1. Introduction

This section of the PEA describes the environmental and regulatory settings and potential impacts related to population and housing, as associated with the construction, operation, and maintenance of the Proposed Project. The Proposed Project will be in an unincorporated area of central San Diego County approximately 3.36 miles east of the unincorporated town of Alpine (approximately 5.75 miles to downtown). The Proposed Project lies within the Alpine Community Planning area. No impacts to population or housing will occur from the implementation of the Proposed Project.

Table 4.11-1. CEQA Initial Study Checklist for Population and Housing

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
POPULATION AND HOUSING Would the project:				
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)?				X
b) Displace substantial numbers of existing housing [units] [sic], necessitating the construction of replacement housing?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

4.11.2. Existing Conditions

4.11.2.1. Regulatory Background

Federal

There are no federal laws or regulations relevant to population and housing impacts in the context of the Proposed Project.

State

There are no state laws or regulations relevant to population and housing impacts in the context of the Proposed Project.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, the Proposed Project is exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all state and local land use plans and policies, as well as local land use priorities and concerns as they relate to population and housing. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County General Plan

The San Diego County General Plan provides land development goals and policies for the unincorporated areas of San Diego County. Selected and potentially relevant goal and policy language is provided below (County of San Diego 2013, Housing Element, pp. 6-12.).

Housing Element

Goals

- **Goal H-1, Housing Development and Variety:** A housing stock comprising a variety of housing and tenancy types at a range of prices, which meets the varied needs of existing and future unincorporated County residents, who represent a full spectrum of age, income, and other demographic characteristics.

Policies

- **Policy H-1.1, Sites Inventory for Regional Housing Needs Assessment (RHNA):** Maintain an inventory of residential sites that can accommodate the RHNA.
- **Policy H-1.2, Development Intensity Relative to Permitted Density:** Encourage a development intensity of at least 80 percent of the maximum permitted gross density for sites designated at 15 to 30 dwelling units per acre in development projects.
- **Policy H-1.3, Housing near Public Services:** Maximize housing in areas served by transportation networks, within close proximity to job centers, and where public services and infrastructure are available.
- **Policy H-1.6, Land for All Housing Types Provided in Villages:** Provide opportunities for small-lot single-family, duplex, triplex, and other multi-family building types in Villages.

The San Diego County General Plan cites "reduced housing capacity in rural or 'backcountry' communities that lack water, sewer, roads, and fire or emergency medical services" (including

the unincorporated town of Descanso) (County of San Diego 2013, Housing Element, pp. 6-7 to 6-8).[1] The General Plan does not encourage substantial growth in semi-rural areas,[2] such as the Proposed Project area.

Alpine Community Plan

The Alpine Community Plan (a component of the San Diego County General Plan) applies and elaborates the goals and policies of the County General Plan to fit the specific community planning area. Selected and potentially relevant goal and policy language is provided below (County of San Diego 2011c, p. 18 [capitalization altered]).

Housing

Goals

- **Goal 1:** Promote a variety of housing types in all economic ranges in existing and future development while maintaining and promoting housing stability in harmony with Alpine's natural rural environment.
- **Goal 2:** Encourage Community Involvement in planning activities.
- **Goal 3:** To encourage and reinforce the goal of keeping Alpine a safe, pleasant and rural place to live. It is the goal of the Alpine Planning Group to promote and encourage the safety and tranquility of private residences.

Policies and Recommendations

- **Policies and Recommendations 1:** The housing stock should be monitored at future census counts to assure that an adequate supply of affordable housing is provided to meet the community's needs for price and housing types.

Central Mountain Subregional Plan

The Proposed Project site is west of the boundary of the Central Mountain Subregional Plan (a component of the San Diego County General Plan), but within several hundred feet of that Plan's coverage area. Given the Proposed Project site's proximity to the area formally addressed by that Plan, the Plan's policies are considered in this analysis. Similar to the Alpine Community Plan,

[1] The Housing Element explains, "The rural character of the unincorporated communities is a result of necessity as well as choice. The portions of the County that lie outside the CWA [County Water Authority] boundary lack the infrastructure to support urban densities and development. The additions of new roads and sewer capacity, which must be provided by private development, often make projects cost prohibitive. Even communities like Ramona, Fallbrook, and Alpine which lie within the CWA have retained the rural character which emerged during the early stages of growth" (County of San Diego 2013, p. 6-11).

[2] The San Diego County General Plan Update EIR states, "Primarily, substantial growth in rural areas would be inappropriate due to the character of these areas, development constraints such as topography and groundwater resources, and environmental constraints such sensitive habitats. Increased road access and infrastructure, such as water and sewer service, would occur under the General Plan Update; however, it would be limited in the rural areas of the County to be consistent with the natural and human-made environment, as described in the other environmental topic sections in Chapter 2.0. Planned development in the semi-rural and rural areas focuses development in and around existing unincorporated community town centers which allows the County to maximize existing infrastructure, provide for efficient service delivery, and strengthen town center areas while preserving the rural landscape" (County of San Diego 2011b, p. 2.12-16).

the Central Mountain Subregional Plan applies and elaborates the goals and policies of the County General Plan to fit the specific community planning area. Selected and potentially relevant goal and policy language is provided below (County of San Diego 2011d, p. 63 [capitalization altered]).

Residential

Goals

- **Goal 1:** The preservation of existing landforms and the continuity of natural horizon lines with a lack of visual interruptions.
- **Goal 2:** Residential development designed to conserve water.
- **Goal 3:** Residential development that primarily consists of single-family detached dwellings that are consistent with the rural atmosphere and ambiance of the area.
- **Goal 4:** The preservation of the natural landforms and native vegetation around residential structures that preserve the overall open character and scenic quality of the subregion.
- **Goal 5:** Expanded use of green building programs and techniques in the backcountry.

4.11.2.2. Methodology

The methodology for this section included reviewing population, housing, and employment statistics for San Diego County and the unincorporated Alpine and Central Mountain Subregional Community Planning Areas. Data sources included the San Diego County Planning and Development Services, San Diego County General Plan and EIR, Community Plans, and the San Diego Association of Governments (SANDAG; the primary planning agency for the San Diego area).

4.11.3. Environmental Setting

4.11.3.1. Population

The Alpine Community Planning Area had an estimated population of 16,542 persons in the year 2000, 17,393 in 2010, and 17,836 in 2013.

Even though the Proposed Project site is outside the Central Mountain Subregional Community Planning Area, the planning area's statistics are useful in describing the area directly east and northeast of the Proposed Project. The Central Mountain Subregional Community Planning Area had an estimated population of 4,880 persons in the year 2000, 5,106 in 2010, and 5,224 in 2013.

4.11.3.2. Housing

The Alpine Community Planning Area had an estimated housing stock of 6,108 units in the year 2000, 6,543 units in 2010, and 6,576 units in 2013 (with a 2.2% vacancy rate). SANDAG

identifies an area northeast of Alpine as a Smart Growth Opportunity Area.[3] This smart-growth area is several miles northwest of the Proposed Project site.

The Central Mountain Community Planning Area had an estimated housing stock of 2,389 units in the year 2000, 2,182 units in 2010, and 2,204 units in 2013 (with an 8.8% vacancy rate).

The nearest residences to the Proposed Project are to the northeast (1.15 miles) and southeast (0.81 mile). These multi-acre lots have residences and/or ranching and farming buildings.

Temporary Housing

Alpine has one hotel in town and one hotel at the Viejas Casino. There are also a few bed and breakfast and other specialty lodging facilities in Alpine and Descanso. The nearest city with an appreciable number of hotels and motels is El Cajon. El Cajon has 14 hotels and is approximately 13 miles from the project site (TripAdvisor 2015).

4.11.4. Applicant-Proposed Measures and Potential Impacts

4.11.4.1. Significance Criteria

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the Proposed Project would result in a significant impact to population and housing. Implementation of the Proposed Project and project variants would have a significant effect on population and housing, if the project would:

- 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)?
- Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

4.11.4.2. Applicant-Proposed Measures

As the Proposed Project will not result in significant impacts on population and housing, no APMs are proposed.

[3] Figure H-1, County of San Diego General Plan, Housing Element, "Areas Served by Sewer" (Map dated May 2009; Source: SanGIS, County of San Diego).

4.11.4.3. Potential Impacts

Impact PH-1: The Proposed Project will not 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)

Construction

During the 9-month construction period, the typical number of workers and visitors on site will be approximately 40 to 50 (or less) persons per day. The peak number of workers on a single day will be approximately 64. As a conservative assumption, the total number of unique construction workers over the entire construction period will be approximately 120. Visitors will include NEET West management, engineering consultants, government inspectors, and construction monitors, who will visit the site intermittently.

The workers for the more common development tasks of grading and building foundations for the SVC and riser pole structure are likely to be hired from San Diego County. Workers for installing the SVC and underground transmission line will have specialized skills and may be drawn from either San Diego County or further away. If local, workers will commute from their residences. If living too great a distance to commute, workers will likely stay in hotels or other temporary lodging. Based on nearby hotel availability and distances, it seems likely that non-local workers will stay in El Cajon or San Diego, although there are other choices. Due to the short-term duration of construction, it is unlikely that non-local workers will take up permanent residence in the local area. For these reasons, construction of the Proposed Project will have no impact to population growth.

Operation

No permanent jobs will be created by the Proposed Project. During operation, there will be a monthly inspection of the SVC, an inspection of the transmission line every 6 to 8 months, and periodic maintenance of the equipment. None of these activities will add full-time employees, and these activities will not result in new residents in the area. Each of these inspection and maintenance activities would be conducted by a small crew of, at most, several workers. Operation of the Proposed Project will facilitate the delivery of renewable electricity and will support the voltage and reliability of the transmission system, but will not increase the availability of electricity or induce growth. For these reasons, operation of the Proposed Project will have no impact to population growth.

Impact PH-2: The Proposed Project will not displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing. (No Impact)

The Proposed Project will not demolish any housing. As explained above, the Proposed Project will not create any permanent jobs and will not create a demand for additional housing. For these reasons, the Proposed Project will have no impact regarding housing units.

Impact PH-3: The Proposed Project will not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. (No Impact)

The Proposed Project will not displace anyone, nor create a need for replacement housing. For these reasons, the Proposed Project will have no impact regarding displaced persons and housing.

4.11.5. References

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4.12. PUBLIC SERVICES

4.12.1. Introduction

This section of the PEA addresses potential impacts on public services, namely fire and emergency protection, law enforcement, and maintenance of public facilities (e.g., schools and parks), as a result of construction, operation, and maintenance of the Proposed Project. Implementation of the APMs will ensure that impacts to public services will be less than significant.

Table 4.12-1. CEQA Initial Study Checklist for Public Services

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
PUBLIC SERVICES				
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?			X	
Police protection?			X	
Schools?				X
Parks?				X
Other public facilities?				X

4.12.2. Existing Conditions

4.12.2.1. Regulatory Background

Federal

The Proposed Project is located on private land within the administrative boundary of the CNF. While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, the Proposed Project has considered relevant elements of the plan during the design of the Proposed Project.

There are no federal regulations, plans, or standards related to public services that are relevant to the Proposed Project.

State

There are no state regulations, plans, or standards related to public services that are relevant to the Proposed Project.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the proposed project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." Accordingly, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to public services. Although San Diego County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County General Plan

Updated (and adopted) in August 2011, the San Diego County General Plan (County of San Diego 2011a) guides future growth in the unincorporated areas of the county and considers projected growth anticipated to occur within various communities. The General Plan, in particular the Land Use, Safety, and Conservation and Open Space Elements, contain policies which address public services in the county. Policies relevant to public services are listed below.

Land Use Element

- **Policy LU-12.1, Concurrency of Infrastructure and Services with Development:** Requires the provision of infrastructure, facilities, and services needed by new development prior to that development, either directly or through fees. Where appropriate, the construction of infrastructure and facilities may be phased to coincide with project phasing.

Safety Element

- **Policy S-3.4, Service Availability:** Plan for development where fire and emergency services are available or planned.
- **Policy S-6.3, Funding Fire Protection Services:** Require development to contribute its fair share towards funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.
- **Policy S-6.4, Fire Protection Services for Development:** Require that development demonstrate that fire services can be provided that meet the minimum travel times identified in Table S-1 (Travel Time Standards) (20 minutes in the Semi-Rural and Rural land use designations).

Conservation and Open Space Element

- **Goal COS-21, Park and Recreational Facilities:** Park and recreation facilities that enhance the quality of life and meet the diverse active and passive recreational needs of County residents and visitors, protect natural resources, and foster an awareness of local history, with approximately ten acres of local parks and 15 acres of regional parks provided for every 1,000 persons in the unincorporated County.

Alpine Community Plan

A goal stated in the Alpine Community Plan (a component of the San Diego County General Plan) is to promote the establishment of emergency procedures and preventative measures to minimize damage from fire, geologic hazards, crime occurrence, and hazardous substances. The Alpine Community Plan provides policies and recommendations for fire prevention and police protection services, which include (County of San Diego 2011b, pp. 33-34):

Safety Policies and Recommendations

- **Policy 1:** Encourage the establishment of a community fuel management and fire safety program in conjunction with appropriate existing public agencies.
- **Policy 2:** Direct the appropriate County agency to require an acceptable level of fire protection for all approved development through appropriate discretionary permit processes.
- **Policy 3:** Encourage development with fire preventive development practices and fire resistant plant types.
- **Policy 4:** Consider fire hazards in Alpine a serious and significant environmental impact during review of Environmental Impact Reports.
- **Policy 5:** Encourage the adequate inspection and maintenance of all utilities that could pose a hazard to the Community.
- **Policy 6:** Request those County departments that provide or review the installation of utilities to report on potential programs to improve the safety of potentially hazardous facilities.

- **Policy 7:** Promote expansion of fire, police, and emergency health or other services, as needed.

A goal stated in the Alpine Community Plan is to provide a balanced system of both natural and improved parks with recreational facilities and services that incorporate outstanding natural features for recreational opportunities, enrich the lives of Alpine residents, and meet the needs of the community. Policies and recommendations in the Alpine Community Plan that are pertinent to the Proposed Project include (County of San Diego 2011b, p. 42):

Recreation Policies and Recommendations

- **Policy 9:** Encourage the acquisition and development of park lands which will protect outstanding scenic and riparian areas, cultural, historical and biological resources.

Central Mountain Subregional Plan

The Proposed Project site is west of the boundary of the Central Mountain Subregional Plan (a component of the San Diego County General Plan), but within several hundred feet of that Plan's area. Even though the project site is outside the Plan's area, it is worth noting the Plan's relevant goals and policies given the proximity of the Proposed Project site to the area addressed by the Plan. A goal stated in the Central Mountain Subregional Plan is that emergency and preventative procedures reduce damages from geologic hazards, medical emergencies, and other disasters.

A policy in the Central Mountain Subregional Plan that is pertinent to the Proposed Project includes (County of San Diego 2011c, p. 138):

Parks and Recreational Facilities

- **Policy 9:** Discourage construction, installations, conversions, and other types of uses which will prohibit or restrict public access within sections of Parks and Public Recreation Areas, whenever possible.

4.12.2.2. Methodology

The analysis is based on the review of existing resources (County of San Diego General Plan, Alpine Community Plan, and Central Mountain Subregional Plan), technical data, and applicable laws, regulations, and guidelines.

4.12.3. Environmental Setting

4.12.3.1. Government Services

Fire Protection

Because of the unique topography of the area and the distance to urban centers, there are a number of aspects of fire safety that are of particular concern to the community. The Proposed Project is located in eastern San Diego County, a rural area with few residents that is also within an area statutorily designated as Very High Fire Hazard Severity Zone by CAL FIRE (CAL FIRE 2007). The very high fire hazard severity designation can be attributed to a variety of factors including highly flammable, dense, drought-adapted chaparral vegetation; seasonal,

strong winds; and a Mediterranean climate that results in vegetation drying during the months most likely to experience Santa Ana winds. Santa Ana winds are winds originating from the Great Basin that create extreme fire weather conditions characterized by low humidity, sustained high speeds, and extremely strong gusts.

The Proposed Project is within the territory of the San Diego County Rural Fire Protection District (RPD). In May 2015, the San Diego County Fire Authority (County Fire Authority) took the RPD under its umbrella and all fire responsibilities of the RPD are expected to be transferred to County Fire Authority by the end of the year. When the transfer is complete, the County Fire Authority will be responsible for services in 1.59 million acres. The County Fire Authority will continue to support fire services in the RPD by funding CAL FIRE, the operational lead in the County Fire Authority, to augment fire coverage in the RPD's territory (East County Magazine 2015).

As the operational lead for the County Fire Authority, any fire emergencies that may occur at the Proposed Project would be primarily responded to by the Flinn Springs CAL FIRE Station, 9711 Flinn Springs Road, El Cajon, which is approximately 10.6 miles to the northwest of the Proposed Project site. Secondary response is expected to come from the County Fire Authority Station 25, 5425 Dehesa Road, El Cajon, which is approximately 8.6 miles west-southwest of the Proposed Project area. Travel time standards for the closest fire station at Proposed Project area are greater than 20 minutes, as the area is designated as a very-low rural land density (County of San Diego 2011a, pp. 7-11).

Emergency Services

American Medical Response (AMR) San Diego is the contracted ambulance service provider for the Proposed Project area. AMR's closest location to the Proposed Project area is 1364 Tavern Road, Alpine, approximately 5.9 miles west of the Proposed Project area. Due to AMR's very large service area, when an AMR unit responds to a call, it can be unavailable for additional calls for extended time periods. In addition to AMR, primary medical response is provided by area fire stations. The Proposed Project area is served by Sharp Grossmont Hospital, 5555 Grossmont Center Drive, La Mesa, located approximately 25 miles west.

Police Protection

The San Diego County Sheriff's Department is the primary law enforcement agency in San Diego County. The Sheriff's Department provides general and specialized regional law enforcement services to the unincorporated areas not serviced by a city law enforcement agency. The Proposed Project area is primarily served by the San Diego County Sheriff's Alpine Station (2751 Alpine Boulevard) and Pine Valley Station (28696 Old Highway 80). The California Highway Patrol provides traffic enforcement for county and state highways. All police agencies respond to calls within their designated jurisdictions and, in extraordinary circumstances, assist in neighboring jurisdictions.

Schools

Public schools and educational facilities are administered by the San Diego County Board of Education and the San Diego County Office of Education. The Alpine Union School District

and Mountain Empire Unified School District serve the Proposed Project area. The closest schools to Proposed Project site include Boulder Oaks Elementary School (5.31 miles west), Joan MacQueen Middle School (5.25 miles west), and Descanso Elementary School (4.4 miles northeast). The nearest high school is Mountain Empire High School, which is 12.06 miles southeast of the Proposed Project.

Parks

The Alpine and Central Mountain Subregional Planning Areas contain large acreages of public lands, much of which are available for public recreational uses. The Alpine Planning Area contains approximately 155,000 acres of the Descanso Ranger District of the CNF lands. The regional park facilities of the CNF lands are considered to be sufficient to meet demands of regional park lands through the year 2010 (County of San Diego 2011b, p. 36). The Central Mountain Subregion contains almost all of Cuyamaca Rancho State Park's 25,000 acres, a portion of Anza-Borrego State Park, and approximately 120,000 acres of the CNF. The County owns and maintains the Pine Valley Regional Park (County of San Diego 2011c, p. 133).

The stated goal in the San Diego County General Plan is to provide 10 acres of regional parks provided for every 1,000 persons in the unincorporated county (County of San Diego 2011a, pp. 5-41). Despite the abundance of open space, this standard translates into an unmet demand for the Alpine Planning Area of 127 acres of local park lands in l989 and 224 acres in 2010 (County of San Diego 2011b, pp. 36-37). Even though the Proposed Project site is outside the Central Mountain Community Planning Area, it is worth noting statistics regarding this area, which is directly east and northeast of the Proposed Project. Aggregate totals for the Central Mountain Subregion, which contains the Proposed Project, show that it currently has 19.7 acres of local park land for the current population. The current regional park need for the region is met by the available state and federal park facilities (County of San Diego 2011c, p. 134).

No existing parks are located within the Proposed Project environs, although the Proposed Project area is located on private property in close proximity to the CNF.

Other Public Facilities

The Alpine County Library is located at 2130 Arnold Way, approximately 5.3 miles west of the Proposed Project. The Descanso Branch Library is located at 9545 River Drive, approximately 4.9 miles northeast of the Proposed Project.

4.12.4. Applicant-Proposed Measures and Potential Impacts

The following sections describe significance criteria, APMs, and impacts related to public resources.

4.12.4.1. Significance Criteria

Appendix G of the State CEQA Guidelines was consulted for significance criteria pertaining to public services. Impacts to public services are generally considered potentially significant if they would result in substantial adverse physical impacts associated with provision of new or physically altered governmental facilities, or the need for new or physically altered governmental

facilities in order to maintain acceptable service ratios, response times, or other similar performance objectives. Public services are generally considered to include police and fire protection services, emergency services, hospitals, parks, schools, and other public facilities.

4.12.4.2. Applicant-Proposed Measures

APMs that pertain to fire hazards are located in Section 4.7, Hazards and Hazardous Materials.

4.12.4.3. Potential Impacts

Fire Protection, Emergency Services, and Police Protection

Impact PS-1: The Proposed Project will not result in substantial adverse physical impacts with the provision of new or physically altered fire protection, emergency, and police protection services, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives. (Less than Significant)

Construction activities will result in a temporary increase in potential fire hazards and could increase the need for emergency services and first responders due to accidents caused by construction personnel or equipment. The presence of large construction vehicles and equipment on area roadways could impede emergency access such that emergency response times may be temporarily affected. However, fire and emergency response capabilities and response times will not likely deteriorate, as the limited, temporary construction activities are not expected to substantially affect traffic times in the vicinity of the Proposed Project. In addition, during construction of the underground transmission line, one lane of travel will remain open at all times during installation of the duct bank to facilitate emergency access to and from the existing SDG&E Suncrest Substation. Similarly, NEET West will coordinate with SDG&E to ensure that appropriate water tank access along the 12-foot-wide portion of the road is maintained via either construction work plans or temporary piping, if necessary. For a discussion of traffic impacts, refer to Section 4.14, Transportation and Traffic.

The presence of construction equipment (vehicles, generators, tools, etc.) and personnel may increase the likelihood of a wildland fire. Overgrown and untended vegetation may be present in or near the construction areas and could be ignited by a spark or heat-related incident due to the operation of construction equipment or construction activities. In addition, the presence of construction personnel increases the potential for wildland fires through the increase of human influenced ignition (smoking, use of flammables, etc.). This increase in potential fire hazards resulting from construction could increase temporary demands for fire protection services. NEET West met with San Diego County fire officials on August 18, 2015, and will be developing a fire services agreement for the project which will be part of a Fire Prevention Plan as described in APM HAZ-4. In addition to the fire services agreement, the Fire Prevention Plan will detail specific fire prevention measures that will be employed during construction and operations, such as the maintenance of defensible space surrounding the SVC (see Section 4.7, Hazards and Hazardous Materials). These project design features will help to ensure that the project will not require the need for additional fire prevention services and facilities during construction and operation. APM HAZ-5 and APM HAZ-6 will remove potential fuel from the

work area and will reduce the severity of construction- and maintenance-related ignitions by minimizing fuel loads within the SVC footprint. The implementation of these mitigation measures will further reduce the potential impacts from fire and the demand for fire protection services.

The workforce necessary for construction of the Proposed Project will be relatively minimal. As a conservative assumption, the total number of unique construction workers over the entire construction period will be approximately 120. This represents less than 0.01% of San Diego County's entire population (U.S. Census Bureau 2015). Most of these workers likely already reside in San Diego County; thus, the construction of the Proposed Project will not result in a direct increase in the local population, leading to long-term demands for public services. The temporary addition of construction personnel will not substantially increase demands on hospitals or reduce the level of service for fire protection or police protection, because it will not require construction or expansion of facilities or services. Therefore, implementation of the Proposed Project will have less-than-significant impacts on fire protection, emergency services, and police protection.

Parks

Impact PS-2: The Proposed Project will not result in substantial adverse physical impacts with the provision of new or physically altered park and recreational facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives. (No Impact)

Demands for parks and recreational facilities are directly related to local population levels. The Proposed Project does not propose any residential use. The Proposed Project also does not include a recreational component that will attract or accommodate an increase in visitors to the area that will indirectly increase the use or demand for recreational and park facilities and services. As most construction workers likely already reside in San Diego County, and non-local construction workers will only stay for the temporary construction period, the Proposed Project will not increase the local population. Operation of the Proposed Project will not require any new, permanent employees. No impacts to use and demand of parks facilities and recreational services from the Proposed Project will occur.

Schools

Impact PS-3: The Proposed Project will not result in substantial adverse physical impacts with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives. (No Impact)

The demand for new or expanded school facilities and services is determined by permanent increases to the local population. The majority of construction workers associated with the Proposed Project are anticipated to already reside in San Diego County and, therefore, will not represent an increase in the local population. The Proposed Project will not require new or

expanded school facilities in the area. No impacts to use and demand of schools from the Proposed Project will occur.

Other Public Facilities

Impact PS-4: The Proposed Project will not result in substantial adverse physical impacts with the provision of any other new or physically public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives. (No Impact)

The Proposed Project will not require other types of new or expanded government facilities in the area, e.g., libraries. No impacts to the use of, and demand for libraries from the Proposed Project will occur; therefore, there will be no library construction.

4.12.5. References

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4.13. RECREATION

4.13.1. Introduction

This section of the PEA addresses potential recreational impacts associated with the construction, operation, and maintenance of the Proposed Project and concludes that less than significant impacts will occur. This section also describes environmental and regulatory settings. The following significance criteria were derived from Appendix G of the State CEQA Guidelines and summarizes the significance of the potential impacts to recreation. The analysis determined that impacts to recreation will be less than significant.

Table 4.13-1. CEQA Initial Study Checklist for Recreation

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
RECREATION				
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?			X	
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?				X

4.13.2. Existing Conditions

4.13.2.1. Regulatory Background

Federal

Although the Proposed Project is located on private land, it is located in close proximity to the USFS CNF. The CNF is located within San Diego, Riverside, and Orange Counties, and comprises approximately 421,000 acres. The closest Ranger District office to the project site is in the community of Alpine (USFS 2005a, p. 5.).

The USFS is mandated by Congress through the Multiple-Use Sustained-Yield Act of 1960 (Public Law 86-157) to develop and administer the renewable resources of timber, range, water, recreation, and wildlife on the national forests for multiple use and sustained yield of the products and services. Multiple use is defined as the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best

meet the needs of the American people. Multiple use means making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. It also means that some land will be used for less than all of the resources, and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land. Consideration is to be given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output. Sustained yield is defined as the means of achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land (16 U.S.C. 531 Section 4(a) and (b)).

In addition, the National Forest Management Act of 1976 obligates the USFS to complete systematic and interdisciplinary resource management planning via Land Management Plans (also known as Forest Plans). Management of recreation uses on national forests of southern California has traditionally been low-key with minimal regulation of use patterns. As surrounding populations have soared, national forests have become a primary source of natural open-space based recreation activities (USFS 2005).

While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, the Proposed Project has considered relevant elements of the plan during the design of the Proposed Project. Goals and objectives regarding recreation in the Forest Service's Land Management Plan for the National Forests in Southern California include the following (USFS 2005a, p. 54; 2005b, p. 103):

- **Vision document, National Strategic Plan, Goal 3:** Provide outdoor recreation opportunities.
- **CNF Strategy REC 2, Sustainable Use and Environmental Design:**
    - Analyze, stabilize, and restore areas where visitor use is negatively affecting recreation experiences, public safety, and environmental resources. Manage visitor use within the limits of identified capacities.
    - Implement control measures in specific high-use areas as use levels become a concern.
    - Implement Adaptive Mitigation for Recreation Uses (Appendix D) in existing and new recreation sites and uses whenever a conflict between uses or sensitive resources is detected.
- **CNF Strategy REC 3, Recreation Participation (selected):**
    - Offer a wide range of high quality, environmentally sustainable developed and dispersed recreation opportunities to a rapidly growing and culturally diverse visitor population, with minimal visitor conflicts and effects to other resources.
    - Inventory and analyze existing and potential dispersed use, including hang-gliding, waterplay, snowplay and camping opportunities. Manage for those uses that are consistent with resource protection and public safety, and mitigate or eliminate problems over time.

The CNF Land Management Plan identifies areas as "places." Sweetwater Place is described as "a transition zone between the southwestern deserts and the urbanized communities along the southern California seacoast" (USFS 2005b, p. 63). Program emphasis includes, "Recreation development will focus on establishing a trail network for day-use, as well as links to long-distance trail networks" (USFS 2005b, p. 64).

State

There are no State regulations, plans, or standards related to recreation that are relevant to the Proposed Project.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to recreation. Although County and other local polices are provided below, they are provided for disclosure purposes only.

San Diego County General Plan

Updated (and adopted) in August 2011, the San Diego County General Plan (County of San Diego 2011a) guides future growth in the unincorporated areas of the county and considers projected growth anticipated to occur within various communities. The Conservation and Open Space Element within the General Plan contains policies that address recreation in the county including:

- **COS-21.1, Diversity of Users and Services:** Provide parks and recreation facilities that create opportunities for a broad range of recreational experiences to serve user interests.
- **COS-23.2, Public Access:** Provide public access to natural and cultural (where allowed) resources through effective planning that conserves the County's native wildlife, enhances and restores a continuous network of connected natural habitat and protects water resources.

Alpine Community Plan

The Alpine Community Plan (a component of the San Diego County General Plan) (County of San Diego 2011b) provides policies and recommendations related to recreation in the Recreation Policies and Recommendations section, which include:

- **Policy 7:** Coordinate with the USDA Cleveland National Forest to optimize the use of the regional park facilities available in the Alpine Planning Area.
- **Policy 9:** Encourage the acquisition and development of park lands that will protect outstanding scenic and riparian areas, cultural, historical, and biological resources.

County of San Diego Community Trails Master Plan

The County of San Diego Community Trails Program is detailed in the Community Trails Master Plan. The Proposed Project is located in the Alpine Community Trails and Pathways Plan area. The Community Trails Master Plan includes the following relevant policies (County of San Diego 2005):

- **Policy CIS 1.6:** Consider shared-use of public utility easements if beneficial to the trail system.
- **Policy CIS 4.8:** Gates, fencing, and other physical barriers should be used to control access and provide increased user safety when warranted by site conditions.
- **Policy CP 3.5:** Discourage non-consenting public use of private trail systems through restricting connections, staging area locations, and trail map publications.

Central Mountain Subregional Plan

The Proposed Project site is west of the boundary of the Central Mountain Subregional Plan (a component of the San Diego County General Plan), but within several hundred feet of that Plan's coverage area. Therefore, given the Proposed Project site's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. Policies in the Parks and Recreational Facilities section of the Central Mountain Subregional Plan (County of San Diego 2011c) include:

- **Policy 9:** Discourage construction, installations, conversions, and other types of uses which will prohibit or restrict public access within sections of Parks and Public Recreation Areas, whenever possible.

4.13.2.2. Methodology

Various documents and reference materials were reviewed to complete this analysis, including the San Diego County General Plan, the CNF Land Management Plan, and related environmental impact reports. The recreational use of the area was also observed during site visits.

4.13.3. Environmental Setting

As stated in Chapter 3.0, the SVC will be constructed on a parcel that is privately owned and located within San Diego County, in close proximity to portions of the CNF. The underground transmission line will cross privately owned parcels, including one parcel owned by SDG&E and the other owned by the same private landowner with whom NEET West has a signed Option Agreement.

4.13.3.1. Recreational Opportunities

As part of its multiple-use goals and objectives, the CNF offers a variety of recreational activities for visitors including camping, hiking, biking, hunting, fishing, off-highway vehicle use, and wildlife viewing (USFS 2015a). No CNF recreation areas are located in close proximity to the Proposed Project. The closest CNF recreation area to the Proposed Project footprint is the Pine Creek Wilderness, located approximately 2.2 miles southeast of the Proposed Project. The Pine

Creek Wilderness, comprising a total of 13,480 acres, was designated in 1984 and is managed by the USFS. There are several trails within this wilderness area that receive light use by outdoor recreationists (USFS 2015b).

The California Riding and Hiking Trail, a multi-use trail identified in the County Regional Trail Plan (County of San Diego 2011a), runs north to south along the western border of Palo Verde Lake, and is located approximately 3.3 miles west of the Proposed Project.

Members of the local community exit the California Riding Hiking Trail at Spanish Bit Road to hike to the top of Bell Bluff, a peak approximately 1.2 miles west-southwest of the Proposed Project. Reaching the peak requires access to private property and there is no formal trail to the peak. There is no data regarding the level of use this peak receives, yet visitation is likely low due to the challenging terrain and thick vegetation. Based on a viewshed analysis conducted as part of Section 4.1, Aesthetics, only the riser pole is visible from the peak of Bell Bluff and would be viewed in context with the adjacent Suncrest Substation and adjacent Sunrise Powerlink transmission lines.

No recreational facilities are located adjacent to or within the immediate vicinity of the Proposed Project.

4.13.4. Applicant-Proposed Measures and Potential Impacts

4.13.4.1. Significance Criteria

Significance criteria for recreational impacts were derived from Appendix G of the State CEQA Guidelines. Impacts to recreation would be considered significant if the project:

- Increased 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.
- Required the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.13.4.2. Applicant-Proposed Measures

Construction, operation, and maintenance activities will have less-than-significant impacts on recreational resources. No APMs are suggested.

4.13.4.3. Potential Impacts

Impact REC-1: The Proposed Project will not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated. (Less than Significant)

The Proposed Project will occur in a region with existing parks and other recreational facilities. There are no recreational facilities located within or near the Proposed Project footprint. As discussed in Section 4.11, Population and Housing, the Proposed Project will not result in a permanent increase in population. Most workers are anticipated to be from San Diego County,

with the possibility of specialized workers being drawn from further away. Due to the short-term duration of the project, it is unlikely that non-local workers will take up permanent residence. While it is possible that construction crews may visit nearby recreation areas in the region, the visitation numbers from this temporary population will be too low to have a significant impact (recreational resources within 4 miles of the Proposed Project site are discussed in Section 4.13.3.1 above.). Therefore, only minimal increases in park or other recreational facilities usage or physical deterioration may occur from the construction, operation, and maintenance of the Proposed Project. As a result, impacts will be less than significant.

Impact REC-2: The Proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. (No Impact)

The Proposed Project does not involve the construction or expansion of recreational facilities; therefore, no impacts will occur.

Impact REC-3: The Proposed Project will not have a substantial adverse effect on the recreational value or existing recreational facilities during construction and operation. (Less than Significant)

As discussed in Section 4.1, Aesthetics, the Proposed Project's visibility from recreational areas was determined to be minimal. The Pine Creek Wilderness Area will have some areas, primarily on peaks with limited access, where the Proposed Project will be visible (see Figure 4.1-2). However, the Proposed Project will not be visible within canyons or along the primary trails. The distance is 4 or more miles between these areas of visibility and the Proposed Project. The Proposed Project will not be visible from the California Riding and Hiking Trail, which can be used to access a summit hike to the top of Bell Bluff from the west.

The Proposed Project is expected to have only a limited impact on the recreational value of Bell Bluff, an informal trail destination located approximately 1.2 miles west-southwest of the Proposed Project. The Proposed Project's riser pole will be visible from Bell Bluff but will be viewed in context of the existing transmission lines and substation. In addition, access to Bell Bluff is already limited due to thick vegetation, private property, and, if attempting to access by vehicle from the east, the locked gate on Bell Bluff Truck Trail. Moreover, unlike the nearby Sunrise Powerlink, the Proposed Project's transmission line will be underground, improving aesthetic impacts for recreational users of the area. Views from the above-mentioned recreation areas will not be skylined, as the topography, vegetation, and distance creates background screening. As a result, any impacts to recreationists at Bell Bluff are expected to be limited.

Noise, dust, and traffic generated during construction activities could negatively affect a visitor's enjoyment of Bell Bluff during Proposed Project construction. However, such impacts would be temporary, less than significant, and further reduced with APMs AIR-1, AIR-2, NOI-1, NOI-2, and TRA-1.

In conclusion, significant impacts to wilderness or recreation areas will not occur from construction, operation, or maintenance of the Proposed Project. Furthermore, the Proposed Project will not conflict with any recreational plans, goals, or policies of the County or CNF

because the transmission line will be located underneath an existing roadway and the SVC in an area that is not designated for recreational use.

4.13.5. References

County of San Diego. 2005. *The Community Trails Master Plan*. January 2005. http://www.sandiegocounty.gov/reusable_components/images/parks/doc/toc09.pdf. Accessed on August 19, 2015.

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U.S. Forest Service (USFS). 2005a. *Land Management Plan, Part 1 Southern California National Forests Vision – Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest*, Document R5-MB-075, pp. 16, 34, 54. U.S. Department of Agriculture (USDA), Forest Service, Pacific Southwest Region. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5317899.pdf. Accessed on April 24, 2015.

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4.14. TRANSPORTATION AND TRAFFIC

4.14.1. Introduction

The purpose of this section is to describe the existing transportation and traffic conditions in the Proposed Project area and to evaluate the potential project-related transportation and traffic impacts. A summary of existing interstate, regional, and local roadways, transit, and other access roads to the Proposed Project is provided in this section. During project construction, local roads will experience very small increases in traffic. Operation and maintenance activities will have a nominal impact on local roads or other forms of transportation. Construction and operation of the Proposed Project will not have significant impacts on traffic or transportation. Implementation of APMs will further reduce less than significant impacts.

Table 4.14-1. CEQA Initial Study Checklist for Transportation and Traffic

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
TRANSPORTATION/TRAFFIC Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				X
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X

4.14.2. Existing Conditions

4.14.2.1. Regulatory Background

Federal

U.S. Department of Transportation

The U.S. DOT and Caltrans are the administering agencies for the following regulations:

- Title 49 CFR Sections 171 – 177, which govern the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of transportation vehicles.
- Title 49 CFR 350 – 399 and Appendices A through G, Federal Motor Carrier Safety Regulations, which address safety considerations for the transport of goods, materials, and substances over public highways.

Federal Aviation Administration

Title 14 CFR Part 77.9 describes the requirements for notifying the Federal Aviation Administration (FAA) of proposed structures based on a variety of factors such as structure height, proximity to an airport, location, and frequencies emitted from a proposed structure. Notice must be filed with the FAA at least 45 days prior to construction if:

- a structure will exceed 200ft above ground level
- a structure will be in proximity to an airport and will exceed the slope ratio
- a structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)

- a structure will emit frequencies, and does not meet the conditions of the FAA Colocation Policy
- a structure will be in an instrument approach area and might exceed part 77 Subpart C
- a proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- a structure will be on an airport or heliport

State

Caltrans owns the rights-of-way for the state highway system and is responsible for protecting the public and infrastructure. Caltrans is also the administrating agency for regulations related to traffic safety, including the licensing of drivers, transportation of hazardous and combustible materials, and the safe operation of vehicles. Caltrans also requires transportation permits for the movement of vehicles or loads exceeding the limitations on the size and weight contained in Division 15, Chapter 5, Article 1, Section 35551, of the California Vehicle Code. Due to the likelihood of heavy truck loads, the Proposed Project may require ministerial transportation permits from Caltrans.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." Accordingly, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to transportation and traffic. Although County and other local policies are provided below, they are provided for disclosure purposes only.

County of San Diego

SANDAG's 2050 San Diego Regional Transportation Plan was approved in 2011 and provides guidance for the establishment of a coordinated transportation system for the greater San Diego area. The plan is intended to connect and improve the regional transportation network of freeways, public transit, and roadways for both present and future residents.

Similarly, SANDAG's Congestion Management Program monitors the performance of the region's roadway transportation system, develops programs to address near- and long-term congestion, and better integrate transportation and land use planning. The County requires that roadways maintain target level of service consistent with those set forth in the Congestion Management Program.

The San Diego County General Plan Mobility Element (2011c) provides a framework for a balanced, multimodal transportation system for the movement of people and goods within the unincorporated areas of the County. The guiding principles focus on a central theme to support a multimodal transportation network that enhances connectivity and supports existing development

patterns while retaining community character and maintaining environmental sustainability by reducing gasoline consumption and greenhouse gas emissions.

Alpine Community Plan

The Mobility Element of the Alpine Community Plan (a component of the San Diego County General Plan) (County of San Diego 2011a) provides measures for improving the circulation system that will serve the general convenience and safety of citizens while enhancing beauty, quality, and atmosphere of the Alpine area. The following policies and recommendations are relevant to the Proposed Project:

- **Policy 1:** Support timely and adequate public notification and review of all proposed changes in the community circulation system.
- **Policy 3:** Encourage the consideration of all feasible alternatives for dealing with congested roads.
- **Policy 10:** Road design within the community shall minimize grading and also be compatible with the topography and landscape of the Alpine Area.

Central Mountain Subregional Plan

The Proposed Project site is west of the boundary of the Central Mountain Subregional Plan (a component of the San Diego County General Plan) but within several hundred feet of that Plan's coverage area. Therefore, given the Proposed Project site's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. The Mobility Element of the Central Mountain Subregional Plan (County of San Diego 2011b) provides measures for providing a transportation system that can accommodate various modes of travel; the harmonious integration of transportation modes; provision and use of public transportation, where appropriate; promotion of the natural beauty and rural atmosphere of the community; preservation of winding roads; and emergency access. The following policies are relevant to the Proposed Project:

- **Policy 2:** To preserve the rural atmosphere of the community and minimize urban improvements, such as vertical concrete berms, curbs, gutters, and sidewalks.
- **Policy 6:** Design roads to follow natural contours, avoid grid pattern streets, and minimize cuts and fills and the disturbance of natural rock outcroppings and trees, wherever possible.

4.14.2.2. Methodology

Transportation and traffic data for the Proposed Project were obtained primarily through relevant literature and Internet search. The Alpine Community Plan (2011a) and Central Mountain Subregional Plan (2011b) of the San Diego County General Plan, and SANDAG's 2050 Regional Transportation Plan (2011) and Congestion Management Program Update (2008) were reviewed. The local and regional roadways to the Proposed Project were analyzed using GIS.

4.14.3. Environmental Setting

The Proposed Project will be located in a primarily rural area southeast of the community of Alpine in San Diego County, California. A description of the roadways that will be utilized during the Proposed Project are described below.

Interstate 8 (I-8) is a major east-west regional transportation corridor located approximately 1.75 miles north of the Proposed Project area. It is a four-lane divided highway with a posted speed limit of 65 mph in the Proposed Project vicinity. I-8 will serve as the regional route to the Proposed Project area. Construction and operational vehicles will likely utilize the Japatul Valley Road exit from I-8 to access the Proposed Project. In the vicinity of the Proposed Project, I-8 meets the County's Congestion Management Program level of service (LOS) standards (SANDAG 2008). In the vicinity of Alpine, the average daily traffic for I-8 is 24,600 vehicles per day and operates at a LOS A, indicating that traffic can travel at a "free-flow" rate and is well below capacity. The County of San Diego's Congestion Management Program indicates a minimum threshold of LOS E. The LOS E capacity is 80,000 vehicles per day for I-8 (Caltrans 2013). The volume to capacity ratio is 0.31.

Local roads that serve the nearby communities and provide access to the Proposed Project site are limited. Within the vicinity of the Proposed Project area, Japatul Valley Road is a north-south rural light collector roadway that will provide access from I-8. Japatul Valley Road has average daily traffic of 3,250 vehicles per day and operates at a LOS B, indicating steady traffic. The LOS E capacity is 16,200 vehicles per day (CPUC 2008). The volume to capacity ratio is 0.2.

From Japatul Valley Road, construction vehicles and equipment will turn west onto Avenidas De Los Arboles, which becomes Bell Bluff Truck Trail. Avenida De Los Arboles and part of Bell Bluff Truck Trail are unclassified, local public streets within San Diego County jurisdiction and have a posted speed limit of 15 mph. SDG&E maintains Bell Bluff Truck Trail for its entire length. On the eastern end, Bell Bluff Truck Trail provides local access to several residences and trails. The western portion of Bell Bluff Truck Trail is closed to the public and owned by SDG&E and Dean R. and Deborah S. Wilson within their respective parcels. Near Suncrest Substation, SDG&E's substation driveway veers off to the southwest of Bell Bluff Truck Trail to provide access into the substation. Bell Bluff Truck Trail continues westward from this intersection and narrows to 12 feet in width. On the west side of SDG&E's existing 230 kV transmission line, Bell Bluff Truck Trail transitions from a maintained paved roadway back to a dirt/gravel road. Japatul Valley Road and Avenida De Los Arboles/Bell Bluff Truck Trail are not mentioned in the County's Congestion Management Program, San Diego Regional Transportation Plan, or the San Diego County General Plan Mobility Element.

No alternative transportation options, including bike paths, bus routes, or railways, are within the vicinity of the Proposed Project area. The nearest airport is On The Rocks Airport, approximately 4 miles south of the Proposed Project.

4.14.4. Applicant-Proposed Measures and Potential Impacts

4.14.4.1. Significance Criteria

Activities associated with construction of the Proposed Project will have the potential to affect existing traffic patterns or cause traffic delays due to the transport of equipment and materials to and from the Proposed Project area. Due to the nature of the proposed land use, traffic resulting from operation and maintenance activities of the Proposed Project will generate minimal effects on the existing circulation system, as typically a limited amount of vehicular activity (i.e., approximately one trip per month) will be required over the long-term. As a result, the following analysis of Proposed Project-related traffic impacts is generally focused on the construction phase.

According to Appendix G of the State CEQA Guidelines, impacts to transportation and traffic would be considered significant if the Proposed Project:

- Results in a conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system;
- Results in a conflict with an applicable congestion management program;
- Results in a change in air traffic patterns;
- Results in a substantial increase in hazards due to design feature or incompatible uses;
- Result in inadequate emergency access; and/or,
- Conflicts with adopted policies, plans, or programs supporting alternative transportation.

4.14.4.2. Applicant-Proposed Measures

No significant impacts to transportation systems or transportation-related policies as a result of construction of the Proposed Project will occur. The Proposed Project will not create significant air traffic or transportation-related hazards or result in a significant impact to emergency access. The Proposed Project will not cause an increase in traffic which is substantial in relation to existing traffic load and capacity. Nevertheless, NEET West will prepare a traffic control plan describing the measures to be taken to guide traffic (such as signs and workers directing traffic) when and where appropriate during the construction period. No traffic management plan will be needed for operation of the Proposed Project.

Table 4.14-2. Applicant Proposed Measures for Transportation and Traffic

APM No.	Description
	TRANSPORTATION AND TRAFFIC
APM TRA-1	**Preparation of a Traffic Control Plan. NEET West** will prepare a Traffic Control Plan to describe measures to be taken to guide traffic (such as signs and workers directing traffic), safeguard construction workers, provide safe passage, and minimize traffic impacts.

4.14.4.3. Potential Impacts

Impact TRA-1: The Proposed Project will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. (No Impact)

Construction of the Proposed Project will not result in a conflict with relevant circulation plans or policies establishing measures of effectiveness for the performance of the circulation system. No lanes of travel along Japatul Valley Road, Avenidas De Los Arboles, or I-8 are expected to be closed during construction. Except for Bell Bluff Truck Trail, construction activities will not be performed on or near regional or local roadways. On Bell Bluff Truck Trail construction activities will be limited to the private section of this roadway.

Underground transmission line installation and associated material/equipment staging activities will occur primarily within the approximately 30-foot-wide, 3,400-foot-long and 12-foot-wide, 1,600-foot-long paved portion of Bell Bluff Truck Trail. On the 30-foot-wide section of Bell Bluff Truck Trail, it is NEET West's intention to have construction work areas confined to only one side of the 30-foot-wide roadway to maintain an unobstructed access lane to the SDG&E Suncrest Substation and for emergency purposes. Between SDG&E's substation access road and the riser pole structure, Bell Bluff Truck Trail is approximately 12 feet wide and will be closed to traffic during underground construction in this segment. Because SDG&E has its own access driveway, access to Suncrest Substation and emergency access will not be impeded. NEET West will coordinate with SDG&E to ensure that appropriate water tank access along the 12-foot-wide portion of the road is maintained via either construction work plans or temporary piping if necessary.

Routine maintenance is expected to require approximately monthly trips by a two- to four-person crew.

No alternative modes of transportation such as rail, bus, or bicycle traffic or pedestrian circulation patterns will be altered or adversely affected by long-term operation and maintenance activities. No long-term operational impacts to traffic load or capacity will occur as a result of the Proposed Project. As such, no operational impacts will occur from the Proposed Project.

Impacts from construction and operation of the Proposed Project will not conflict with applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. As a result, impacts will be less than significant.

Impact TRA-2: The Proposed Project will not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. (Less than Significant)

Site Access and Routes

All construction vehicles and equipment will enter the Proposed Project area on Avenida De Los Arboles, which becomes Bell Bluff Truck Trail. Vehicles will turn west onto Avenida De Los Arboles/Bell Bluff Truck from Japatul Valley Road. Generally, traffic turning onto Avenida De Los Arboles from Japatul Valley Road consists of local residents or SDG&E workers/contractors. Although some disruption to traffic flow may occur when trucks ingress or egress from Japatul Valley Road, such events will be periodic and temporary. Signage and/or flagmen will be utilized to reduce potential disruptions to traffic flow and to maintain public safety during construction. Parking of worker vehicles will occur within the staging area adjacent to the SVC.

As noted in Impact TRA-1, the western portion of Bell Bluff Truck Trail will be partially closed during construction; however, this temporary road closure will not affect SDG&E's access, local residents, or emergency access to the Suncrest Substation. As truck traffic will occur on a County-maintained roadway, a County of San Diego Traffic Control Permit and traffic control plan may be required. Implementation of a traffic control plan required per APM TRA-1 will further reduce impacts to traffic congestion.

Vehicle Trips

The peak vehicle trips will be from approximately September 1, 2016, through October 1, 2016, during the earthwork and grading of the SVC due to the hauling away or importation of fill. Total vehicle trips during this time period will be approximately 118 per day, consisting of approximately 59 truck trips and 59 worker trips. Other periods of the project duration will have lower average worker vehicle trips and will therefore have correspondingly lower impacts to LOS.

Many workers will be reverse commuting, traveling away from metropolitan areas of San Diego County towards a rural one in the morning, and returning in the evening. Vehicle trips generated by construction personnel will generally occur with workers arriving at the site in the morning (approximately 6:00 a.m.) and leaving the site at the end of the day (approximately 7:00 p.m.), with limited worker-related trips to or from the worksite during the course of the day. To reduce the potential number of daily worker-related vehicle trips to and from the site, NEET West will encourage carpooling from their respective places of employment or a Park and Ride parking lot to the greatest extent possible.

Effects on Road Levels of Service

The increase of 59 truck trips and 59 worker trips will increase average daily traffic on Japatul Valley Road to 3,368, within the existing LOS B.

The increase of 59 truck trips and 59 worker trips will increase average daily traffic on I-8 to approximately 24,718 vehicles, and will still be within LOS A.

The associated increase in traffic will have a minimal impact to average daily traffic on Japatul Valley Road and I-8, and will not cause a decrease in LOS.

The above worker trip analysis conservatively assumes the worst-case scenario of all workers commuting in their personal vehicles to the Proposed Project area, which is unlikely. Workers often car-pool in contractor-owned medium-sized trucks from their respective office locations and/or meeting points.

Moreover, the above truck trip analysis corresponds to site earthwork and grading, which consists of approximately 60 dump truck trips per day, well above the average of eight truck trips per day for the construction period overall. A majority of the equipment at the site will be non-commuting, stationed at the Proposed Project area for the duration of their use. Therefore, other periods of the project duration will have lower average vehicle trips and will therefore have correspondingly lower impacts to LOS.

Conclusion

No deficient roadway segments occur within or will be utilized as part of the Proposed Project. Construction workers' daily transportation is not expected to cause a significant impact because Proposed Project-generated traffic will be minimal, short term, and periodic.

The increase in vehicle trips generated by the Proposed Project during construction will add an insignificant percentage of traffic to surrounding roadways and will not impact roadways that are classified as deficient in the County of San Diego Congestion Management Plan. Less than significant impacts to existing traffic load and capacity will occur during the construction of the Proposed Project.

Impacts from construction and operation of the Proposed Project will not conflict with applicable congestion management program or other established standards. Impacts will be less than significant, and APM TRA-1 (Preparation of a Traffic Control Plan) will further minimize impacts.

Impact TRA-3: The Proposed Project will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. (No Impact)

No helicopter use is proposed for construction of the Proposed Project. Because no aircraft will be required for the Proposed Project, no changes to air traffic patterns will be required to accommodate construction. Additionally, the FAA's online Notice Criteria Tool was utilized to determine if FAA notification was required per CFR Title 14 Part 77.9. Results are presented in Appendix L and indicate that no FAA notification would be triggered. Thus, there will be no impact.

Impact TRA-4: The Proposed Project will not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (No Impact)

No substantial increase in traffic hazards are anticipated from the Proposed Project due to a design feature or incompatible use. Large construction trucks at local intersections will present only temporary, limited-duration changes to driving conditions, as the trucks travel back and

forth to the construction site. The SVC site is not accessible from a public roadway. Thus, there will be no impact.

Impact TRA-5: The Proposed Project will not result in inadequate emergency access. (No Impact)

No construction is proposed on the portion of Bell Bluff Truck Trail east of the proposed SVC site. As such, emergency vehicles will have full use of the 30-foot-wide paved roadway if an emergency were to occur. From the SVC heading westward, the underground transmission line will be installed within Bell Bluff Truck Trail and associated material/equipment staging activities will also be necessary within the roadway. On the 30-foot-wide section of Bell Bluff Truck Trail, it is NEET West's intention to have construction work areas confined to only one side of the 30-foot-wide roadway to maintain an unobstructed access lane to the SDG&E Suncrest Substation and for emergency purposes. Between SDG&E's substation access road and the riser pole structure, Bell Bluff Truck Trail is approximately 12 feet wide and will be closed to traffic during underground construction in this segment. Because SDG&E has its own access driveway, access to Suncrest Substation and emergency access will not be impeded. NEET West will coordinate with SDG&E to ensure that appropriate water tank access along the 12-foot-wide portion of the road is maintained via either construction work plans or temporary piping if necessary. Flaggers or other traffic control measures will be utilized to guide traffic around active work areas in a safe manner. NEET West will also coordinate with SDG&E in the development of the Traffic Control Plan to ensure that access to the Suncrest Substation is not impeded during construction.

No residences or businesses are located past the Proposed Project work area and thus emergency vehicles are rarely, if ever, needed in this location. If access to areas past the partial Bell Bluff Truck Trail closure is required, emergency vehicles will be able to pass without delay. No LOS impacts are anticipated on roadways in the Proposed Project vicinity. As a result, no impact to emergency access will occur from the implementation of the Proposed Project.

Impact TRA-6: The Proposed Project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (No Impact)

The Proposed Project is located in a rural area and will not involve any activities that will conflict with alternative transportation policies, plans, or programs, including bus transportation in the area. No public transit, bicycle, or pedestrian facilities will be affected. Thus, there will be no impact.

4.14.5. References

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4.15. UTILITIES AND SERVICE SYSTEMS

4.15.1. Introduction

This section of the PEA addresses the environmental and regulatory settings and potential impacts related to utilities and service systems associated with the construction, operation, and maintenance of the Proposed Project. The analysis determined that impacts will be less than significant. Implementation of the APMs described in Section 4.15.4.2 will ensure that impacts will remain less than significant.

Table 4.15-1. CEQA Initial Study Checklist for Utilities and Service Systems

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	

Description	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS Would the project:				
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

4.15.2. Existing Conditions

4.15.2.1. Regulatory Background

Federal, state, and local laws and policies govern water supply, wastewater treatment and water quality protection, and solid waste management. Water supply laws and policies pertain to supply planning and conservation. Water quality requirements determine the type of wastewater collection and treatment facilities needed to manage pollution. Solid waste laws and policies include recycling requirements. Highlights of the applicable requirements are summarized below.

Federal

The Proposed Project is located on private land within the administrative boundary of the CNF. While the Proposed Project is not subject to the policies or requirements of the CNF Land Management Plan, the CNF is a nearby landholder and, as such, the Proposed Project has considered relevant elements of the plan during the design of the Proposed Project.

Water and Wastewater

The Clean Water Act[1] is the primary federal legislation that addresses water quality, pollution, and protection of the chemical, physical, and biological integrity of most waters in the United States. The Clean Water Act prohibits the discharge of pollutants to navigable waters of the United States from a point source, unless the discharger has a NPDES permit. The EPA has delegated certain authority to the State of California. Section 4.8, Hydrology and Water Quality, provides additional detail on the federal Clean Water Act and the authority delegated to California agencies, i.e., the SWRCB and RWQCBs.

[1] The Clean Water Act is codified at United States Code (U.S.C.), Title 33, Section 1251, et seq.

The NPDES Stormwater Program's Phase II regulations contain permitting requirements for small municipal separate storm drain systems, construction sites of 1 to 5 acres (such as the Proposed Project), and certain industrial facilities. The SWRCB issued the General Construction Storm Water Permit in 2009 (Order 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-006-DWQ), as described further in Section 4.8, Hydrology and Water Quality. To comply with this permit, a project developer must develop a Stormwater Pollution Prevention Plan (SWPPP), including characterization of potential pollutants, and Best Management Practices (BMPs) to reduce or eliminate the pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology Economically Achievable (BAT)/Best Conventional Pollutant Control Technology (BCT) standard.

The federal Occupational Safety and Health Administration (OSHA) sets certain standards for health and safety at construction work sites. OSHA requires one portable toilet for every 20 workers or less, and one portable toilet and one urinal for every 40 workers, where there are between 20 and 199 workers.[2]

State

Water Quality

The Porter-Cologne Water Quality Control Act provides authority to the SWRCB regarding certain aspects of water pollution and wastewater treatment. The SWRCB has delegated certain authority to the RWQCBs to issue and enforce NPDES permits. In addition, the SWRCB develops water quality standards and performs other functions to protect California's waters. The RWQCBs carry out the SWRCB regulations and standards, and the RWQCBs issue and enforce permits. The SDRWQCB also implements the Water Quality Control Plan for the San Diego Basin (Basin Plan).

The SDRWQCB's Basin Plan covers most of San Diego County and portions of Orange and Riverside counties. The Basin Plan defines and establishes "beneficial uses" for surface and ground waters, sets narrative and numerical water quality objectives, sets forth implementation programs to protect the beneficial uses, and provides monitoring activities to evaluate the Basin Plan effectiveness. The SDRWQCB regulates waste discharge and reclaimed water use of ground and surface waters. Section 4.8, Hydrology and Water Quality, provides additional detail.

[2] 29 Code of Federal Regulations 1926.51(c)(1), available at: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10624, accessed April 15, 2015.

Wastewater and Solid Waste

The California Occupational Safety and Health Division requires a minimum of one separate toilet facility for every 20 construction workers, or fraction thereof, of each sex. Both toilets and urinals count as toilet facilities, but toilets need to be at least half of the total.[3]

Regarding water supply, statutory provisions adopted through SB 610 (2002) require land use planning entities, such as San Diego County, to request an assessment of the availability of water supplies from the water supply entity that will provide water to a project. Such assessments must look over a 20-year time period that includes normal, single-dry, and multiple-dry years. This requirement is applicable when evaluating large development and redevelopment projects,[4] and does not apply to the Proposed Project.

The California state government has taken a number of actions to address the ongoing extreme drought, which in early 2015 is in its fourth year. On April 1, 2015, Governor Jerry Brown issued the fourth in a series of Executive Orders to meet the challenge of the drought. The Governor's Executive Order B-29-15 directs the SWRCB to impose restrictions on water suppliers to achieve a statewide 25% reduction in potable urban usage through February 28, 2016, and to require commercial, industrial, and institutional users to implement water efficiency measures (Governor Brown 2015). SWRCB adopted emergency regulations in conformance with the Governor's directive on May 5, 2015. As part of the regulations, the SWRCB imposed a prohibition on irrigation with potable water of ornamental turf in public street medians and irrigation with potable water outside newly constructed homes and buildings that is not delivered by drip or micro-spray systems.

Turning to solid waste, the California Integrated Waste Management Act of 1989 (PRC Section 40050 et seq.) requires cities to adopt an integrated waste management plan, implement a program to reduce the amount of waste disposed, and have waste diversion performance periodically reviewed by the Integrated Waste Management Board. Cities were required to reduce the amount of waste sent to landfill by 50% by the year 2000. Beyond 2000, local governments have continued to strive to reduce solid waste streams in order to conserve on landfill capacity and reduce the environmental impacts of solid waste disposal.

California's Commercial Recycling Bill (AB 341) went into effect July 1, 2012, and set a recycling goal of 75 percent diversion by 2020. The bill is intended to reduce GHG emissions by diverting recyclable materials and to expand the opportunity for increased economic activity and green industry job creation.

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[3] California Code of Regulations, Title 8, Section 1526(a), Toilets at Construction Jobsites (providing, "A minimum of one separate toilet facility shall be provided for each 20 employees or fraction thereof of each sex. Such facilities may include both toilets and urinals provided that the number of toilets shall not be less than one half of the minimum required number of facilities.").

[4] Under SB 610, large projects are defined as: 1) a project creating the equivalent demand of 500 residential units; 2) a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space; or 3) a commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration local land use plans and policies, as well as local land use priorities and concerns as described in the sections that follow.

Water, Wastewater, and Solid Waste

San Diego County General Plan

The Implementation Plan for the San Diego County General Plan contains the following selected policy goals relating to water and wastewater facilities and solid waste (County of San Diego 2013, pp. 13-14).

- **Goal 2.4.1.B, Infrastructure Concurrent with Need:** Implement Board Policy I-84, Project Facility Availability and Commitment for Public Sewer, Water, School, and Fire Services, concerning the phasing of infrastructure with new development to ensure that adequate infrastructure and facilities are available concurrent with need before giving final approval to projects requiring discretionary approval.
- **Goal 2.4.1.D, Privately-Initiated Facilities:** Perform CEQA review on privately-initiated water and wastewater facilities to determine if the water or wastewater provider for the project area has adequate capacity to service the project's projected demand in addition to the provider's existing commitments.
- **Goal 2.4.3.A, Long Range Wastewater Facility Plans:** Ensure County planning staff participation in the review of wastewater facility long range and capital improvement plans. Conduct continued coordination with water and sewer districts to ensure their plans are consistent with the General Plan land use map.
- **Goal 2.4.3.B, Wastewater Facilities for New Development:** Revise Board Policy I-78, Small Wastewater Treatment Facilities, to include additional criteria and regulatory requirements restricting the location of small wastewater treatment facilities.
- **Goal 2.5.1.C, Recycling Program:** Implement and expand County-wide recycling and composting programs for residents and businesses. Require commercial and industrial recycling. County Department of Public Works implements a diverse solid waste management program to manage the local solid waste stream in the unincorporated County to meet waste diversion requirements under the Integrated Waste Management Act and enforces mandatory recycling ordinances of the County Code of Regulatory Ordinance Title 6, Division 8, Chapter 5.
- **Goal 2.5.1.E, Recycling in Construction:** Encourage the County and private contractors and developers to practice deconstruction and recycling of construction, demolition and land clearing debris.

Alpine Community Plan

The Alpine Community Plan stems from the San Diego County General Plan, applying and elaborating the goals and policies of the County General Plan to fit the specific community planning area. Selected and potentially relevant public facilities and services policies and recommendations are provided below (County of San Diego 2011c, p. 28).

- **Policies and Recommendations 1:** Any extensions of facilities and services to new developments should be borne by new developments so as to not affect the cost or quality of services to the community.
- **Policies and Recommendations 4:** Local agencies shall conform to the Plan, and not extend service boundaries to create pockets of urbanized land uses.
- **Policies and Recommendations 5:** Water conservation measures are strongly encouraged for both public and private developments.
- **Policies and Recommendations 6:** Whenever possible, developments shall use dual water systems for the purpose of using reclaimed water for irrigation.

Central Mountain Subregional Plan

The Proposed Project is west of the boundary of the Central Mountain Subregional Plan, but within several hundred feet of that Plan's coverage area. Therefore, given the Proposed Project's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. Similar to the Alpine Community Plan, the Central Mountain Subregional Plan stems from the San Diego County General Plan, applying and elaborating the goals and policies of the County General Plan to fit the specific community planning area. Selected and potentially relevant goal and policy language is provided below (County of San Diego 2011d, pp. 99, 105 [capitalization altered]).

Water Supply and Service

- **Goal 1:** Adequate long-term water supply for residents and visitors to the subregion by through the conservation and efficient utilization of all water resources.
- **Policy 2:** Projects that would adversely impact groundwater supply should not be permitted, or should be fully mitigated if allowed.

Waste Disposal and Management

- **Goal 3:** The conservation of resources by reducing the volume of waste generated in the Central Mountain Subregion.

San Diego County Construction and Debris Ordinance

Under the County's Construction and Debris Ordinance, as a condition of approval for a building permit, all applicable projects must submit a Debris Management Plan and a Performance Guarantee, maintain a Daily Log on-site, recover and recycle construction and demolition waste, and may apply for a refund by submitting a Final Debris Management Plan (San Diego County Board of Supervisors 2007).

4.15.2.2. Methodology

Existing utility and service systems that may be affected by construction and operation of the Proposed Project include cable and telephone, electricity and natural gas, water supply, stormwater management, sewer and wastewater treatment, and garbage and recycling. Utilities and service system conditions and policies relevant to the Proposed Project were evaluated through review of following available resources: San Diego County General Plan (2011a), San Diego County General Plan Implementation Plan (2013), San Diego County General Plan Environmental Impact Report (2011b), Alpine Community Plan (2011c), Central Mountain Subregional Plan (2011d), San Diego County Initial Study Research Tool (2015b), the California Department of Resources Recycling and Recovery (CalRecycle) web site, and others.

4.15.3. Environmental Setting

4.15.3.1. Utility Services

Water

The closest water purveyor is the Padre Dam Municipal Water District (PDMWD). PDMWD provides water service to portions of the unincorporated communities of Alpine, Crest/Dehesa, and Lakeside[5] (County of San Diego 2011b, p. 2-16-8). Another nearby water supplier is the Descanso Community Water District. Water may also be obtained from the San Diego County Water Authority (SDCWA) from Barrett Lake, Morena Reservoir, El Capitan Reservoir (all three owned by the City of San Diego), and/or Loveland Reservoir (owned by Sweetwater Authority).[6]

In addition to PDMWD, in the semi-rural area surrounding the Proposed Project site, houses and farms may depend on groundwater. There are no designated groundwater basins located within the Proposed Project environs. Surface waters in the vicinity of the Proposed Project drain to the Sweetwater Valley groundwater basin located near the confluence with San Diego Bay.

According to a geotechnical investigation for the nearby SDG&E Suncrest Substation, groundwater was encountered at depths from 44, 56, and 60 feet below ground surface (bgs) (URS 2009). Groundwater was found at approximately 8 to 12 feet bgs in one location; however, this was attributed to shallow subsurface flow or water in fractured rock.

There is a 4-inch-diameter water line that currently runs underneath Bell Bluff Truck Trail and parallel to the proposed underground transmission line.

[5] San Diego County General Plan EIR, 2011, p. 2-16-8 ("PDMWD covers 54,400 acres and has approximately 21,454 connections. PDMWD has approximately 353 miles of pipelines, 26 potable water reservoirs, one recycled water reservoir, and 16 lift stations. One hundred percent of PDMWD's water supply is imported from SDCWA.").

[6] CPUC, 2008. Sunrise Powerlink Project Final EIR/EIS (Modified Route D Alternative), p. E.4.14-8 (regarding Central East Substation.).

Wastewater and Stormwater

Sanitary sewer lines do not extend to the Proposed Project (County of San Diego 2015b). The Proposed Project will be located in a semi-rural area, and residences and farms use septic tanks. There are drainage ditches and culverts for stormwater conveyance alongside and under Bell Bluff Truck Trail.

Solid Waste

In San Diego County, there are three large landfills—Miramar, Sycamore, and Otay. The City of San Diego operates Miramar. The company Republic (locally known as Allied) operates the other two. Remaining capacities in cubic yards of these landfills and the smaller Borrego Springs landfill are as follows (CalRecycle 2015):

- Otay Landfill, remaining capacity of 24,514,904 cubic yards as of 2012;
- West Miramar Landfill, remaining capacity of 15,527,878 cubic yards as of 2014;
- Sycamore, remaining capacity 42,246,551 cubic yards as of 2011; and,
- Borrego Landfill remaining capacity of 478,836 cubic yards as of 2009.

Electric

SDG&E provides electrical service to the Proposed Project site. A 12 kV distribution electric line runs under Bell Bluff Truck Trail. It was built as part of the Sunrise Powerlink to serve the needs of the Suncrest Substation and its construction. The Proposed Project's 12 kV distribution feed will connect to this existing 12 kV service line under Bell Bluff Truck Trail. NEET West has requested this underground distribution service from SDG&E.

In addition to the nearby Sunrise Powerlink transmission lines, there are overhead electric distribution lines serving residences in the vicinity of the Proposed Project.

Natural Gas

SDG&E provides natural gas service to the areas surrounding the Proposed Project.

Telecommunications

AT&T fiber optic telecommunications lines run under Bell Bluff Truck Trail.

4.15.4. Applicant-Proposed Measures and Potential Impacts

4.15.4.1. Significance Criteria

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the Proposed Project would result in a significant impact to utilities and service systems. Implementation of the Proposed Project and Proposed Project variants would have a significant effect on utilities and service systems if the Proposed Project would:

- Exceed wastewater treatment requirements of the applicable RWQCB;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Not have sufficient water supplies available to serve the Proposed Project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the Proposed Project that it does not have adequate capacity to serve the Proposed Project's projected demand in addition to the provider's existing commitments;
- Not be served by a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs; or,
- Not comply with federal, state, and local statutes and regulations related to solid waste.

In addition to the State CEQA Guidelines Appendix G criteria, the Proposed Project would have significant adverse impacts to utilities and service systems if it resulted in the disruption of existing utility systems.

4.15.4.2. Applicant-Proposed Measures

The APMs described in Table 4.15-2 are intended to avoid or minimize potential impacts to utilities and service systems (UT) to ensure impacts remain less than significant.

Table 4.15-2. Applicant Proposed Measures for Utilities and Service Systems

APM No.	Description
	UTILITIES AND SERVICE SYSTEMS
APM UT-1	**Use of Reclaimed Water.** To the extent feasible, NEET West will utilize reclaimed water from the Padre Dam Municipal Water District's Reclaimed Water Facility. If needed, NEET West will coordinate with other water suppliers, including the Descanso Community Water District, the San Diego County Water Authority, and possibly other local water districts within 30 miles, in attempt to acquire reclaimed water for delivery to the construction site, if available at a reasonable cost, and to meet any restrictions imposed by the water supplier(s). If a reclaimed source is unavailable prior to construction, the nearby non-potable water supply at the Wilson's ponds will be utilized to reduce the air quality emissions and traffic impacts associated with hauling water to the Proposed Project site.
APM UT-2	**Recycle Construction Waste.** In accordance with the San Diego County Construction and Demolition Debris Ordinance, NEET West and/or its construction contractor will recycle a minimum of 90 percent of inerts and 70 percent of all other materials, and submit all applicable plans and documentation to the appropriate agency(ies).
APM UT-3	**Coordination with Existing Utilities.** NEET West will coordinate with all utility providers with facilities located within or adjacent to the Proposed Project to ensure that the design does not conflict with other utilities. No subsurface work will be conducted that would conflict with a buried utility. In the event of a conflict, the project will be realigned vertically and/or horizontally as appropriate to avoid utilities and provide adequate operational and safety buffering. Underground Service Alert will be notified a minimum of 48 hours in advance of excavation in any location.

4.15.4.3. Potential Impacts

Water

Impact UT-1: The Proposed Project will not require or result in the construction of new water facilities or in the expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

Construction

Water Use

Over the course of the construction schedule, approximately 2,600,000 gallons (approximately 8 acre-feet) of water will be required on-site for sawcutting of pavement, dust control, fire suppression, concrete washout, and other construction activities. Of that total, approximately 2,050,000 gallons of water will be needed over the entire construction period for building the SVC and underground transmission line. The remaining approximately 500,000 gallons will be for the modifications within the Suncrest Substation (to be performed by SDG&E).

Water usage will vary based on the construction phases, but the average will be approximately 13,100 gallons per day for the entire Proposed Project for the approximate construction duration of 196 days (actual work days). This quantity can be hauled easily by truck. As an example, for construction of the underground transmission line, about 3,800 gpd will be used for 100 days for the trenching work (including grinding and possible blasting). For this same activity, about 1,400 gpd will be used for dust control, and roughly 150 gpd for fire suppression reserve.

To illustrate water use for construction of the SVC, building foundations will take about 50 days. For this activity, approximately 6,700 gallons of water will be needed for the foundation work, about 600 gpd will be used for dust control, and roughly 150 gpd for fire suppression reserve. This construction phase for the SVC will have the highest water usage.

Water Supplies

Potential water supplies include primarily non-potable and recycled water sources. In an effort to minimize the use of potable water in drought conditions, a recycled water source has been identified at Padre Dam Municipal Water District's (PDMWD) Water Recycling Facility (PDMWD 2015), located 19 miles to the west of the Proposed Project. A water services agreement is currently being negotiated with PDMWD. NEET West is also coordinating with the owner of the SVC property to provide an on-site water source in the event that reclaimed water sources are unavailable prior to construction. An on-site source would reduce the number of truck trips required to and from the site to deliver water. Existing PVC piping is already in place between the property owner's storage ponds and a water tank at the SVC site as the water is currently being used by SDG&E for restoration purposes. Assuming the more conservative scenario that water will have to be hauled from an off-site location such as PDMWD's Water Recycling Facility, truck trips will average approximately three trucks per day. During below grade construction, it is estimated that a peak of six trucks per day will be required, and during above grade construction approximately one truck per day will be required. Construction crews will be responsible for providing their own drinking water during construction.

The Proposed Project's 2.6 million gallon (8 acre-feet) need over the course of the construction period will only require a comparatively small fraction of water supplies. PDMWD's Water Recycling Facility alone produces approximately 2 million gallons of recycled water per day. The average use by the Proposed Project during construction will be 13,100 gallons per day. Because the PDMWD source is reclaimed water, it will not change the ability of the water suppliers identified to serve their customers, or substantially deplete local or regional groundwater supplies.

If the secondary source of water is used, i.e., from the ponds of the owner of the SVC property, that source will also not change the ability of the water suppliers identified to serve their customers, or substantially deplete local or regional groundwater supplies. The ponds are fed by rainwater, and SDG&E successfully used the same source during construction of the Sunrise Powerlink. For comparison, the ponds have an annual availability of 40 acre-feet per year, and during the two year Sunrise Powerlink construction period, SDG&E used 32 acre-feet per year. The Proposed Project's need during construction will be 8 acre-feet over less than one year.

As another comparison, for SDG&E's CNF MSUP Project, SDG&E estimates that approximately 5 to 10 million gallons of water per year would be required for construction over an approximate 5-year period. SDG&E intends to rely on a variety of water sources, both commercial and private, focusing on local water supplies, which would frequently be groundwater (CPUC and USFS 2015). During operation and maintenance of the transmission lines, SDG&E estimates long-term water usage to be 130,000 gallons per year to be purchased from local sources.[7] To mitigate its water usage, SDG&E's APMs include documentation of purchased water sources and professional groundwater evaluation of off-site sources. The FEIR/EIS concludes that these measures reduce the impact to less than significant.

The CPUC and USFS concluded that SDG&E's CNF MSUP Project's impacts to water supply would be temporary and reduced by implementing the mitigation measures for the identification of sufficient water supply prior to construction and studying groundwater withdrawal, so as not to impact groundwater resources. Therefore, the CPUC and USFS found that SDG&E's project's contribution to cumulative impacts to water supply would be less than cumulatively considerable, in the context of similar construction practices anticipated for other cumulative projects.[8] In addition, the CPUC and USFS found that the relatively small amount of water used for operation and maintenance would not affect area water supplies and, therefore, would be less than significant. The Proposed Project's water use will be less than that forecasted for SDG&E's CNF MSUP Project.

For the above reasons, the Proposed Project will not require or result in the construction of new water facilities or in the expansion of existing facilities, the construction of which could cause significant environmental effects. The Proposed Project's construction impact with respect to water facilities will be less than significant. In addition, the Proposed Project's effect on water supplies will be small and less than significant.

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[7] CPUC and USFS. 2015. pp. D.4-130, D.9-38 to D.9-40.

[8] CPUC and USFS. 2015. p. F-31.

Operations and Maintenance

Following construction and during the restoration period, it is estimated that approximately 9,200 gallons of water per year will be required for equipment washing, maintenance activities, and to facilitate restoration of temporarily impacted areas for each: SVC, laydown, and underground transmission areas. Assuming up to 5 years of restoration, the estimated total water use for restoration is approximately 46,000 gallons.

This water will be obtained from a nearby water source and/or trucked in, as described above. Because the SVC and transmission line are electrical, equipment fires, should they occur, will be managed with chemical extinguishers or other non-water methods. Vegetation fires will be addressed with trucked in water or with emergency firefighting water reserves in the water tank next to the SVC location or the water tank on SDG&E property next to the Suncrest Substation.

For the above reasons, the Proposed Project will not require or result in the construction of new water facilities or in the expansion of existing facilities, the construction of which could cause significant environmental effects. The Proposed Project's operational impact with respect to water facilities and overall effect on water supplies will be less than significant.

Wastewater and Stormwater

Impact UT-2: The Proposed Project will not exceed the wastewater treatment requirements of the San Diego Regional Water Quality Control Board. (Less than Significant)

Impact UT-3: The Proposed Project will not require or result in the construction of new wastewater facilities or in the expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

Impact UT-4 The Proposed Project will not result in a determination by the wastewater treatment provider which serves or may serve the Proposed Project that it does not have adequate capacity to serve the Proposed Project's projected demand in addition to the provider's existing commitments. (Less than Significant)

No new temporary or permanent sewer connections will be required for the Proposed Project. During construction, construction workers will use on-site portable toilets maintained by a licensed sanitation contractor. Portable toilets will be located at the staging area at the SVC facility. Portable toilets will be towed behind vehicles to the work locations for the underground transmission line right-of-way each morning and then taken off of the road each evening, and stored overnight at the SVC staging area.

Portable toilets will be used in accordance with applicable sanitation regulations established by the California Occupational Safety and Health division, which require a minimum of one separate toilet facility for each 20 employees, or fraction thereof, of each sex. The portable restroom facilities will not be connected to a municipal sewer system. The waste from these facilities will be taken away periodically by a licensed pumping service. The waste will be processed at a permitted wastewater treatment facility.

Due to the depth of the groundwater, construction of the Proposed Project is not expected to involve dewatering. However, if groundwater is encountered, dewatering may be necessary. Section 3.8.4.6 in the Project Description explains the steps that will be performed for dewatering. Groundwater will be pumped into mobile Baker tanks or filter bags to filter out sediment prior to discharge. Dewatering and water quality testing will be performed in accordance with the Proposed Project's SWPPP, and the project-specific sediment-waterbody risk level category, to ensure compliance with NPDES requirements. If water quality levels do not meet permit requirements, additional treatment or filtering may be required. If water needs to be hauled offsite for disposal, it will be disposed at an approved and permitted disposal site.

During operation, the SVC will be unstaffed. No built-in restrooms are required or necessary for the SVC, because there will be no permanent staff at the facility. There will be a monthly inspection of the SVC, an inspection of the underground transmission line every 6 to 8 months, and periodic maintenance of the equipment. Each of these inspection and maintenance activities will be conducted by a small crew of, at most, several workers. On-site portable toilets will be used, and the waste will be taken periodically by a licensed pumping service to a permitted wastewater treatment facility.

In conclusion, the volume of wastewater from construction and operation will be too small to cause an exceedance of wastewater treatment requirements, require a determination of lack of sufficient treatment capacity, or require new or expanded wastewater treatment facilities. Therefore, the Proposed Project will have a less than significant impact regarding these three significance criteria.

Impact UT-5 The Proposed Project will not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

During construction and operation, stormwater will be managed according to a SWPPP. The Proposed Project will also be designed to demonstrate compliance with Construction General Permit Post-Construction Standards. With the implementation of the SWPPP as well as APMs WQ-1 through APM WQ-3, AMP WQ-7, and APM WQ-8 (see Section 4.8, Hydrology and Water Quality), the Proposed Project will not result in a substantial increase in surface water or on- or off-site flooding.

Regarding containment around certain equipment within the SVC, each power transformer will have a containment basin to retain any potential oil spill. The basins will be designed to retain 100% of the oil in the transformer, plus the 25-year, 24-hour storm.

The Proposed Project will include a stormwater detention basin for the SVC site sized to capture runoff from the 85th percentile storm event and discharge it over a period of 48 hours. The stormwater basin will be located adjacent to the SVC. Other than the proposed stormwater basin and on-site piping, no new stormwater drainage facilities, e.g., pipes leading away from the SVC to a treatment facility, will be needed. See Section 4.8, Hydrology and Water Quality, for further discussion of the operation of the stormwater basin.

The environmental impacts of constructing the new stormwater basin are included in this PEA where impacts for the SVC site are discussed. All of those impacts are less than significant and will be further reduced through the APMs presented in this PEA.

Solid Waste

Impact UT-6 The Proposed Project will be served by one or more landfills with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal need, and the Proposed Project will comply with federal, state, and local statutes and regulations related to solid waste. (No Impact)

During construction, solid waste generated will be managed according to the San Diego County Construction and Debris Ordinance, which requires recycling of 90% of inerts and 70% of other materials. The Proposed Project will also comply with all applicable statutes and regulations related to solid waste.

Construction activities are expected to produce 30 cubic yards of solid waste per week on average, and a peak of 60 cubic yards per week.

Spoils (dirt and rock, etc.) resulting from SVC grading and excavation work will be approximately 21,000 cubic yards, of which 17,000 cubic yards will be re-used on-site, leaving 4,000 cubic yards to be hauled away. Spoils from excavating the trench for the underground transmission line will be 3,000 cubic yards.

During operation, the Proposed Project will not generate substantial amounts of solid waste. The likely types of solid waste are packaging for replacement parts, used cleaning materials, and used parts. It is estimated that roughly 5 cubic yards of solid waste will be generated on a yearly basis.

As described in Section 4.15.3., Environmental Setting, landfills in San Diego County have substantial remaining permitted capacity. They will be able to accommodate the solid waste from the Proposed Project. As a result, there will be no impact to solid waste disposal facilities.

Other Utilities

Electric

The Proposed Project will be part of the electric transmission grid and tap into the existing 12 kV electric distribution line installed by SDG&E under Bell Bluff Truck Trail for SVC station power. An approximate maximum demand will be in the range of 200-750 kilowatts as a continuous average demand while in operation or 1,700-6,600 megawatt hours annually. No additional electrical facilities that might have significant adverse impacts will be needed.

One of the purposes of the Proposed Project is to enhance transmission grid reliability and increase the deliverability of renewable power to customers.

Natural Gas

The Proposed Project will not use natural gas. Therefore, no additional natural gas facilities that might have significant adverse impacts will be needed.

Telecommunications

The Proposed Project will include installation of a telecommunications cable alongside the underground transmission line. The construction of this cable is taken into account in the environmental analysis in this PEA, and no additional telecommunications facilities that might have significant adverse impacts will be needed.

Underground Utilities

Impact UT-7 The Proposed Project will not have significant adverse impacts to utilities and service systems, by disrupting existing utility systems. (Less than Significant)

During grading and excavation work, there is the potential to encounter and disrupt existing underground utilities. There are utilities as described in Section 4.15.3, Environmental Setting, under Bell Bluff Truck Trail: a 12 kV electric distribution line, a 4-inch water line, AT&T telecomnuications fiber optic cables, and stormwater cross culverts. Bell Bluff Truck Trail was recently constructed around 2012 and as-built construction drawings have been provided by SDG&E to inform the design of the Proposed Project. As a result, NEET West does not anticipate many utility conflicts within Bell Bluff Truck Trail. This situation is unlike a public franchise road with historical utilities that are not listed on as-built drawings or for which no such drawings can be found.

Under APM UT-3, NEET West will coordinate with all utility providers with facilities located within or adjacent to the Proposed Project site to ensure that design does not conflict with other utilities, either underground or overhead. Underground Service Alert will be notified a minimum of 48 hours in advance of construction in any location. By coordinating with other utilities and checking with Underground Service Alert, NEET West can arrange to either avoid existing utilities or work with utility owners to move existing utilities.

If underground utility lines under Bell Bluff Truck Trail or other locations need to be moved, the construction will be within the already evaluated Proposed Project footprint, or if additional impacts outside of previously surveyed areas are required, pre-construction surveys will be conducted and appropriate authorizations from the CPUC will be coordinated in advance of the utility relocation work.

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4.16. CUMULATIVE ANALYSIS

4.16.1. Introduction

This section identifies and evaluates whether the construction and operation of the Proposed Project will cause cumulative impacts. As discussed in Chapter 2.0, Project Purpose and Need and Objectives, the Proposed Project is intended to: (a) provide voltage control and other electric transmission grid benefits, (b) support the provision of safe, reliable, and adequate electricity service in the greater San Diego and Los Angeles metropolitan areas, and (c) facilitate the importation and use of renewable electricity to fulfill California's energy policies and goals. This section supports the conclusion that implementation of the Proposed Project will not result in a significant cumulative environmental impact in any resource area considered under CEQA.

4.16.2. Significance Criteria

The State CEQA Guidelines, Section 15355, describes cumulative effects as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative effect is "the incremental effect of the project when added to other closely related past, present, and reasonably foreseeable probable future projects" (State CEQA Guidelines Section 15355(b)). A potential cumulative impact may be insignificant (i.e., "not cumulatively considerable"), if the Proposed Project complies with "the requirements of a previously approved plan or mitigation program (including, but not limited to, water quality plan, air quality attainment or maintenance plan, . . . habitat conservation plan, etc.) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located" (State CEQA Guidelines Section 15064(h)(1)). The State CEQA Guidelines also provide that, "the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable" (State CEQA Guidelines Section 15064(h)(4)).

4.16.3. Methodology

Under the State CEQA Guidelines, an environmental analysis may use the "list method" or the projections method. Because the Proposed Project is an infrastructure project, rather than a typical residential or commercial project, the projections method (i.e., using population growth and planning documents), is not applicable. Therefore, this PEA uses the list method.

Under the State CEQA Guidelines, when using the "list method," a cumulative analysis must look at past, present, and reasonably foreseeable, probable future projects (State CEQA Guidelines Section 15355(b)). Other important factors in deciding whether the Proposed Project may have cumulative effects with another project are: the location of project, the project type, and the environmental resource under analysis (State CEQA Guidelines Section 15130(b)(2)).

To identify reasonably foreseeable, probable future projects, the primary research method was Internet searches of local planning department and state agency websites. The websites of the

following organizations were reviewed and/or these agencies contacted regarding development projects:

- County of San Diego (for any type of development project)
- Cleveland National Forest
- CPUC (e.g., for transmission projects)
- CEC (e.g., for power plant projects)
- CAISO (for transmission projects)
- Caltrans (for road projects)

4.16.4. Timeframe of Analysis

For the purpose of cumulative impacts analysis, the relevant time periods for the Proposed Project are the durations of construction and operation. The duration of construction and testing is from September 2016 through May 2017, or approximately 9 months, with associated cleanup through mid-June 2017. The Proposed Project's operational life can be assumed as 40 years, as is typical for electric transmission facilities. For the purposes of this analysis, a project operational life from May 31, 2017, through 2057 is assumed.

4.16.5. Area of Analysis

For most environmental topics, projects within a radius of 1 mile around the Proposed Project (i.e., an oval shape) were reviewed in order to identify any projects that could cause a cumulatively considerable effect with the Proposed Project. A 1-mile radius is appropriate because the effects of the Proposed Project under most environmental topics are quite local and would be less than 1 mile.

For aesthetics, air quality, noise, and transportation, projects within a radius of 5 miles around the Proposed Project (i.e., an oval shape) were considered. A 5-mile radius arguably is not required for the assessment of these potential cumulative impacts, but in an abundance of caution, this distance was used. For certain other topics, projects outside the 1-mile radius but inside the 5-mile radius are also discussed.

4.16.6. Existing and Reasonably Foreseeable Probable Future Projects

4.16.6.1. One-Mile Radius

Table 4.16-1 lists past, present, and reasonably foreseeable, probable future projects within a radius of 1 mile around the Proposed Project, except for existing residential development. The primary project in the list is the existing Suncrest Substation, which was constructed as part of the Sunrise Powerlink. Because the Proposed Project will be in a semi-rural area, which is not undergoing growth, the list of projects within 1 mile is small.

Table 4.16-1. Past, Present, and Reasonably Foreseeable Projects within 1 Mile of the Proposed Project

Project	Approximate Location	Approximate Distance from the Proposed Project	Project Description	Project Status
Sunrise Powerlink Transmission Project, including Suncrest Substation	West and south of western terminus of Proposed Project; passes through Alpine.	0 miles and extending miles to the west and southeast	500 kV and 230 kV electric transmission lines; transmission level substation operating at 500 kV and 230 kV.	Completed in 2012
Cleveland National Forest: Invasive Weed Management	Throughout Trabuco, Palomar, and Descanso Ranger Districts.	The Invasive Weed Management project is forest-wide and could occur near the Proposed Project location.	Weed treatment for known infestation of certain invasive plant species. Weed removal efforts may include manual clearing and herbicides. A rapid response weed treatment protocol for new infestations will also be developed.	On-going

4.16.6.2. Five-Mile Radius

For the analysis of aesthetics, transportation, and air quality, Table 4.16-2 provides a list of projects within a radius of 5 miles around the Proposed Project, except for existing residential and commercial development, such as the community of Alpine, which is assumed in existing conditions (Table 4.16-2 includes the projects in Table 4.16-1).

Table 4.16-2. Past, Present, and Reasonably Foreseeable Projects within 5 Miles of the Proposed Project

Project	Approximate Location	Approximate Distance from the Proposed Project	Project Description	Project Status
Sunrise Powerlink Transmission Project, including Suncrest Substation	West and south of western terminus of Proposed Project; passes through Alpine.	0 miles and extending miles to the west and southeast	500 kV and 230 kV electric transmission lines; transmission level substation operating at 500 kV and 230 kV.	Completed in 2012
SDG&E Master Special Use Permit and Permit to Construct Power Line Replacement Projects	Distribution facilities proposed to be replaced are located within central San Diego County approximately 4.5 miles north of the U.S.-Mexico Border, 14 miles east of the city of El Cajon, in the vicinity of the unincorporated communities of Pauma Valley, Warner Springs,	Wood-to-steel conversion will occur approximately 2.64 miles east of the Proposed Project.	SDG&E is proposing to combine over 70 individual use permits and easements for electric facilities within the CNF into one Master Special Use Permit. In addition, certain electrical pole lines would be replaced. Replacement would primarily include fire hardening (wood-to steel pole replacement),	Final EIR/EIS issued June 2015.

Table 4.16-2. Past, Present, and Reasonably Foreseeable Projects within 5 Miles of the Proposed Project

Project	Approximate Location	Approximate Distance from the Proposed Project	Project Description	Project Status
	Santa Ysabel, Descanso, Pine Valley, Alpine, and Campo.		relocation, and undergrounding.	
Alpine Community Defense (fire prevention and management)	From Anderson Truck Trail towards I-8; from Viejas Creek Trail eastward into eastern Alpine; and around the Carveacre community and access road.	The nearest location to the Proposed Project is approximately 2.34 miles east near Viejas Creek Trail.	The Descanso Ranger District proposes fuel treatments in the vicinity of Alpine to reduce vegetation levels and mitigate the potential effects of wildfire.	Under NEPA analysis
Greater Alpine Community Defense Fuels Treatment on Non-Federal Lands (fire prevention and management)	The treatment areas in which fire breaks are proposed are located in the Carveacre, Japatul Valley, Rancho Nuevo, and Viejas Creek neighborhoods.	Although the exact fire break locations are unknown, the Japatul Valley neighborhood is approximately 1.5 miles east of the Proposed Project.	The Proposed Project involves constructing fuel breaks on private lands to reduce the risk to life, property, and resource values from an unusually severe wildland fire event in the greater Alpine area and improve fire suppression effectiveness and safety.	Under NEPA analysis
CNF: Forest-Wide Unauthorized Route Decommissioning	Throughout Trabuco, Palomar, and Descanso Ranger Districts	The unauthorized routes will be determined during the NEPA process.	The USFS proposes to decommission unauthorized routes that have the greatest resources impacts.	Under NEPA analysis
CNF: Invasive Weed Management	Throughout Trabuco, Palomar, and Descanso Ranger Districts	The project is forest-wide and could occur at the Proposed Project location.	Weed treatment for known infestation of certain invasive plant species. Weed removal efforts may include herbicides. A rapid response weed treatment protocol for new infestations will also be developed.	On-going
Pavement Rehabilitation and Maintenance	Along I-8 from Dunbar Lane to Willow Road	3.35 miles to the northeast of the Proposed Project location.	Pavement rehabilitation.	On-going; completion anticipated in Spring 2016
AT&T Master Permit Renewal for Telephone Lines	Throughout Trabuco, Palomar, and Descanso Ranger Districts	Unknown	To renew AT&T's authorization on the CNF. The project would renew one master permit with 135 amendments, one 50-year right-of-way, one telephone booth, and one access on a private road to telephone facilities.	Developing proposal

4.16.6.3. Discussion of Selected Projects

Of the projects in Tables 4.16-1 and 4.16.2, the following projects are relevant to the cumulative analysis and deserve further description, due to: (a) the location of project or the project type, in the context of one or more environmental topic(s), and/or (b) the location of the project and the project's construction period, which may overlap with the Proposed Project's construction timeline. Therefore, additional information is provided on the nature, construction schedule, and status of these projects.

SDG&E Sunrise Powerlink Transmission Project

SDG&E's Sunrise Powerlink Transmission Project exists at the western end of the Proposed Project. SDG&E's Suncrest Substation is part of the Sunrise Powerlink, and includes the existing 500/230 kV SDG&E Suncrest Substation and voltages on the Sunrise Powerlink from 500 kV to 230 kV. The Sunrise Powerlink Transmission Project became operational in 2012.

The Suncrest Substation has been designed to accommodate one future 500 kV line and four future 230 kV lines; however, these are not reasonably foreseeable, because there are no publicly-available applications or approvals for such expansions revealed through research. Other than construction for the Proposed Project, there is no reasonably foreseeable plan for any construction at the Suncrest Substation during the Proposed Project's construction period.

Regarding the location of the Sunrise Powerlink in regards to the Proposed Project, they will connect. For background, the Sunrise Powerlink enters the Suncrest Substation from the south at 500 kV, connecting to the Ocotillo and Imperial Valley Substations located to the east. The Sunrise Powerlink exits the Suncrest Substation as two 230 kV overhead transmission lines leading to the northwest, connecting to the Sycamore Substation located to the west. The Proposed Project will connect to the Suncrest Substation at a 230 kV bus. From the bus, the proposed transmission line will go to a riser pole structure at the end of the underground segment. This portion of the proposed transmission line will parallel SDG&E's 230 kV transmission line on the north side of Suncrest Substation for approximately 300 feet. From the riser pole, the proposed transmission line will descend to connect to the underground segment. SDG&E will be responsible for stringing the overhead line into the Suncrest Substation to make the interconnection.

SDG&E's Cleveland National Forest Master Special Use Permit Project

In its Master Special Use Permit (MSUP) application to the USFS, SDG&E proposes to combine over 70 individual use permits and easements for electric facilities within the CNF into one MSUP (SDG&E's CNF MSUP Project). SDG&E proposes to replace certain electric power lines located within and outside the CNF. SDG&E's replacement activities would primarily include fire hardening (wood-to-steel pole replacement), relocation, and undergrounding (CPUC and USFS 2015). The proposed power line replacement also requires the CPUC's approval (Application 12-10-009 for a Permit to Construct). The CPUC and USFS issued the FEIR/EIS in June 2015.

SDG&E's CNF MSUP Project covers 102 miles of electric lines and over 34 miles of access roads within the CNF. Replacement and fire hardening of certain power lines would total

approximately 146 miles within and outside of the CNF. The project would replace five 69 kV transmission lines and six 12 kV distribution circuits.

Of SDG&E's proposed upgrades, there are three transmission lines (TL) and one distribution circuit (C) within 5 miles of the Proposed Project: TL 625, TL 626, TL 629, and C78.[1]

The nearest line, TL625 is approximately 22.5 miles in total length and generally runs from Loveland Substation east to Barrett Tap, from Barrett Tap east to Descanso Substation, and from Barrett Tap south to Barrett Substation. Proposed replacement includes wood-to-steel pole conversion along with single circuit to double circuit conversion. At its closest point, TL625 is approximately 1.5 miles southeast the Proposed Project.

At their closest point, Descanso Substation, TL626 and TL629 are 4 miles northeast of the Proposed Project. TL626 is approximately 18.8 miles in total length and generally runs from Santa Ysabel Substation south to Descanso Substation. Proposed replacement includes wood-to-steel pole conversion. TL629 is approximately 29.8 miles in total length and generally runs from Descanso Substation east to Glencliff Substation, from Glencliff Substation southeast to Cameron Tap, from Cameron Tap south to Cameron Substation, and from Cameron Tap east to Crestwood Substation. Proposed replacement includes wood-to-steel pole conversion, undergrounding, and single to double circuit conversion.

C78 is approximately 1.8 miles in total length and generally runs from east of Viejas Reservation, east along Viejas Grade Road, to Via Arturo Road. Proposed replacement includes wood-to-steel pole conversion and overhead relocation. At its closest point, C78 is approximately 3 miles north of the Proposed Project.

While the future approval dates for the SDG&E CNF MSUP are not known, it appears that the USFS could make a decision as early as late August 2015 (after a 45-day objection period on its Record of Decision). If the CPUC makes a decision in fall of 2015, construction could start soon thereafter. SDG&E's overall construction period is 5 years, with specific estimated construction periods as follows; therefore, there may be overlap with the Proposed Project's construction period:

- TL625: 21 months
- TL626: 15 months
- TL629: 29 months
- C78: 4 months

USFS's Cleveland National Forest Invasive Weed Management Project

USFS has tried to control invasive weeds that threaten indigenous habitats though manual methods. The proposed action is to conduct invasive species control and/or eradication efforts for certain invasive weed species and specific infestations including both manual and chemical

[1] See Figure B-2, Power Line Replacement Projects Overview Map, p. B-77. CPUC and USFS 2015.

methods (USFS 2014). Other aspects of the project include rapid response for certain species not currently known to occur in the CNF and an adaptive management framework for treating newly discovered infestations of target species or newly discovered species. Priority species with the greatest harm potential and ecological impact include: tamarisk, giant reed, and yellow starthistle. This project proposes the potential use of five specific herbicides, and no aerial application of herbicides. The project duration is likely to be 10 to 20 years.

4.16.7. Cumulative Impact Analysis by Resource Area

4.16.7.1. Aesthetics

As discussed in Section 4.1, Aesthetics, potential impacts to the existing visual character or adverse light or glare would be less than significant and further reduced through project design features and implementation of APM AES-1 through AES-3.

The Proposed Project would involve the construction of a new SVC facility, underground transmission line, riser pole structure, and 300-foot overhead span to interconnect into the existing Suncrest Substation. The KOP simulations and visual impact analysis in Section 4.1 demonstrate that visual impacts would be less than significant.

The portions of the Proposed Project closest to the Sunrise Powerlink will be the connection to the Suncrest Substation 230 kV bus. From the bus, the proposed transmission line will go to a riser pole structure at the end of the underground segment. This overhead portion of the proposed transmission line will parallel SDG&E's overhead 230 kV transmission line on the north side of Suncrest Substation for approximately 300 feet. From the riser pole, the proposed transmission line will descend to connect to the underground segment.

The Sunrise Powerlink FEIR/EIS concluded that visual impacts for the Suncrest Substation (named the Modified Route D Substation in the FEIR/EIS) would be significant but mitigated to less than significant. The impact was characterized as, "Impact V-85: Increased structure contrast, industrial character, view blockage, and glare from night lighting when viewed from Japatul Road and Bell Bluff Road." The mitigation measures were: V-7a, Reduce visual contrast associated with ancillary facilities; V-7b, Screen ancillary facilities; and V-21a, Reduce night lighting impacts.[2]

The Proposed Project's single, 85- to 95-foot-high riser pole and 300-foot-long overhead span next to, and connecting to, the Suncrest Substation, would minimally but incrementally add to an existing visual context of the Suncrest Substation and multiple transmission structures and conductors making up the 500 kV and 230 kV transmission lines of the Sunrise Powerlink exiting the Suncrest Substation. The Proposed Project's additional facilities will not make a cumulatively considerable visual impact at this location during construction or operation.

The Proposed Project's SVC will be approximately 1 mile from the Suncrest Substation and Sunrise Powerlink. Section 4.1 evaluates the visual effect of the SVC and provides a photo-

[2] CPUC and Bureau of Land Management, 2008. pp. E.4.3-16 and E.4.3-17.

simulation. The SVC will be too far from the Suncrest Substation and Sunrise Powerlink to cause a cumulatively considerable visual impact during construction or operation.

Figure 4.1-3 in Section 4.1, Aesthetics, shows the locations within 5 miles of the Proposed Project from which some portion of the Proposed Project will be visible. It is likely that in some of these locations, the viewer will be able to see the Proposed Project along with one or more transmission lines of SDG&E's CNF MSUP Project.

The closest proposed transmission lines of the SDG&E's CNF MSUP Project is TL625 at approximately 1.5 miles southeast the Proposed Project. At their closest point, Descanso Substation, TL626 and TL629 are 4 miles northeast of the Proposed Project. At its closest point, C78 is approximately 3 miles north of the Proposed Project.

The Proposed Project's new SVC facility, riser pole structure, and 300-foot overhead span to interconnect into the existing Suncrest Substation will be too far from the proposed SDG&E's CNF MSUP Project make a cumulatively considerable visual impact during construction or operation.

4.16.7.2. Agricultural and Forest Resources

No agricultural uses currently exist on or adjacent to the Proposed Project, although partly zoned for agricultural use. As discussed in Section 4.2, Agriculture and Forest Resources, the Proposed Project will not result in any impact on agricultural or forest resources. Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.3. Air Quality and Greenhouse Gas Emissions

The Proposed Project involves excavating and exposing soils, the use of heavy construction equipment, as well as truck travel during construction and operation. As discussed in Section 4.3, Air Quality and Greenhouse Gas Emissions, potential impacts to air quality or greenhouse gas emissions would be less than significant and further reduced through implementation of APM AIR-1 through AIR-5.

As analyzed in Section 4.3, and in particular, the discussion of Impact AQ-3, the Proposed Project will have a less than significant impact on creating a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality, because its emissions will not exceed SDAPCD threshold levels for criteria pollutants. Whether a "considerable net increase" will occur is measured against the SDAPCD thresholds. As demonstrated for the first significance criterion, the Proposed Project will not exceed any SDAPCD thresholds, regardless of the attainment status of the area; therefore, the impact of the Proposed Project will be less than significant.

Even if one or more of the projects listed on Table 4.16-2, including one or more of SDG&E's CNF MSUP Project components, are under construction at the same time as the Proposed Project, the less-than-significant construction emissions of the Proposed Project will not considerably contribute to a cumulative impact. This is because the Proposed Project's construction-related daily maximum emissions and annual emissions, and operational annual

emissions, will be less than the SDAPCD Screening-Level Thresholds for Air Quality Impact Analysis.

4.16.7.4. Biological Resources

The Proposed Project involves construction activities and permanent facilities within a previously disturbed area. As discussed in Section 4.4, Biological Resources, potential impacts to designated sensitive species or wildlife migration would be less than significant and further reduced through implementation of APM BIO-1 through BIO-15. No impacts to migratory fish would occur.

The Proposed Project will include restoration of temporarily disturbed areas after construction. The CNF's Invasive Weed Management project could facilitate the success of NEET West's biological restoration effort by helping to keep out harmful invasive species that could interfere with vegetative restoration.

Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.5. Cultural Resources

The Proposed Project involves construction of facilities in proximity to existing prehistoric and historic archaeological sites. As discussed in Section 4.5, Cultural Resources, potential impacts to existing cultural resources or unanticipated discoveries would be less than significant. Implementation of APM CUL-1 through CUL-7 would avoid or further reduce impacts. Other than construction for the Proposed Project, no other construction is anticipated within 1 mile of the Proposed Project (including SDG&E's Sunrise Powerlink and Suncrest Substation, and USFS's Invasive Weed Management program). Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.6. Geology and Soils

The Proposed Project involves construction of a permanent, underground transmission line and SVC facility that would temporarily excavate and expose soils, potentially involve blasting, and be potentially affected during seismic events or unstable soils. As discussed in Section 4.6, Geology and Soils, potential impacts related to geologic or soil instability, or to paleontological resources, would be avoided with project engineering design features and further minimized through the implementation of APM GEO-1 through GEO-3 and APM PR-1 such that impacts would remain less than significant. The Suncrest Substation and Sunrise Powerlink already exist, and no construction for these facilities would coincide with construction of the Proposed Project. Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.7. Hazards and Hazardous Materials

The Proposed Project involves construction and operation activities associated with the use of potentially hazardous materials and equipment. As discussed in Section 4.7, Hazards and Hazardous Materials, potential impacts related to the possible release of hazardous materials or

public hazards would be avoided or reduced to the greatest extent possible through the implementation of APM HAZ-1 through HAZ-8 such that impacts would remain less than significant.

The USFS's Invasive Weed Management project within CNF could entail herbicide spraying at or near the Proposed Project area. Because the Proposed Project's use of potentially hazardous materials and equipment for construction and operation will be managed to avoid or reduce to the greatest extent possible any hazards to the public, the USFS's application of herbicides, in conjunction with the Proposed Project, will not result in a cumulative impact regarding hazards.

As described in Section 4.7, construction activities would result in an increase in potential fire hazards due to accidents caused by construction personnel or equipment. Regarding operation, the Proposed Project will place nearly all of the transmission line underground, thereby greatly limiting the risk of surface fire ignitions during operation. The fire risk associated with the Proposed Project's 300-foot overhead span equates to an approximately 0.000122% chance of a spark (i.e., fire) per year.

Compliance with APM HAZ-4 through HAZ-7 will ensure that the Proposed Project will not contribute in a cumulatively considerable manner to fire hazards. APM-HAZ-3, Weed Control Plan, will reduce the presence and proliferation of non-native, invasive plants known to potentially increase wildland fire hazards. APM-HAZ-5 will require the removal of fire fuel from the work area. APM-HAZ-7, Fire Safe Working Conditions and Best Management Practices, includes numerous provisions to minimize the chance of construction activities starting fires. APM-HAZ-8 requires a detailed and thoughtful Blasting Plan to minimize the potential impacts of blasting, including fire risk. Regarding operation of the Proposed Project, APM HAZ-6, regarding the establishment and maintenance of adequate equipment clearances, reiterates the CPUC and statutory requirements to keep certain minimum distances between vegetation and the overhead electrical transmission line and riser pole.

One of the most important APMs is APM-HAZ-4, requiring preparation of a Fire Prevention Plan. The goals of the Plan are to further minimize or eliminate identifiable fire risks associated with the Proposed Project and minimize or eliminate impedances to local fire protection service responders through design improvements or aid agreements. The Plan will be prepared based on evaluation of potential fire risks as they relate to required building standards, structural protection, fire protection systems, access requirements, fuel management requirements, water supply, and emergency response adequacy.

NEET West's APM approach summarized above is similar to the approach set forth by the CPUC in the June 2015 FEIR/EIS Master Special Use Permit and Permit to Construct Power Line Replacement Projects, pages D.8-36 through D.8-44 (CPUC and USFS 2015.). The FEIR/EIS added Fire Prevention Plan requirements as two mitigation measures on top of SDG&E's APMs. NEET West includes a Fire Prevention Plan as an APM. In that FEIR/EIS, the CPUC concluded on page D.8-40 that the wildfire risk for SDG&E's project, which has miles of new and modified transmission lines, would be less than significant. By comparison, NEET West's Proposed Project is dwarfed by SDG&E's project.

The future cumulative projects listed in Table 4.16-2 could increase wildfire risk during construction activities. However, those projects would likely also be required to develop fire

prevention plans and procedures, reducing wildfire hazard during construction. Moreover, several of the cumulative projects, including CNF's Invasive Weed Management, the Alpine Community Defense Project, SDG&E's Master Special Use Permit and Permit to Construct Power Line Replacement Projects, and the Greater Alpine Community Defense Fuels Treatment on Non-Federal Lands Project would assist in reducing wildfire risk to the area through a variety of measures. (SDG&E's Master Special Use Permit would include fire-hardening of certain structures.[3])

For the above reasons, the Proposed Project, in combination with the identified cumulative projects, will not make a cumulatively considerable hazards impact (including fire risk) during construction or operation.

4.16.7.8. Hydrology and Water Quality

The Proposed Project involves the use of water on-site during construction as well as the crossing of stormwater conveyances within Bell Bluff Truck Trail. As discussed in Section 4.8, Hydrology and Water Quality, potential impacts related to stormwater runoff, water quality, sensitive aquatic features, or groundwater supplies would be avoided and minimized and less than significant. Implementation of APM WQ-1 through WQ-8 would further reduce such impacts. Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.9. Land Use and Planning

The Proposed Project would be constructed in San Diego County on land zoned for agricultural purposes, where minor utilities are an allowable use. The Proposed Project would also be consistent with existing mitigation and restoration obligations of the prior Sunrise Powerlink. No other impacts would occur. Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.10. Noise

The Proposed Project involves noise-generating activities from construction equipment and activities as well as operational noise from equipment at the SVC. As discussed in Section 4.10, Noise, potential impacts related to construction and operation of the proposed project related to excessive noise or ground-borne vibration will be minimized through implementation of standard construction limitations, as well as APM NOI-1 through NOI-3, such that impacts would remain less than significant.

As discussed in Section 4.10.3.2, a 1-km (0.62-mile) radius represents a reasonable distance where sensitive noise receptors could potentially experience impacts, because most typical construction equipment noise attenuates to less than 70 dBA at 330 feet and would not be

[3] CPUC and USFS 2015, p. F-27. "SDG&E's proposed project would be implemented to fire harden certain existing electrical transmission facilities. Project design would include fire hardening techniques, including replacing wood poles with steel poles designed to withstand extreme wind loading, increasing conductor spacing to maximize line clearances, and installing longer polymer insulators."

discernable at a distance of 1 km (0.62 mile). NSLUs are any residential areas, schools and day care facilities, hospitals, long-term care facilities, places of worship, libraries, parks, and recreational areas specifically known for their solitude and tranquility (such as wilderness areas). There are no NSLUs within 1 km (0.62 mile) of the Proposed Project. The nearest NSLU is a residence located just over 0.81 miles from the SVC.

The closest property boundary is between the Dean R. and Deborah S. Wilson property and SDG&E property, approximately 395 feet from the center of the proposed SVC, where the property line is also crossed by the underground transmission line. Noise impacts are evaluated at this boundary. However, the SDG&E property is unoccupied and used for electric utility purposes and therefore would not be classified as a sensitive receptor.

There are no vibration-sensitive structures (as defined by the County Significance Guidelines) in the analysis area. Without a vibration sensitive structure, there are no significance levels for determining vibration impacts.

Based on preliminary geotechnical analysis, blasting is not anticipated at the SVC site, but may be required for transmission line and splice vault excavations on less than 10% of the transmission line. Localized, low energy blasting will only be utilized in areas where mechanical methods are impracticable. At the most, blasting would be conducted once per hour and more realistically once or twice per day during excavation.

As discussed in Section 4.10.4.3, the Proposed Project will not cause significant noise impacts during either construction or operation. Construction and operation of the Proposed Project will not exceed noise standards in the general plan, noise ordinance, or other applicable standards. Section 4.10.4.3 also analyzes blasting and concludes that it will not result in significant impacts. Potential impacts related to construction and operation related to noise will be further reduced through implementation of standard construction limitations, as well as APMs NOI-1 through NOI-3.

The closest proposed transmission lines of the SDG&E's CNF MSUP Project is TL625 at approximately 1.5 miles southeast the Proposed Project. At their closest point, Descanso Substation, TL626 and TL629 are 4 miles northeast of the Proposed Project. At its closest point, C78 is approximately 3 miles north of the Proposed Project.

Even if one or more of the projects listed on Table 4.16-2, including one or more of SDG&E's CNF MSUP Project components, are under construction at the same time as the construction or operation of the Proposed Project, that project and the Proposed Project would be too far away from each other for the noise from both projects to result in a cumulatively considerable noise impact.

4.16.7.11. Population and Housing

The Proposed Project would involve the use of workers on-site for the duration of construction, but would not construct new permanent housing or create new jobs and impacts to potential population growth would be less than significant. As discussed in Section 4.11, Population and Housing, the Proposed Project will not result in an increase in population, due to construction

workers or operational workers. Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.12. Public Services

The Proposed Project will not result in any significant impacts to public services, as discussed in Section 4.12, Public Services. As a conservative assumption, the total number of unique construction workers over the entire construction period will be approximately 120. Many will likely already live in the San Diego area, and the short construction duration is not likely to induce non-local workers to move to the San Diego area. Because the project would not cause a population increase, there will be less-than-significant or no impacts to government services and no need to build additional government facilities (e.g., fire stations, police stations, schools, libraries) that could have significant environmental impacts. The Proposed Project will not contribute to any cumulative effect that other projects might have for such services or facilities. Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

Section 4.16.7.7, Hazards, explains why the Proposed Project, in combination with the identified cumulative projects, will not make a cumulatively considerable hazards impact, including fire risk, during construction or operation. Therefore, the Proposed Project, in combination with the identified cumulative projects, will not cause a cumulatively considerable public services impact on fire protection services.

4.16.7.13. Recreation

The Proposed Project will occur in an area with existing parks and other recreational facilities but will only introduce a temporary population of workers during project construction and will have a less-than-significant effect on existing recreational resources. Therefore, the Proposed Project will not contribute to a direct or cumulative impact. No cumulative impact will occur.

4.16.7.14. Transportation and Traffic

The Proposed Project will involve the travel of equipment and crew vehicles temporarily during the construction period but will not generate a significant amount of vehicle trips and will have a less-than-significant effect on the existing traffic conditions or standards established by the County. No other impacts would occur.

Even if one or more of the projects listed on Table 4.16-2, including one or more of SDG&E's CNF MSUP Project components listed above, are under construction at the same time as the Proposed Project, the less-than-significant vehicle trips from construction of the Proposed Project will not considerably contribute to a cumulative impact, because the levels of service on the relevant roadways are high. In other words, the roadways have excess capacity compared to existing traffic volumes, and the Proposed Project's construction and operational traffic will be minimal such that it would not considerably contribute to a cumulative impact.

Caltrans's Pavement Rehabilitation and Maintenance project along I-8 from Dunbar Lane to Willow Road (3.35 miles to the northeast of the Proposed Project) is expected to be completed

by April 2016, prior to the start of construction for the Proposed Project. Thus, there will be no cumulative impact from the addition of the Proposed Project.

Therefore, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.7.15. Utilities and Service Systems

The Proposed Project involves consumption of water during construction for dust suppression and other work activities. For the Proposed Project, an estimated 2,600,000 gallons of water will be used during the construction period, or about 8 acre-feet. Water usage will vary based on the construction phases, but the average will be approximately 13,100 gallons per day for the entire Proposed Project. Following construction and during the restoration period, it is estimated that approximately 9,200 gallons of water per year would be required to facilitate restoration of temporarily impacted areas for each: SVC, staging, and underground transmission areas. With a restoration period of up to 5 years, this could amount to up to 46,000 gallons of water for restoration purposes. PDMWD's Water Recycling Facility (sometimes referred to as "Padre Dam") is the primary identified source of recycled, non-potable water for the Proposed Project. This water consumption would not be significant, and there would be no cumulatively considerable impact on water supplies in San Diego County.

For SDG&E's CNF MSUP Project, SDG&E estimates that approximately 5 to 10 million gallons of water per year would be required for construction over an approximate 5-year period. SDG&E intends to rely on a variety of water sources, both commercial and private, focusing on local water supplies, which would frequently be groundwater (CPUC and USFS 2015). During operation and maintenance of the transmission lines, SDG&E estimates long-term water usage to be 130,000 gallons per year to be purchased from local sources.[4] To mitigate its water usage, SDG&E's APMs include documentation of purchased water sources and professional groundwater evaluation of off-site sources. The FEIR/EIS concludes that these measures reduce the impact to less than significant.

The CPUC and USFS concluded that SDG&E's CNF MSUP Project's impacts to water supply would be temporary and reduced by implementing the mitigation measures for the identification of sufficient water supply prior to construction and studying groundwater withdrawal, so as not to impact groundwater resources. Therefore, the CPUC and USFS found that SDG&E's project's contribution to cumulative impacts to water supply would be less than cumulatively considerable, in the context of similar construction practices anticipated for other cumulative projects.[5] In addition, the CPUC and USFS found that the relatively small amount of water used for operation and maintenance would not affect area water supplies and, therefore, would be less than significant.

The Proposed Project's water use will be less than that forecasted for SDG&E's CNF MSUP Project. As discussed in Section 4.15, Utilities and Service Systems, potential impacts related to construction of the Proposed Project relating to water supplies or wastewater will be minimized

[4] CPUC and USFS. 2015. pp. D.4-130, D.9-38 to D.9-40.
[5] CPUC and USFS. 2015. p. F-31.

through implementation of standard construction/operating restrictions, as well as APM UTL-1 through UTL-3, such that impacts will remain less than significant. For the above reasons, the Proposed Project will not make a cumulatively considerable impact during construction or operation.

4.16.8. References

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5.0. DETAILED DISCUSSION OF SIGNIFICANT IMPACTS

The CPUC's PEA Checklist sets forth the following contents for Chapter 5. This chapter:

- Discusses whether there are any potentially significant impacts that would result from the construction, operation, and maintenance of the Proposed Project;
- Although there will be no significant impacts from the Proposed Project, discusses the alternatives that NEET West considered in arriving at the Proposed Project and provides the rationale for NEET West's selection of the Proposed Project over the alternatives; and,
- Discusses the Proposed Project's potential to induce growth in the area.

5.1. APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS

Based on the findings in Chapter 4.0, Environmental Impact Assessment, the Proposed Project will not result in significant impacts under any environmental topic. The Proposed Project has been designed to minimize any potential environmental impact utilizing APMs, which notably are a fundamental aspect of the Proposed Project's design and are not mitigation measures being identified by the CPUC during CEQA review. Chapter 3.0, Project Description, provides the APMs that have been proposed as part of the Proposed Project.

5.2. DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS

5.2.1. Introduction

Under CEQA, alternatives to a proposed action are required to be analyzed during the preparation of an EIR to identify feasible ways to avoid or substantially lessen any of the significant effects of the project. See PRC Section 21002.1(a).

However, because the Proposed Project would not result in significant environmental impacts, CEQA would not require an analysis of alternatives. Indeed, the CPUC's "Information and Criteria List" emphasizes this point, stating that the information required by the CPUC from any applicant for a project subject to CEQA (CPUC Rule 2.4) and states that "Alternatives and Growth-Inducing Impacts discussions may not be required for projects that have no significant impacts" (CPUC Energy Division Director 2008).

While the Proposed Project will result in no significant effects, to provide the CPUC and interested stakeholders with information about the alternatives, NEET West nonetheless examined a range of technology, system, SVC location, and transmission line alternatives in addition to the No Project Alternative, in an effort to demonstrate why the Proposed Project siting is the best overall proposal that balances the CAISO cost cap; June 1, 2017, in-service date; and environmental considerations. NEET West is proposing a project that uses previously disturbed land and co-locates linear facilities within existing roadway and transmission corridors. Nearly all of the Proposed Project's footprint was analyzed as part of the Sunrise Powerlink

CEQA process, and NEET was able to build upon resource studies completed as part of that process (e.g., biological and cultural).

5.2.2. Methodology

Although there is lack of substantial evidence that the Proposed Project may have a significant effect on the environment and an Environmental Impact Report (EIR) is unlikely to be required for this Proposed Project, NEET West evaluated each alternative against the following criteria CEQA uses in the context of an EIR to determine whether an alternative is "reasonable" and should be considered in detail (State CEQA Guidelines Sections 15126.6(c) and 15126.6(f)(3)).

(1) Would the alternative meet most of the basic project objectives (see Chapter 2.0, Project Purpose and Need and Objectives)?

(2) Would the alternative be feasible?

CEQA lists the following factors that may be considered in determining whether or not an alternative is "feasible" (State CEQA Guidelines Section 15126.6(f)(1)):

- Site suitability;
- Economic viability;
- Availability of infrastructure;
- General plan consistency;
- Other plans or regulatory limitations;
- Jurisdictional boundaries (projects with a regionally significant impact should consider the regional context); and,
- Whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.

(3) Would the alternative avoid or substantially lessen any significant effects of the Proposed Project?

(4) Would the alternative be remote and speculative?

Table 5-1 lists the alternatives considered and indicates the extent to which each would meet the above criteria.

Regarding criterion #3, because the Proposed Project will not result in any significant effects, NEET West simply determined whether the impacts associated with any otherwise feasible alternatives were less than or greater than the Proposed Project's impacts, and to what degree.

Table 5-1. Alternatives Considered

Type of Alternative	Alternative	Meets most of the basic project objectives?	Feasible?	Avoids or substantially lessens any Proposed Project significant impact?	Is the alternative speculative and remote?
No Project Alternative	No Project Alternative	No	Yes	No	No
Technology Alternatives	Static Var Compensator *(Proposed Project)*	Yes	Yes	n/a	No
	Hybrid SVC with Mechanically-Switched Capacitors	No	No	No	No
	Hybrid STATCOM with Mechanically-Switched Capacitor	No	No	No	No
	Synchronous Condensers	No	No	No	No
System Alternatives	Traditional Generator Reactive Power Support	No	No	No	No
	CAISO Initiative for Reactive Power Support from Asynchronous Generators	No	No	No	Yes
	Energy Conservation / Energy Efficiency	No	No	No	Yes
	Demand Response / Load Management	No	No	No	Yes
Siting Alternatives	Proposed Project (Wilson Laydown Area SVC Site)	Yes	Yes	n/a	No
	Northeast Site Alternative	Yes	Yes	No	No
	West Site Alternative	No	No	No	Yes
	Suncrest Substation Alternative	No	No	No	Yes
Transmission Line Alternative	Overhead Transmission Line Alternative	No	No	No	No

5.2.3. No Project Alternative

Under the No Project Alternative, the SVC and underground transmission line would not be built. Although none of the Proposed Project's environmental impacts would be significant, this alternative would avoid all of the Proposed Project's environmental effects. Temporary construction impacts, such as dust and other air pollutant emissions, noise, and traffic effects, would not occur. Vegetation clearing, trenching within Bell Bluff Truck Trail, and water usage would be avoided. Operational effects, such as changes in views due to presence of the SVC, noise from the SVC, and infrequent vehicles trips for maintenance, would be avoided. In discussions with the property owner with whom NEET West has a signed option agreement for the SVC, NEET West has learned that if the SVC is not built in the proposed location it is his intention to remove the newly revegetated area at the SVC site once SDG&E's restoration obligations are complete due to effects of the scrub vegetation on his horses.

The No Project Alternative, however, would not accomplish any of the Proposed Project's basic objectives. The necessary reactive power support would not be provided for ongoing operational voltage regulation on the transmission grid. Additionally, reactive power support would not be available to facilitate the delivery of renewable power from the east to the San Diego load centers.

Because the No Project Alternative would not: 1) meet any of the Proposed Project's basic objectives, or 2) avoid or substantially lessen any significant impact associated with the Proposed Project, this alternative was rejected.

5.2.4. Technology Alternatives

As explained in Chapter 2.0, Project Purpose and Need and Objectives, the CAISO's powerflow, stability, and deliverability assessment for the SDG&E area identified the need for reactive support, namely a +300/-100 Mvar dynamic reactive power device at the Suncrest Substation's 230 kV bus. The reactive power device would provide continuous or quasi-continuous reactive power response following system disturbances and assist in the deliverability of renewable generation from the Imperial Valley zone (CAISO, Infrastructure Development 2014a).

The CAISO issued Functional Specifications for the Suncrest 230 kV 300 Mvar Dynamic Reactive Power Support Project, which requested that project applicants submit a bid for one of the following types of devices: SVC (Static Var Compensator), STATCOM (Static Synchronous Compensator), or Synchronous Condenser.

SVCs and STATCOMs are devices within the Flexible AC Transmission Systems (FACTS) family. They use power electronics to control power flow and improve transient stability on power grids (Mathworks 2015a, 2015b). An SVC regulates voltage by controlling the amount of reactive power injected into or absorbed from the transmission grid. When grid voltage is low, the SVC generates reactive power (i.e., SVC capacitive). When grid voltage is high, the SVC absorbs reactive power (i.e., SVC inductive). An SVC uses three-phase capacitor banks and inductor banks, connected to a coupling transformer. An SVC may switch each capacitor bank on and off by thyristor switches (Thyristor Switched Capacitor or TSC). An SVC switches the reactors on and off with thyristors or phase-controls (Mathworks 2015a).

There are several types of STATCOM devices. One type varies reactive power using a Voltage-Sourced Converter (VSC) connected to a coupling transformer. The VSC uses forced-commutated power electronic devices to synthesize a voltage from a direct current voltage source. When grid voltage is low, the STATCOM generates reactive power (i.e., STATCOM capacitive). When grid voltage is high, it absorbs reactive power (STATCOM inductive) (Mathworks 2015b).

A synchronous condenser is essentially a spinning, electromagnetic, synchronous motor (or a synchronous generator), but its shaft spins freely, rather than being connected to a machine (or a prime mover). A voltage regulator controls the electrical field to either generate or absorb reactive power as needed to adjust the grid's voltage, or to improve power factor. Because it must spin, rather than simply rely on electronics, a synchronous condenser uses more real power to operate than an SVC or STATCOM.

In preparing its bid package for the CAISO, NEET West carefully considered several commercially-available transmission technologies from different vendors that would meet the CAISO's description and functional specifications. NEET West evaluated 11 options in light of the IEEE Standard 1031-2011, IEEE Guide for the Functional Specification of Transmission Static Var Compensators, and key technical indicators that would be significant to the CAISO. NEET West's engineering evaluation boiled down to four technology combinations:

1. Static Var Compensator: +300/-100 Mvar SVC with one 150 Mvar thyristor-controlled reactor, two thyristor-switched capacitors (250 Mvar total), and three harmonic filters (50 Mvar total).

2. Hybrid SVC with Mechanically-Switched Capacitors: +100/-100 Mvar SVC with one 150 Mvar thyristor-controlled reactor, one 50 Mvar thyristor-switched capacitors, three harmonic filters (50 Mvar total), and two 100 Mvar, 230 kV mechanically-switched capacitors.

3. Hybrid STATCOM with Mechanically-Switched Capacitor: +100/-100 Mvar STATCOM at Suncrest 230 kV with two 100 Mvar, 230 kV mechanically-switched capacitors.

4. Synchronous Condensers: +375/-150 Mvar at Suncrest 230 kV consisting of two 200 Mvar Synchronous Condensers.

NEET West, and ultimately the CAISO through its project award to NEET West, selected the first option. When comparing the proposed SVC to the other three alternatives (Nos. 2–4 above) utilizing selected engineering and cost parameters, the following factors should be considered:

- All would meet the CAISO's identified need for reactive power support.
- All would provide continuous reactive power and voltage control capability.
- The SVC is a proven transmission system reactive compensation solution using technologies that have been applied for transmission system voltage support for more than 40 years. Synchronous condensers have been in use for decades as well, while the other options may be more recent.

- The SVC has significantly lower no-load and operational losses and faster response time than a synchronous condenser. STATCOM is similar to SVC in these regards.
- The SVC has high availability and reliability, and the STATCOM has extremely high reliability, as well. Synchronous condensers are slightly less reliable than the other two, because of their moving parts.
- The SVC is the least capital cost solution, as compared to STATCOM or a synchronous condenser.
- Synchronous condensers have added benefits as compared to SVC and STATCOM, including providing inertia; however, the added benefits are not required under the CAISO's Functional Specifications for the Suncrest 230 kV 300 Mvar Dynamic Reactive Power Support Project device.

Based on its evaluation, NEET West determined the three technology alternatives would not: 1) meet the Proposed Project's basic objective of being consistent with NEET West's cost proposal to CAISO; 2) be feasible from an economic viability perspective, given the higher cost compared to an SVC and given that these technologies would exceed NEET West's cost cap; or 3) avoid or substantially lessen any significant environmental effect of the Proposed Project. NEET West therefore rejected these three alternative technologies.

5.2.5. System Alternatives

As explained in Chapter 2.0, Project Purpose and Need and Objectives, the CAISO, as opposed to NEET West, determined the need for a dynamic reactive power support project during its 2013–2014 TPP. The CAISO's determination that a dynamic reactive power support project is needed at the Suncrest Substation is a result of implementing the RPS generation portfolio provided by the CPUC and months of complex, transmission system powerflow modeling. This modeling and analysis was part of the CAISO's 2013–2014 transmission planning cycle, which takes 15 months.[1]

In the CAISO's 2013–2014 Transmission Plan, the dynamic reactive support at Suncrest was identified as one component of a family of mitigations that work together to meet the CAISO's need for deliverability of renewable resources and to ensure reliable system operation:

> *1) rely on the flow control device on Imperial Valley–ROA 230 kV line already identified as a reliability solution and install a 300 MVAr dynamic reactive device at the Suncrest 230 kV bus. Estimated cost for the dynamic reactive device is $65 million based on similar proposed projects.* [2]

[1] For further information regarding CAISO's recommended projects to deal with reactive power and renewable deliverability problems stemming from the San Onofre Nuclear Generating Station outage and retirement and the planned Once-Through-Cooling plant retirements, see pages 95–99 of the 2013–2014 Transmission Plan. The short-term ("Group I") solutions include an additional 450-700 MVAR Dynamic Reactive Support at or near the new SONGS Mesa Switchyard, the Imperial Valley flow controller, the Mesa Loop-In 500 kV transmission project, and continuation of the Huntington Beach synchronous condenser project or electrically equivalent reactive support at Huntington Beach.

[2] CAISO 2014a, pp. 190-191, 291 (Table 7.2-2); Annex A to Testimony (2013–2014 TPP) at 190-191, 291.

In addition to the recommended family of mitigations to address the overall needs, the CAISO's 2013–2014 Transmission Plan identified an alternative family of projects;

> *2) alternative to item 1)*
>
> - *upgrade Miguel–Bay Blvd to have higher normal rating (1176 MVA). The estimated cost $12 million*
> - *build a third 230 kV line out of Suncrest substation. The estimated cost is $260 million based on similar proposed projects[.]*
>   - *upgrade Los Coches 138 kV to 230 kV*
>   - *build new 230 kV line from Suncrest to Los Coches*
>   - *loop-in Miguel to Sycamore to Los Coches*
> - *install 450 MVAr dynamic reactive device at Suncrest 230 kV. The estimated cost is $100 million based on similar proposed projects.*[3]

This second family of alternatives still needed dynamic reactive support at the Suncrest 230 kV bus, and in fact required a larger dynamic reactive support than the Proposed Project.

The CAISO was not able to identify a reasonable or viable alternative to the dynamic reactive support met by the Proposed Project. Further, unlike other recent examples where dynamic reactive support was identified as needed in an area[4], the CAISO restricted this need to the Suncrest Substation, presumably because no other substation was identified in reasonable electrical proximity and recognizing the very localized nature of reactive support in general.

Further, the CAISO's analysis does not identify the Imperial Valley Substation flow control device or the Delaney-Colorado River line as alternative solutions to the grid stability, reliability, and deliverability problems that the Proposed Project is intended to address. Rather, the CAISO approved the Imperial Valley Substation flow-control device as a stand-alone project based on its own merits, and approved the Delaney-Colorado River 500 kV line as a stand-alone "economic" project, which provided further benefits on the foundation established by the recommended alternatives and, in particular, the need that the Proposed Project is intended to fulfill.

In addition, the CAISO's 2013–2014 TPP discussed alternative arrangements to go beyond the deliverability provided by the recommended projects, and achieve a higher level of development. This discussion included, in particular, a new 500 kV line to the Suncrest Substation, electrically parallel to the Sunrise Powerlink transmission line. The costs and viability of this development

[3] CAISO 2014a, p. 191; Annex A to Testimony (2013–2014 TPP) at 191.

[4] *See generally*, CAISO 2014a, pp. 104-108; Annex A to Testimony (2013–2014 TPP) at 104-108. *See* p. 106, stating, "The ISO has identified the need of additional 450 - 700 MVAR of dynamic reactive support at future SONGS Mesa Substation or electrically equivalent location in the vicinity."

have not been assessed, as it is clearly impractical to consider a new, over 100-mile, 500 kV transmission line in lieu of dynamic reactive support located at or near an existing substation.

5.2.5.1. Hypothetical System Alternatives

To be considered an alternative to the CAISO's identified project, an alternative would have to provide dynamic reactive power meeting the CAISO's functional specifications. These specifications include, but are not limited to, the range levels of volt-ampere reactive (leading and lagging) (i.e., +300/-100 MVar) on an extremely fast-time scale.

Background Regarding Synchronous and Asynchronous Electric Power Generators

Traditional fossil-fuel, hydro, geothermal, and nuclear power generating units create reactive power along with real power. These are synchronous generators, meaning they have a mechanical rotor that rotates in synchronization with the system frequency (CAISO 2015a). These generators produce and absorb reactive power and maintain a voltage schedule set by the CAISO or the Participating Transmission Owner (PTO) (CAISO 2015a). If a solar thermal unit includes a mechanical rotor, it may produce reactive power.

Most renewable electricity generating resources such as solar, wind, and energy storage do not use mechanical rotors rotating in synchronicity with the system. These "asynchronous" resources do not inherently have reactive power capability, or in the case of wind, do not have the same reactive power capability as a synchronous resource. However, by adding inverters, capacitors, or using other methods, the asynchronous resources may provide reactive power capability to the CAISO grid (CAISO 2015a).

When asynchronous generating resources are large enough to connect directly to the transmission system (rather than the distribution system), they must go through the CAISO's interconnection study process[5] (CAISO 2015a). This interconnection process studies the impact of the generator on powerflows in the transmission system, and may result in the generation developer paying for transmission upgrades. As part of the interconnection studies, the CAISO may require the asynchronous generator to provide reactive power capability (CAISO 2015a). According to the CAISO, it "has assessed 187 asynchronous projects (approximately 17,000 MW) through mid-2014 requesting interconnection to the ISO controlled grid and required almost three-fourths of these projects (approximately 12,000 MW) to provide reactive power capability" to ensure reliability of the grid (CAISO 2015a).[6]

In contrast, smaller asynchronous generating resources already connected to the distribution system, such as rooftop solar photovoltaic systems, generally do not provide reactive power capability, although their inverters may have the technical capability. The two California energy agencies (CPUC and CEC), the CAISO, and stakeholders have been studying requiring small

[5] CAISO's Generator Interconnection and Deliverability Allocation Procedures (GIDAP) provide the rules and procedures for processing interconnection requests. See CAISO Tariff, Appendix DD.

[6] The CAISO issued a straw proposal on August 13, 2015. The stakeholder meeting took place on August 20, 2015 to discuss the proposal.

renewable generating facilities to provide reactive power capability, and the CAISO recently initiated a stakeholder process to discuss the policy change, as discussed further below.

Traditional Generator Reactive Power Support

A hypothetical system alternative to the Suncrest SVC could be the development of new synchronous generating facilities, such as fossil-fuel, hydro, nuclear, or solar-thermal plants. Although the relationship between real power capacity in megawatts (MW) and reactive power capability (Mvar) is not linear, and is dependent upon many variables, a 500 to 600 MW combined-cycle gas-fired power plant may provide approximately +240 Mvar, i.e., close to that required of the Proposed Project (+300 Mvar).[7]

A new fossil-fuel generating plant permitted in California today would most likely be a natural gas-fired combined-cycle or peaker unit. A natural gas-fired generating plant would create air pollutant emissions, along with other environmental impacts, such as noise and substantial water use. Its air pollutant emissions would exceed the Proposed Project's air quality emissions, even if required to offset certain criteria pollutant emissions by reductions from other sources for certain pollutants. A gas-fired plant would require a natural gas supply and would emit GHGs, in contrast to the minimal GHG emissions associated with operation of the Proposed Project (i.e., vehicle use for maintenance). Moreover, it would not be feasible to plan, design, obtain permits for, and build a new fossil-fuel unit by the target on-line date of June 1, 2017. The CEC has jurisdiction over siting thermal power plants greater than or equal to 50 MW. As can be seen on the CEC's power plant siting index (under individual applications), the elapsed time between filing an Application for Certification (AFC) and the CEC's issuance of a Final Decision is multiple years (CEC 2015a), and the elapsed time between the issuance of a Final Decision and coming on-line is at least 1 to 2 years, if not more (CEC 2015b).

A new hydroelectric power plant would have impacts to a stream or river, including potential biological and hydrological impacts. Similarly, an expanded hydroelectric power plant would likely involve raising an existing dam, installation of one or more new turbines, and other construction involving biological and hydrological impacts. It is unlikely that a new hydroelectric power plant could be planned, designed, permitted, and built by the target on-line date of June 1, 2017.

It is unlikely that a new nuclear generating facility would be built and licensed in California, considering the State's political and regulatory climate. It would not be feasible to plan, design, obtain permits for, and build a new nuclear unit by the target on-line date of June 1, 2017.

Solar thermal devices using a mechanical rotor generator could provide reactive power capability, but would not have the same flexibility that a gas-fired unit has for ramping up and down to absorb or inject reactive power.

In summary, these hypothetical synchronous generator system alternatives were rejected because these alternatives:

[7] One can estimate reactive power based on standard generation power factors of 90% and 95% leading (+). Based on the 90%, one can convert from MW to Mvar by multiplying by 0.48.

- would not meet the Proposed Project's basic objective of being consistent with NEET West's cost proposal to CAISO;
- could not be planned, permitted, and built by the target date, and thus would not meet the Proposed Project objective regarding the in-service date;
- would not be feasible from an economic viability perspective, given the higher cost compared to an SVC; and,
- would not substantially lessen any significant environmental effect of the Proposed Project, and in fact would likely result in greater environmental impacts as compared to the Proposed Project.

CAISO Initiative for Reactive Power Support from Asynchronous Generators

The CAISO has undertaken an initiative and stakeholder process to consider requiring all asynchronous resources connecting to the transmission grid to have reactive power capability. The initiative is called "Reactive Power Requirements and Financial Compensation," and it would provide a means to compensate for the extra cost associated with reactive power equipment (CAISO 2015a). As mentioned above, through the interconnection process, the CAISO has required approximately three-quarters of the new asynchronous generators going through its generator interconnection process to have reactive power capability. The CAISO is exploring financial compensation for reactive requirement and if changes to the CAISO tariff are determined to be needed, the proposal is currently scheduled to go before its Board of Governors by February 2016 for approval (CAISO 2015b). The proposal is only intended to apply to new or repowered generation projects.

The CAISO published an issue paper for stakeholder review in May 2015 (CAISO 2015a). The issue paper mentioned that if the CAISO had required a particular renewable generator near the Ocotillo Substation to install reactive power capability, it would have reduced the 300 Mvars needed at the Suncrest SVC by 50 Mvars. The CAISO explained:

> *In its 2013–2014 transmission planning process, the ISO studied its system with SONGS out-of-service. As part of those studies, the ISO identified a voltage criteria violation at the Suncrest substation following an N-1 contingency of either the Imperial Valley – ECO or ECO – Miguel 500 kV lines. This voltage deficiency triggered the need for a 300 MVAR static VAR compensator at the Suncrest substation. An additional assessment showed that if the asynchronous resource at Ocotillo were providing reactive power through its inverters, the reactive power need at Suncrest would have been reduced by 50 MVAR.*
>
> *Although the ISO would still have identified a reactive power need in its transmission plan based on the closure of SONGs, that need would have been reduced had the ISO determined that resources at the Ocotillo substation needed to have reactive power capability. While SONGS reflects an extraordinary closure, the fundamental point is that transmission providers cannot foresee each and every retirement or operating scenario on its system. A smaller resource that retires may also create an unexpected reactive power deficiency. For example, a two month outage of a combined cycle plant or the loss of a transmission element*

> *may easily create unforeseen voltage issues that require the capability to supply or absorb reactive support.*[8]

It could be inferred that installing reactive power capability at several large solar or wind facilities, either existing or under-construction, could comprise a "system alternative" to the Suncrest SVC. Proposed facilities could also be considered, but they would have to be on-line by June 1, 2017, to meet the CAISO's deadline for the Proposed Project.

There are several flaws in this inference. First, the CAISO's initiative is geared to apply only to new or retrofitted generators, not existing generators.

> ***9.1. Proposed requirements for Asynchronous Generating Facilities***
>
> *The ISO believes that the appropriate balance between harmonizing reactive power requirements and existing customer expectations is to apply this new policy beginning with interconnection customers in the first queue cluster having an interconnection request window following the effective date of the tariff revisions.*[9]

Second, the CAISO's initiative to provide financial compensation is at an early stage. Such changes would still need to be incorporated in CAISO's tariff and would need to be accepted by FERC. If the CAISO's Board adopts tariff language in early 2016, it would not be accepted by FERC until mid-2016.

Third, new solar or wind generators of sufficient capacity would have to be located near enough to the Suncrest Substation to provide reactive power capability where it will be needed starting in the summer of 2017. Powerflow studies in the lengthy generator interconnection project may have to be redone to prove the reactive capability would help, and also discern effects on other generators in queue and on the transmission system.

Fourth, amendments and FERC approval of the amendments needed to Large Generator Interconnection Agreements, and the design, and installation of such reactive power capability may not be possible, or may not be desired by the solar and wind project owners. Existing Power Purchase Agreements (PPAs) are unlikely to include such extra costs. If PPA amendments would be needed, CPUC approval of the PPAs may be needed. It would likely be very difficult to accomplish all of this by June 1, 2017.

A system alternative consisting of adding reactive power capability to a number of large, asynchronous generators was rejected because it:

- would not meet the Proposed Project's basic objective of being consistent with NEET West's cost proposal to CAISO;
- would not be feasible from an economic viability perspective, given the higher cost compared to an SVC;

[8] CAISO 2015a, pp. 13-14.
[9] CAISO 2015a, p. 20.

- would not avoid or substantially lessen any significant environmental effect of the Proposed Project; and,
- is too ill-defined, too speculative, and too remote to be considered as a reasonable alternative to the Proposed Project.

Energy Conservation / Energy Efficiency

The Proposed Project objectives do not include providing real power. Energy conservation and energy efficiency are ways to reduce load and avoid the need for providing real power, but would not meet the grid stability, reliability, and deliverability needs that the Proposed Project is intended to fulfill. Energy conservation and energy efficiency are not substitutes for the Proposed Project and were therefore rejected.

Demand Response / Load Management

While progress is being made on enhancing the ability of Demand Response and load management strategies to reduce peak loads, doing so would not meet the grid stability, reliability, and deliverability needs that the Proposed Project is intended to fulfill. Demand Response and load management strategies are not substitutes for the Proposed Project and were therefore rejected.

5.2.6. Transmission Line and SVC Site Alternatives

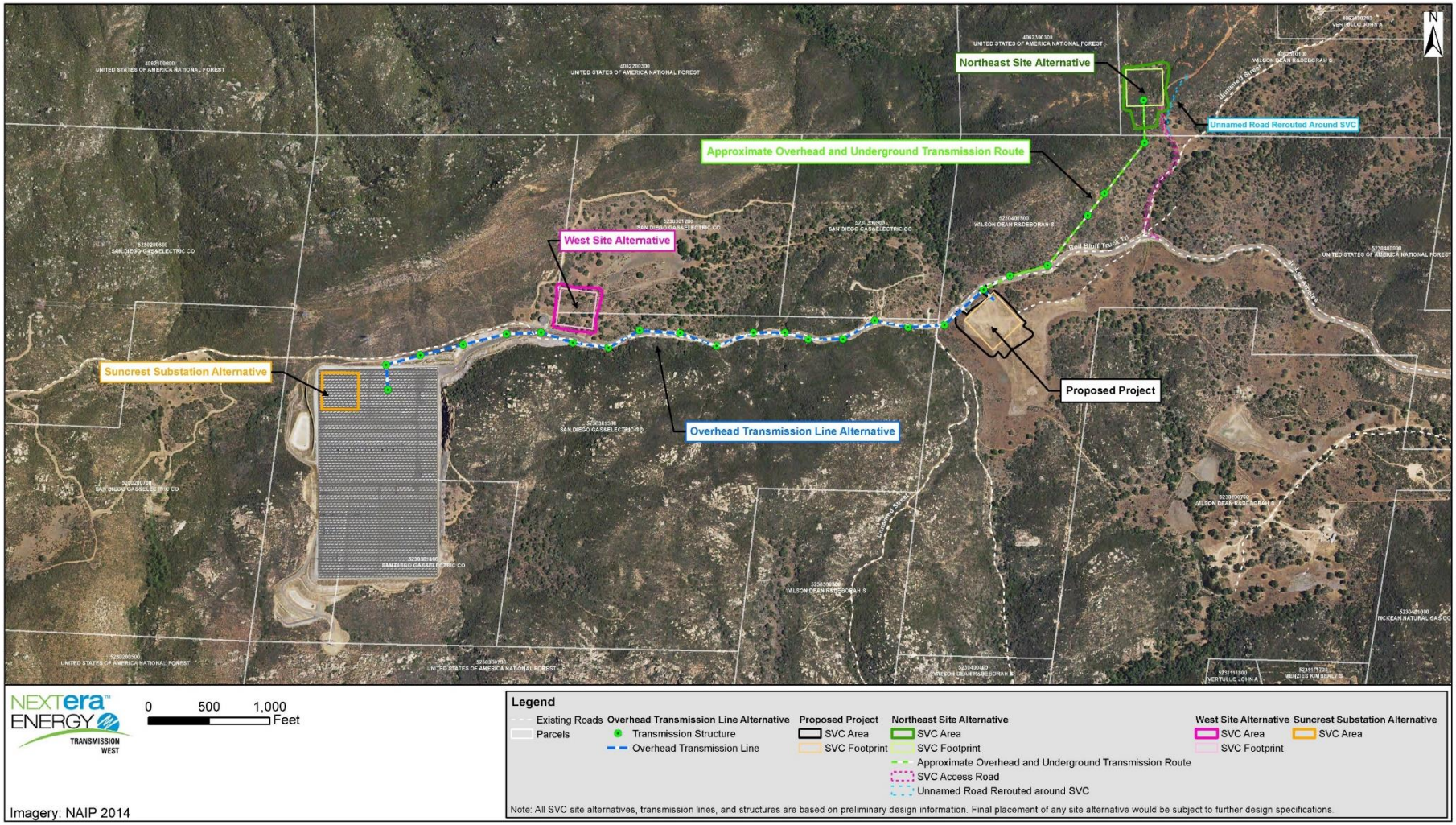
This section describes an Overhead Transmission Alternative (as an alternative to the Proposed Project's underground transmission line) and the following three alternative SVC locations:

- Northeast Site Alternative,
- West Site Alternative, and
- Suncrest Substation Alternative.

Like the previous discussions for the other alternatives, this section evaluates the Overhead Transmission Line Alternative and SVC Site Alternatives against the "reasonableness" criteria presented in Section 5.2.2. Because, unlike all other alternatives described below, the Northeast Site Alternative is potentially "feasible," this section also compares that alternative's environmental impacts with those of the Proposed Project. This section also compares the Overhead Transmission Line Alternative's environmental impacts with those of the Proposed Project, even though the Overhead Transmission line Alternative is not feasible. This is because the Overhead Transmission Line Alternative was, at one time, deemed feasible and, as a result, the environmental impacts were fully evaluated.

Figure 5-1 shows the locations of the Transmission Line and SVC Siting Alternatives. The Northeast Site Alternative lies northeast of the Proposed Project's SVC site, approximately 0.3 mile north of Bell Bluff Truck Trail. The West Site Alternative is located north of Bell Bluff Truck Trail closer to the Suncrest Substation as compared to the Proposed Project's SVC location. The Suncrest Substation Alternative's SVC site is located within the existing Suncrest Substation fence line.

Figure 5-1. Transmission Line and Siting Alternatives



5.2.6.1. Overhead Transmission Line Alternative

Description of Alternative

Under this alternative, the SVC would be at the same location as the Proposed Project, but the transmission line would be overhead, instead of underground. The overhead transmission line between the SVC and Suncrest Substation would be approximately 1 mile in length and generally parallel Bell Bluff Truck Trail, which is bordered by undeveloped chaparral and oak woodland habitats. A 70- to 100-foot-wide transmission line right-of-way would be required to account for the land needed for operations and maintenance, as well as transmission line clearance requirements under CPUC General Order 95.

As shown in Figure 5-1, the Overhead Transmission Line Alternative route exits the SVC site on the north side and heads westerly along Bell Bluff Truck Trail within the road shoulder. Near the Suncrest Substation, the route turns south and runs parallel to the Sunrise Powerlink 230 kV transmission line for about 300 feet.

The Overhead Transmission Line Alternative would include installation of approximately 17 tubular steel pole transmission structures between the SVC and Suncrest Substation fence lines. The types of transmission structures would vary depending on location but would include tangent, running angle, and dead-end structures. Tangent poles would typically be used when the pole alignments continue in a straight line, whereas running angle poles will be used at angle changes. Dead-end poles would be used at angle changes, high strain locations, terminations, or as needed. All structures would be raptor safe and compliant with the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC) 2006 guidelines.

Table 5-2 provides transmission line characteristics for the Overhead Transmission Line Alternative. Figures 5-2 and 5-3 provide illustrations of the tangent and running angle transmission line structures, respectively.

Table 5-2. Transmission Line Characteristics for Overhead Transmission Line Alternative

Component	Description
Type of Structure	Steel Mono-pole
Structure Height	80–140 feet above ground level
Structure Width	2.75–6 feet wide (top and base)
Span Length	200–575 feet
Structure Foundations	Drilled Pier with Poured Concrete, or Direct Embed
Conductor	230 kV 1272 kcmil (45/7) Aluminum, Steel Reinforced (ASCR), Non-Specular - "Bittern"

Pole heights would range between approximately 80 and 140 feet out of the ground. Pole span separation would typically be between 200–575 feet.

Figure 5-2. Typical Tangent Tubular Steel Pole Structure

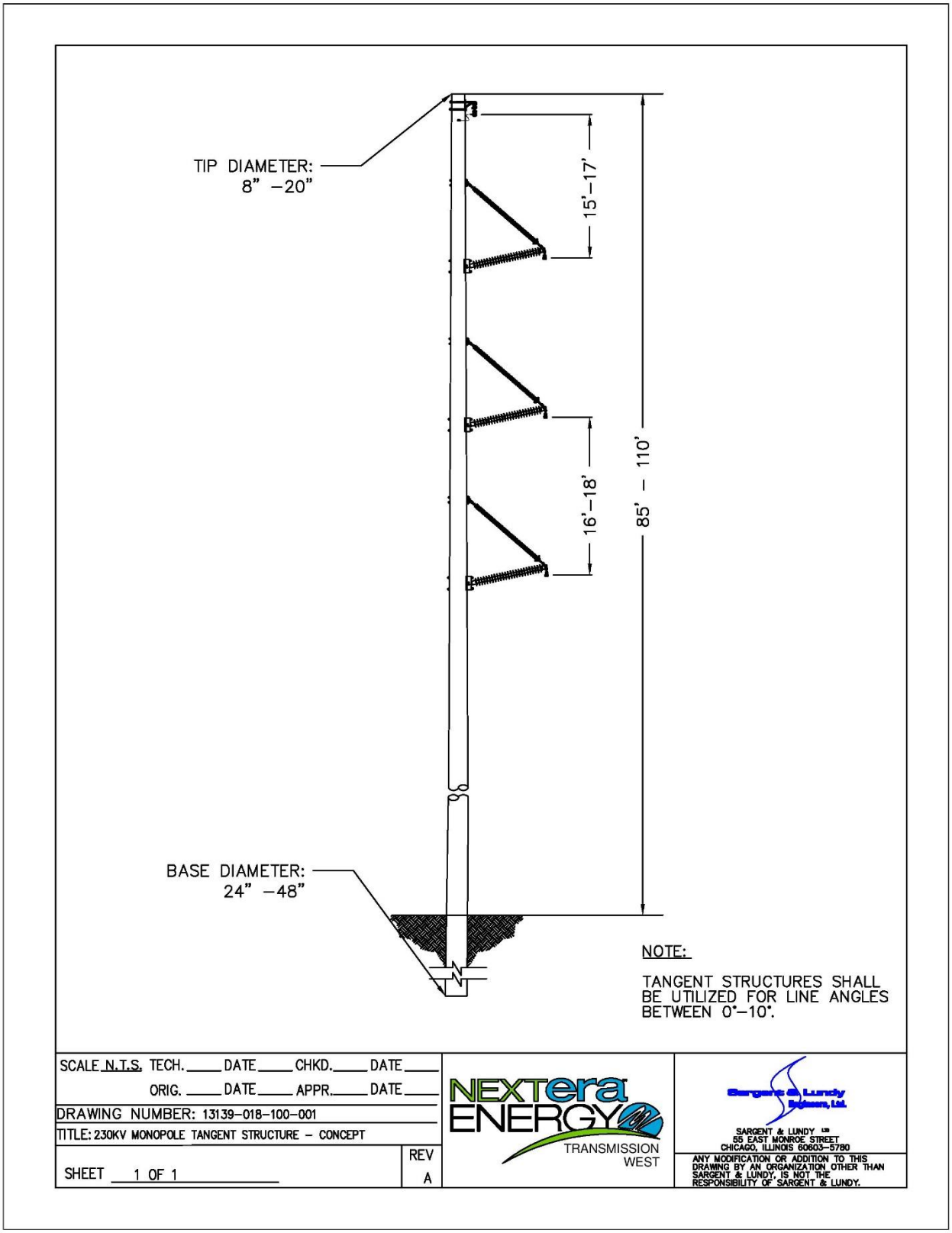
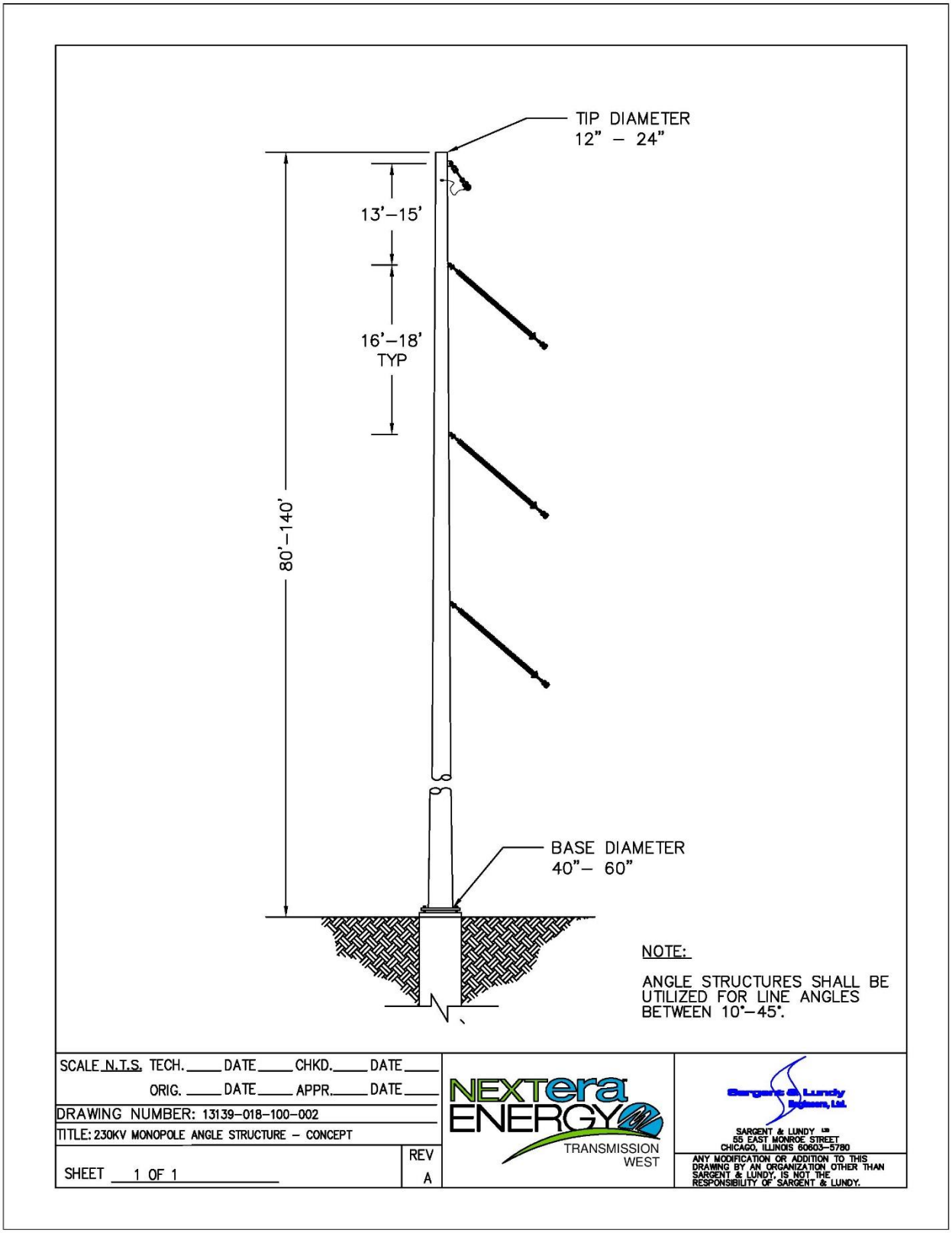


Figure 5-3. Typical Running Angle Tubular Steel Pole Structure



All proposed transmission structures would be located on private property along Bell Bluff Truck Trail typically within 20 feet of the edge of the road. These poles would typically be located within previously disturbed areas along the road shoulder, or within immediately adjacent vegetated areas, and would be accessed from Bell Bluff Truck Trail. NEET West's reasoning for proposing this particular route included the following: (1) the road (Bell Bluff Truck Trail) and adjacent land has generally been previously disturbed, resulting in the least impacts to environmental resources; (2) co-location with existing roadways and the Sunrise Powerlink transmission corridor along the final 300 feet entry into the Suncrest Substation reduces environmental impacts and land use inconsistencies; and (3) biological and cultural resources information for the route had already been developed during the Sunrise Powerlink CEQA process, so that NEET West's studies could build upon that work.[10]

NEET West understands that the area immediately adjacent to Bell Bluff Truck Trail where the overhead transmission line would be located are lands that SDG&E has committed to transfer to the USFS as mitigation for impacts caused by the Sunrise Powerlink Project; however, there remains some uncertainty regarding the exact boundary of the lands to be transferred. Alternative construction methods for transmission pole installation may be required based on results from site-specific geotechnical testing and analysis. Alternative methods may include pole installation on micropile foundations. Micropiles typically consist of small-diameter drilled and grouted replacement piles (i.e., a pile placed or constructed within a previously drilled borehole replacing the excavated ground). Micropiles are installed by drilling a borehole, reinforcing the hole with a casing or other enforcement structure, and grouting the hole. Micropiles are effective in a number of different environments and soil types and are often used where shallow rock is present or areas with limited access.

Construction phases and equipment for the Overhead Transmission Line Alternative would be similar as for the Proposed Project, except that no trenching would be required. There would be less need for off-haul of excavated material, probably less likelihood of localized, low-energy (e.g., shape charge) blasting, and less disruption of Bell Bluff Truck Trail, than for the Proposed Project.

Differences in Environmental Effects Compared to Proposed Project

The purpose of alternatives analysis under CEQA is reduction or elimination of significant environmental impacts. Because the Proposed Project will not have any significant environmental impacts, the discussion of environmental effects below focuses on differences in the degree or type of environmental effects. Although this alternative is not feasible for reasons explained below, the associated environmental impacts are nevertheless provided here since this alternative was, at one time, deemed feasible and as a result, the environmental impacts were fully evaluated.

[10] While the impacts and disturbance areas associated with Sunrise Powerlink had successfully gone through NEPA and CEQA review, the Sunrise Powerlink Mitigation, Monitoring, and Reporting Program and associated mitigation plans included a commitment that SDG&E would restore and deed over certain lands to the USFS for long term management. This commitment was mitigation for the permanent disturbance of the Suncrest Substation and project impacts to waters of the United States. As a result, much of the land surrounding Suncrest Substation that is currently owned by SDG&E will be transferred to the USFS to manage in perpetuity. The timing of this transfer is unknown.

For the following environmental topics, there would be no appreciable differences in impacts between the Overhead Transmission Line Alternative and the Proposed Project:

- Agriculture and Forest Resources
- Cultural Resources
- Hydrology and Water Quality
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Growth-Inducing Impacts

Under this alternative, the location of the SVC would be the same as for the Proposed Project as presented in Chapter 4.0, Environmental Setting and Impact Assessment Summary. As a result, the impacts associated with the SVC are not included in the analysis that follows.

Aesthetics

The most salient difference between the Overhead Transmission Line Alternative and the Proposed Project would be the visual presence of an overhead transmission line. Existing and future simulated views for three of the KOPs illustrate the difference. Section 4.1, Aesthetics, provides the background information needed to understand the KOPs. Figure 5-4 provides a map showing where the relevant KOPs are located for this alternatives analysis.

Figure 5-5 shows the existing view along Bell Bluff Truck Trail from KOP 3; this figure is the same as Figure 4.1.6 in Section 4.1, Aesthetics. Figure 5-6 shows the view along Bell Bluff Truck Trail from KOP 3 with the Overhead Transmission Line Alternative. The landscape character of KOP 3 is a combination of developed and natural in appearance with chaparral covered hills and large trees in the foreground and middleground, and man-made features in the foreground. The landscape character would not change as a result of the Overhead Transmission Line Alternative. The visual quality is low, as the view encompasses the road cut for the Suncrest Substation access road, contrasting distinctly with the shrub-covered slopes, as well as a water tank. Viewer concern and viewer exposure are low, as the view of the proposed transmission line from this KOP is experienced from Bell Bluff Truck Trail and the access road to the existing substation, which is not publically accessible. Though the visual contrast is moderate-to-high, since the overall viewer sensitivity is low, the overall visual change would be low.

Figure 5-7 shows the existing view from KOP 8; this figure is the same as Figure 4.1.7. Figure 5-8 shows the view from KOP 8 with the Overhead Transmission Line Alternative. The landscape character of KOP 8 is predominantly natural in appearance with coastal sage and chaparral covered hills and Bell Bluff Truck Trail. The visual quality is low-to-moderate, with a landscape view of relatively undisturbed slopes. Viewer concern is low. The visual change of Overhead Transmission Line Alternative would contrast with the landscape foreground and

middleground views, but will be consistent with the background views. The Proposed Project's overall visual change from KOP 8 would not create high visual contrast, would not dominate the view, and would not create view blockage.

Figure 5-9 shows the existing view from KOP 9; this figure is the same as Figure 4.1.9. Figure 5-10 shows the view from KOP 9 with the Overhead Transmission Line Alternative. The landscape character of KOP 9 is predominantly natural in appearance with a reclaimed California buckwheat scrub meadow, chaparral covered hills, and Bell Bluff Truck Trail (Figure 4.1-7). The visual quality is low-to-moderate, with a landscape view of undisturbed slopes and a reclaimed meadow. Viewer concern and visual sensitivity are generally low-to-moderate, as Bell Bluff Truck Trail is closed to public use; however, this KOP is adjacent to private land and may be viewed by the property owner. The visual change of the Overhead Transmission Line Alternative would contrast with the landscape foreground and middleground views, and would not be consistent with the background views.

Construction-related visual impacts would potentially occur with the presence of equipment, materials, and work crews along the transmission line. Operation-related visual impacts would potentially occur with the presence of the transmission line. However, the areas surrounding the Overhead Transmission Line Alternative already support existing SDG&E transmission and substation facilities. The presence of the Overhead Transmission Line Alternative would not create an adverse contrast to the existing landscape, since there are other linear, horizontal features already present within the visual setting (i.e., Bell Bluff Truck Trail, Sunrise Powerlink transmission lines, Suncrest Substation) and the Overhead Transmission Line Alternative would not dominate the view. APMs AES-1 and AES-4 would further reduce impacts during operation and maintenance of the project. While the visual impacts associated with an overhead transmission line would be less than significant, when compared to the Proposed Project's underground transmission line, visual impacts would be greater.

Figure 5-4. Regional Landscape Context and KOPs for Alternatives Analysis

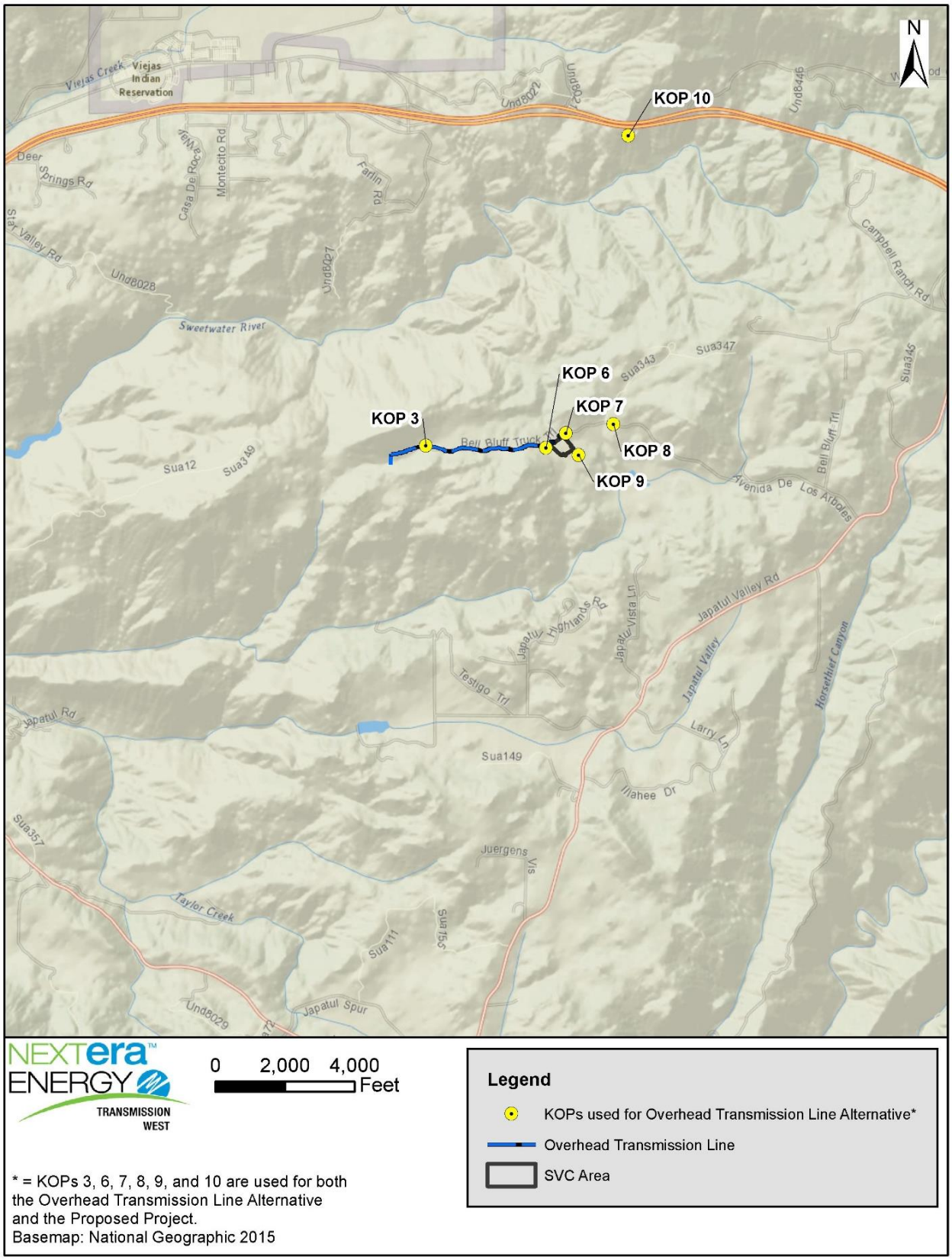


Figure 5-5. Key Observation Point 3 Existing Conditions, Looking East.

Figure 5-6. Key Observation Point 3, Future Conditions with the Overhead Transmission Line Alternative, Looking East – Simulated View of the Transmission Line (NOTE: the size, dimensions, and height of the transmission line pole in the center of the photo would be the same as the pole in the middleground).

Figure 5-7. Key Observation Point 8 Existing Conditions, Looking West.

Figure 5-8. Key Observation Point 8, Future Conditions with Overhead Transmission Line Alternative, Looking West – Simulated View of the SVC.

Figure 5-9. Key Observation Point 9 Existing Conditions, Looking West.

Figure 5-10. Key Observation Point 9, Future Conditions with Overhead Transmission Line Alternative, Looking West – Simulated View of the Transmission Line and the SVC.

Air Quality and Greenhouse Gas Emissions

Tables 4.3.9 and 4.3-10 in Section 4.3, Air Quality and Greenhouse Gas Emissions, present air pollutant emissions estimates for construction of the Proposed Project. Differences in construction equipment needed to build an overhead transmission line under the Overhead Transmission Line Alternative versus an underground transmission line change the quantities of unmitigated and mitigated air pollutant emissions, because there would be different types of equipment used for different durations. However, construction and operational air pollutant emissions of the Overhead Transmission Line Alternative would fall below significance thresholds, similar to the Proposed Project.

Biological Resources

No special-status plants or wildlife were observed in the vicinity of the Proposed Project or Overhead Transmission Line Alternative during surveys conducted between February and June 2015. One rare plant population of felt-leaved monardella (approximately 25 felt-leaved monardella plants) was observed near Bell Bluff Truck Trail but would be avoided by design of both the Proposed Project and Overhead Transmission Line Alternative.

To avoid new biological resource impacts, NEET West would co-locate the Overhead Transmission Line Alternative in areas that have been subject to prior disturbance to the extent possible. The Overhead Transmission Line Alternative would be routed within mostly disturbed areas adjacent to existing roadway. Following construction, any temporary work areas would be returned to pre-construction conditions and native seed mixes appropriate for the site-specific project area would be utilized to revegetate disturbed areas and minimize the potential for invasive species. Impacts to wetlands, streams, lakes, and riparian areas would be avoided by project design.

Because the Overhead Transmission Line Alternative would involve construction adjacent to the existing road (as opposed to under it), this alternative would have a marginally greater impact on biological resources, although still less than significant through application of APMs.

Geology and Soils

The Overhead Transmission Line Alternative would involve less excavation for the foundations for the transmission structures, and possibly less blasting, than the Proposed Project's excavation for the underground transmission line.

Hazards and Hazardous Materials

Regarding hazards and hazardous materials, the most noteworthy difference between the Overhead Transmission Line Alternative and the Proposed Project would be a longer overhead transmission line (approximately 1 mile) compared to a 300-foot-long span of overhead transmission line needed to interconnect to the Suncrest Substation for the Proposed Project. The discussion under Impact HAZ-8 in Section 4.7, Hazards and Hazardous Materials, explains the fire hazards associated with overhead transmission lines. The fire risk associated with the Overhead Transmission Line Alternative is approximately 0.00234% chance of a spark (i.e., fire)

per year. The fire risk associated with Proposed Project's 300-foot-long overhead span equates to an approximately 0.000122% chance of a spark (i.e., fire) per year. In addition, the Overhead Transmission Line Alternative poses a higher risk for wildfire containment in the event a wildfire was to start. For both the Proposed Project and the Overhead Transmission Line Alternative, transmission line protection and control systems would be designed to detect faults (such as arcing from debris contacting the line) and rapidly shut off power flow in 1/60 to 1/20 of a second. Also, routine vegetation maintenance would reduce this potential impact to less than significant. When comparing the Proposed Project to the Overhead Transmission Line Alternative, however, the Overhead Transmission Line Alternative presents a statistically higher fire risk.

Land Use and Planning

While both the Proposed Project and Overhead Transmission Line Alternative are located on privately owned land, SDG&E has committed, as part of the Sunrise Powerlink mitigation requirements, to deed over certain lands it currently owns adjacent to Bell Bluff Truck Trail to the USFS for long-term management. When the Overhead Transmission Line Alternative was part of the Proposed Project, NEET West sited the overhead line within 20 feet of the curbs of Bell Bluff Truck Trail to remain within the area that NEET West understood would remain in private ownership. However, because this boundary is unclear, siting of a transmission line outside of the paved portion of Bell Bluff Truck Trail could become a site control risk. As a result, the Proposed Project in an underground configuration within the curbs of Bell Bluff Truck Trail would be more clearly compatible with future land use.

Noise

Construction of the Overhead Transmission Line Alternative would involve considerably less excavation than the underground transmission line and the potential need for blasting could be reduced.

During operation, the Overhead Transmission Line Alternative would generate more corona noise than the 300-foot length of overhead transmission line in the Proposed Project. The electric field near a conductor can ionize air close to the conductors, resulting in a small discharge of electrical energy called a corona discharge, or corona. Overhead transmission lines may emit corona noise, which are typically described as humming or crackling sounds. The sounds are minimal in fair weather conditions, but increased during wet and humid conditions.[11] Corona noise is generally noticeable for transmission lines rated at 345 kV and above. Rainy weather audible noise for a 230 kV transmission line may be noticeable.

Given these low noise levels, and because of the existing transmission lines in the area and lack of sensitive receptors within 1 km (0.62 mile), the noise associated with any corona noise from an overhead transmission line would not be discernible. Neither the Overhead Transmission Line Alternative or Proposed Project would cause a significant noise effect regarding corona

[11] The amount of corona noise is a function of proximity to other transmission lines, voltage of the line, diameter of the conductors, locations of the conductors in relation to each other, elevation of the line above sea level, age and condition of the conductors and hardware, and local weather conditions.

noise, but the Overhead Transmission Line Alternative would generate more corona noise, due to its comparative length.

Transportation and Traffic

The Overhead Transmission Line Alternative would require less truck traffic for hauling away excavated spoils than the Proposed Project's underground transmission line.

Rationale for Rejecting the Overhead Transmission Alternative

The Overhead Transmission Line Alternative was originally part of the Proposed Project in NEET West's proposal to the CAISO and during the Proposed Project's initial planning stages. However, SDG&E, as the landowner for a portion of the proposed transmission route, rejected NEET West's request to route an overhead line based on the two proposed overhead design alternatives that NEET West presented, and indicated that it would not be willing to grant NEET West an easement for an overhead transmission line. Accordingly, this alternative is not feasible due to lack of site control. Furthermore, while this alternative would have less-than-significant impacts, it would, as discussed above, have greater long-term visual effects and fire risk than the Proposed Project. Although moving to an underground transmission line was more costly than an overhead transmission line, in order to address site control risks and expected community/agency concerns related to visual impacts and fire risk, NEET West ultimately chose to construct the transmission line underground and absorb any increased costs (without passing them on to California ratepayers) that would cause NEET West to exceed the binding cost estimate presented to the CAISO.

5.2.6.2. Northeast Site Alternative

Description of Alternative

Under the Northeast Site Alternative, the SVC would be located approximately 0.3 mile north of Bell Bluff Truck Trail on undisturbed land owned by the same property owner as the Proposed Project and for which location NEET West also has site control through an option to purchase agreement (see Figure 5-1). An approximately 1.4-mile-long overhead or underground transmission line, 0.3 miles of which would be primarily through undisturbed habitat, would be required to connect this alternative site to the Suncrest Substation's 230 kV bus. If the transmission line were to be constructed overhead from the Northeast Site Alternative, NEET West would have to obtain a transmission line easement for the portion of the overhead transmission line on SDG&E property. Please refer to the Overhead Transmission Line Alternative section above for a detailed discussion on the viability of this alternative transmission line design. In its option to purchase agreement with the additional private landowner, NEET West has negotiated transmission easement and access rights for a transmission line across said property.

Differences in Environmental Effects Compared to Proposed Project

Because the Proposed Project will not have any significant environmental impacts, this discussion focuses on the differences in the degree of environmental effects between the Proposed Project and the Northeast Site Alternative. For all topics other than aesthetics,

biological resources and cultural resources, locating the SVC at the Northeast Site would have very similar environmental effects as the Proposed Project.

Aesthetics

If the Northeast Alternative Site were connected to the Suncrest Substation via an overhead transmission line, it would be routed along a ridgeline between the SVC and Bell Bluff Truck Trail and would be fully visible from I-8 and up to five residences. If the Northeast Alternative Site was connected to the Suncrest Substation via an underground transmission line, it would be routed along a ridgeline between the SVC and Bell Bluff Truck Trail, and the transmission line would not be visible.

If an overhead line were used, the SVC and overhead transmission line in this alternative could be prominently visible for several minutes from I-8, whereas the Proposed Project's SVC would be partially visible from I-8 for approximately 16 seconds or less. The Proposed Project's transmission line would be buried and not visible.

The Proposed Project's SVC would be partially visible from up to five residences, the closest of which is located 0.81 mile away. The Northeast Site Alternative would also be visible to nearby residents.

As a result of these comparisons, impacts to aesthetic values from the Northeast Site Alternative would be greater than for the Proposed Project. However, impacts to aesthetics values for both the Northeast Site Alternative and Proposed Project would be less than significant.

Biological Resources

During surveys conducted between February and June 2015, no special-status plants were observed within the boundaries of the Northeast Site Alternative or Proposed Project boundaries. However, additional rare plant surveys would be required on the Northeast Site Alternative during appropriate blooming periods that were not captured during spring 2015 survey efforts. No special-status wildlife was recorded at the Northeast Site Alternative or the Proposed Project as a result of the directed surveys conducted in 2015. While impacts to plants and wildlife are less than significant for both the Northeast Site Alternative and Proposed Project, the Northeast Site Alternative involves ground disturbance within undisturbed, native habitat and would require substantially more tree removal. Therefore, the risk of encountering previously unidentified resources is higher.

There is also a difference between the Northeast Site Alternative and the Proposed Project regarding jurisdictional waterways. The access road leading to the Northeast Site Alternative would require substantial improvement and would permanently impact one presumed USACE- and CDFW-jurisdictional waterway to create a road apron off Bell Bluff Truck Trail and widen the road for permanent access. In addition, two ephemeral drainages would likely be impacted within Northeast Site Alternative footprint.

Because an overhead or underground transmission line would be routed between the SVC and Bell Bluff Truck Trail in largely undisturbed habitat, the transmission line component of this

alternative would result in greater biological impact than the transmission line component of the Proposed Project.

Surface waters that would be impacted are ephemeral washes with poorly sorted bed materials and undefined or transient geomorphology (e.g., bed, bank, and flow paths). Features lack significant riparian habitats and provide limited ecological or anthropic functions beside flow transport, limited groundwater recharge, limited habitat value, and sediment/nutrient transport. While the impacts to these features are adverse, the impact acreages are within the thresholds of a USACE Nationwide Permit which, by definition, are less than significant.

As for the Proposed Project, impacts to wetlands, streams, lakes, and riparian areas would be avoided by project design and only two small access drives would be constructed to provide access to the SVC as opposed to a 0.3-mile access road that would require widening to at least 25 feet wide.

While the biological resource impacts of the Northeast Site Alternative and Proposed Project would be less than significant through application of APMs, development of the Northeast Site Alternative would involve more disturbance in previously undisturbed land, and, as a result of the access road improvements, would require more temporary and permanent disturbance (acres) than the Proposed Project.

Cultural Resources

Because of the undisturbed nature of the Northeast Site Alternative and the presence of surrounding cultural resource sites, the potential for encountering previously unrecorded or unanticipated cultural materials is arguably higher than for the Proposed Project. As with the Proposed Project, impacts to cultural resources would be less than significant with the application of APMs.

Rationale for Rejecting the Northeast Site Alternative

The Northeast Site Alternative would meet most of the Proposed Project's basic objectives and is feasible given site control. However, unlike the Proposed Project which is located on previously disturbed land, this alternative would be located in undisturbed native habitat, would involve the construction of a longer transmission line and access road with correspondingly greater biological and cultural resource impacts, and would be visible from I-8. Because this alternative would, on balance, result in greater environmental impacts than the Proposed Project, it was rejected from further consideration.

5.2.6.3. West Site Alternative

Description of Alternative

Under the West Site Alternative, the SVC would be located just north of Bell Bluff Truck Trail, closer to the Suncrest Substation (as compared to the Proposed Project), on mostly undisturbed land owned by SDG&E (see Figure 5-1). Based on discussions with SDG&E, all land outside of the 70-foot-wide Bell Bluff Truck Trail right-of-way (20 feet either side of the paved roadway) is slated to be deeded over to the USFS as part of SDG&E's mitigation obligations under the

Sunrise Powerlink's Habitat Mitigation and Monitoring Plan (HMMP)/Lightner Mitigation Site conditions (WRA 2011). The Lightner Mitigation Site includes mitigation areas surrounding the Suncrest Substation and Bell Bluff Truck Trail. While NEET West understands that approximately 20 feet of the road shoulder will be exclusive of adjacent HMMP mitigation lands, and will remain in private ownership following any land transfer to the USFS, the location of the West Site Alternative footprint would be largely outside of that 20-foot area.

It is worth noting that while the West Site Alternative would have a shorter underground transmission line than the Proposed Project, it would result in overall greater biological resource impacts because, unlike the Proposed Project, which is located on previously disturbed land, this alternative is located primarily in undisturbed habitat with scattered trees.

Rationale for Rejecting the West Site Alternative

The West Site Alternative would not meet all of the basic project objectives. SDG&E denied NEET West's request to locate the SVC facility on its property, in part because that land is in the process of being transferred to the USFS as mitigation for Sunrise Powerlink-related impacts. Because SDG&E is not a willing seller, it is not feasible for NEET West to obtain site control to locate the SVC on this land in time to meet the CAISO's required June 1, 2017, in-service date. If directed to locate the SVC on SDG&E property, NEET West would have to attempt to obtain site control via eminent domain. However, NEET West will not have eminent domain authority until the CPUC grants it a CPCN, at which time NEET West will become a "public utility" under the Public Utilities Code. Even once such certificate is granted, and NEET West obtains eminent domain authority as a public utility, it will not possess such authority until the conclusion of this proceeding, which NEET West is requesting to be in August 2016. With this schedule, there would not be sufficient time at that juncture for NEET West to commence condemnation proceedings, obtain site control, and construct the SVC on SDG&E property by the CAISO's required June 1, 2017, in-service date. Because NEET West cannot obtain timely site control, and biological impacts would, in any event, be greater, this alternative was rejected from further consideration.

5.2.6.4. Suncrest Substation Alternative

Description of Alternative

SDG&E owns the Suncrest Substation and the underlying land. Under the Suncrest Substation Alternative, NEET West would have to obtain the rights from SDG&E to build, own, and operate the SVC within the substation. The proposed location of the SVC within the substation fence is currently unknown and would be subject to coordination and consultation with SDG&E. No transmission line would be necessary under this alternative.

Rationale for Rejecting the Suncrest Substation Alternative

SDG&E denied NEET West's request to locate the SVC within the Suncrest Substation. Because SDG&E is not a willing seller, it would be infeasible for NEET West to obtain site control to locate the SVC inside the Suncrest Substation in time to meet the CAISO's required June 1, 2017, in-service date. If directed to locate the SVC within the Suncrest Substation, NEET West would have to then attempt to obtain site control via eminent domain. However,

NEET West will not have eminent domain authority until the CPUC grants it a CPCN, at which time NEET West will become a "public utility" under the Public Utilities Code. Even once such certificate is granted and NEET West obtains eminent domain authority as a public utility, it will not possess such authority until the conclusion of this proceeding, which NEET West is requesting to be in August 2016. With this schedule, there would not be sufficient time at that juncture for NEET West to commence condemnation proceedings, obtain site control, and construct the SVC within the Suncrest Substation by the CAISO's required June 1, 2017, in-service date.

In addition, NEET West's APSA with the CAISO states that the CAISO may terminate NEET West's right to develop the Suncrest Project if the project is required to be sited within the Suncrest Substation. Under the CAISO's tariff, only the incumbent utility can construct a project within an existing substation, so NEET West would not have been awarded the project, if it were located within the substation. The Suncrest Substation Alternative would not be feasible due to lack of site control and would not meet the basic project objectives of meeting the CAISO's in-service date and conformance with the APSA.

NEET West's inability to obtain the legal right to construct the project within the Suncrest Substation is sufficient to render the alternative infeasible, but there are additional reasons why this project location is less favorable than the Proposed Project and why NEET West rejected this alternative. First, NEET West proposed its project subject to binding cost estimate and cost containment measures that the CAISO found to result in a "materially lower and more robust binding cost cap" with "more robust limitations on potential cost increases" than SDG&E's proposed project that would be constructed within the Suncrest Substation.[12] NEET West did not provide a binding cost estimate for a project constructed inside the substation and therefore could not feasibly construct the project within the Suncrest Substation for the estimate provided in its Application. Although SDG&E provided an estimate for a project inside the substation, based on its estimate to the CAISO, SDG&E could do so only for a materially higher cost and with a less robust binding cost cap than NEET West is providing. NEET West's project provides significant economic benefits in the form of a lower cost estimate and more robust cost controls.

Second, building this project within the Suncrest Substation would limit flexibility and future expandability already contemplated for the Suncrest Substation. According to the Final EIR/EIS for the Sunrise Powerlink Project, anticipated expansion plans at Suncrest Substation consist of at least four additional 230 kV circuits and an additional 500 kV circuit.[13] This expansion is in addition to the one existing 500 kV circuit and two 230 kV circuits constructed as part of the Sunrise Powerlink Project. Therefore, construction of the SVC within the fence line of the Suncrest Substation may impact the future intended use of the substation, and ultimately the transmission network in the region, if the intended number of transmission circuits cannot be accommodated at the Suncrest Substation.

[12] Suncrest Selection Report at 40.
[13] Sunrise Powerlink Final EIR/EIS, October 2008, Project Description, page B-5.

5.3. GROWTH-INDUCING IMPACTS

5.3.1. Growth-Inducing Impacts

CEQA requires an analysis of ways in which a project could induce growth. The State CEQA Guidelines consider a project to be growth-inducing if it fosters economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding area (State CEQA Guidelines sections 15126(d), 15126.2(d)). A project can be growth-inducing by removing obstacles to population growth or by encouraging and facilitating other activities that could significantly affect the environment. Examples of growth-inducing aspects of projects include residential development allowing people to move into an area, population growth due to new employment, and expansion of urban services into previously undeveloped areas. Examples of removing major obstacles to growth include new transportation corridors and potable water supply.

5.3.2. Growth Caused by Direct and Indirect Employment

As a conservative assumption, the total number of unique construction workers over the entire construction period could be up to approximately 120 workers. Many construction workers will likely already live in the San Diego area, and the short construction duration is not likely to induce any non-local workers to move to the San Diego area. Highly-specialized construction workers for certain aspects of installing the high-voltage underground transmission line and SVC may be non-local. However, such non-local specialty workers are likely to travel from job to job and stay in the San Diego area only for the construction phase in which they are involved.

The number of construction workers who will visit the Alpine area will be too small to have a substantial probability of causing new employees to be hired in service businesses. During operation, the Proposed Project will not have any permanent employees. Therefore, the Proposed Project will not cause a population increase, and will not induce growth by direct or indirect employment.

5.3.3. Growth Related to Electric Power

Unlike an electric generation project, the Proposed Project will not increase the quantity of real power to the electrical power grid. The Proposed Project will not create a new source of electric power that will indirectly allow for an increase in population or housing. Rather, the Proposed Project will improve the reliability of the transmission grid, and help control voltage within desired parameters.

The Proposed Project will assist the flow of renewable energy and imported power from the east to urban load centers in the west. However, the renewable energy is the result of state policies mandating more renewable generation in the mix of generation, rather than increasing the total generation.

The Proposed Project will not extend electricity delivery infrastructure into previously un-served areas. Its location in a semi-rural area is necessary to connect to the Suncrest Substation.

There are no future phases to the Proposed Project. Additionally, there are no connected actions; transmission, distribution, or substation work; or other system or network upgrades expected.

For all these reasons, the Proposed Project will not be growth-inducing.

5.4. REFERENCES

California Independent System Operator (CAISO), Infrastructure Development. 2014a. *California Independent System Operator, Infrastructure Development, 2013–2014 Transmission Plan* (Board Approved). July 16, 2014 (as amended to include the Delaney-Colorado River project). Available at: www.caiso.com/planning/Pages/TransmissionPlanning/2013-2014TransmissionPlanningProcess.aspx. Accessed on March 17, 2015.[14]

———. 2014b. *Suncrest 230 kV 300 MVAr Dynamic Reactive Power Support Description and Functional Specifications for Competitive Solicitation (the "Suncrest Functional Specifications")*. April 15, 2014. Available at http://http://www.caiso.com/Documents/Description-FunctionalSpecificationsSuncrest230ReactivePowerSupport.pdf. The Suncrest Functional Specifications are provided as Annex D to the Testimony.

———. 2015a. *Reactive Power Requirements and Financial Compensation: Issue Paper*, pp. 13–14. May 22, 2015.

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Californai Energy Commission (CEC). 2015a. Power Plant Licensing Cases Reviewed by the California Energy Commission. Available at: http://www.energy.ca.gov/newnav/power_plant_links.html. Accessed on June 18, 2015.

———. 2015b. Status of All Projects. Available at: http://www.energy.ca.gov/sitingcases/all_projects.html. Accessed on June 18, 2015.

[14]Note: As of May 2015, the March 2014 version of the Transmission Plan at www.caiso.com/Documents/Transmission%20planning/%20process%20-%20board-approved%20plan%20and%20appendices is not the most current version.

California Public Utilities Commission (CPUC), Energy Division Director. 2008. Working Draft Proponent's Environmental Assessment (PEA) Checklist for Transmission Line and Substation Projects (accompanied by Memorandum from CPUC Energy Division Director's Office, to Applicants Filing Proponent's Environmental Assessment (PEA), re: "Working Draft PEA Checklist Statement of Objectives, Changes to Working Draft to reflect GHG analysis to be included in PEA's."). Available at: http://www.cpuc.ca.gov/PUC/energy/Environment/infocrit.htm. Accessed on April 16, 2015.

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Mathworks. 2015a. Static Var Compensator (Phasor Type). Available at: http://www.mathworks.com/help/physmod/sps/powersys/ref/staticvarcompensatorphasortype.html?searchHighlight=static%20var%20compensator. Accessed on July 6, 2015. [Relies on N. G. Hingorani, L. Gyugyi, 2000. *Understanding FACTS; Concepts and Technology of Flexible AC Transmission Systems.* (Institute of Electrical and Electronics Engineers Press book).]

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6.0. OTHER PROCESS-RELATED DATA NEEDS

6.1. PROPERTY OWNERS

In accordance with the requirements of CPUC General Order 131-D, this section provides a list that includes all parcels within 300 feet of any component of the Proposed Project. The list includes the Assessor's Parcel Number (APN), owner mailing address, and physical address of each property within a 300-foot radius. The list is intended to allow for future public noticing of all those identified with regard to the Proposed Project. Table 6-1 provides a list of property owner addresses within 300 feet of the Proposed Project. Bell Bluff Truck Trail is owned individually by SDG&E and Dean R. and Deborah S. Wilson on parcels APN 523-030-130 and 523-040-080, respectively.

Table 6-1. Property Owner Addresses within 300 feet of the Proposed Project

APN	Physical Address	Mailing Address	Ownership
523-040-0800	0 Bell Bluff Truck Trail Alpine, CA 91901	PO Box 81676 San Diego, CA 92138	Dean R. and Deborah S. Wilson
523-040-0700	0 Bell Bluff Truck Trail Alpine, CA 91901	PO Box 81676 San Diego, CA 92138	Dean R. and Deborah S. Wilson
523-030-1200	0 Bell Bluff Truck Trail Alpine, CA 91901	8326 Century Park San Diego, CA 92123	SDG&E
523-030-0900	0 Bell Bluff Truck Trail Alpine, CA 91901	8326 Century Park San Diego, CA 92123	SDG&E
523-030-1300	0 Bell Bluff Truck Trail Alpine, CA 91901	8326 Century Park San Diego, CA 92123	SDG&E

No other process-related data needs were identified for this PEA. All information contained within the previous chapters of this document is considered adequate in determining the potential environmental effects of the Proposed Project. The analysis determined that impacts will be less than significant. Implementation of the APMs will ensure that impacts will remain less than significant.

6.2. PUBLIC PARTICIPATION

Due to the rural zoning and relative isolation of the area, property ownership near the Proposed Project is limited. To encourage supplementary community participation and awareness of the planning process, NEET West presented the Proposed Project at an Alpine Community Planning Group meeting on June 25, 2015. In addition, NEET West conducted a viewshed analysis and mailed project flyers to area residents within a 2-mile radius with a view of the Proposed Project to provide them with basic project information along with an invitation to an informational open house on August 4, 2015, at the Alpine Community Center in Alpine. NEET West also advertised the informational open house in two local newspapers circulated in the vicinity of the Proposed Project, the Alpine Sun and the East County Herald. Section 1.8 of the PEA Summary provides additional information about public participation and outreach efforts. Examples of the

materials used to support NEET West's public participation and outreach efforts is included in Appendix J, Public Participation and Outreach Effort Materials.

PROPONENT'S ENVIRONMENTAL ASSESSMENT
SUNCREST DYNAMIC REACTIVE POWER SUPPORT PROJECT

VOLUME II: APPENDICES

Application No. 15-xx-xxx

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August 31, 2015

Appendix A:

Confidential Submittals

Appendix A-1:

Confidential Existing Transmission Facilties Map

This appendix has been redacted from the public version of this report because it contains confidential site information.

Appendix A-2:

Confidential Cultural Resources Survey Results
Location Maps and Site Records

This appendix has been redacted from the public version of this report because it contains confidential site information.

Appendix B:

Photographs of Key Observation Points

KOP 3. View looking east from Bell Bluff Truck Trail at the entrance to the Suncrest Substation.

KOP 6. View looking east at Bell Bluff Truck Trail and the Wilson Laydown Yard.

KOP 7. View along Bell Bluff Truck Trail looking southwest at the Wilson Laydown Yard.

KOP 8. View looking west along Bell Bluff Truck, 0.25 mile northeast of the Wilson Laydown Yard.

KOP 9. View looking west at the southeast corner of the Wilson Laydown Yard.

KOP 10. View looking southwest at the eastbound I-8 scenic viewpoint; Sunrise Powerlink 230 kV transmission line towers are visible along the ridges on the right side of photograph.

KOP 11. View looking northeast along Japatul Valley Road, 3 miles south of Proposed Project; existing Suncrest Substation is visible along the ridgeline on the left of the photograph.

KOP 12. View looking north from the nearest residence's western property line to the Proposed Project; Wilson Laydown Yard is visible in center of photograph.

KOP 13. View looking north along Japatul Lane, showing the Suncrest Substation and Sunrise Powerlink 230 kV transmission line structures.

KOP 14. View looking north along Japatul Lane towards the Suncrest Substation.

KOP 15. View looking northwest at the intersection of Vista Esperanza Lane and Japatul Valley Road, showing the existing Suncrest Substation and Sunrise Powerlink 230 kV transmission line structures.

KOP 16. View looking west along Japatul Highlands Road; existing Sunrise Powerlink 230 kV transmission line and the Suncrest Substation visible in center of photograph.

KOP 17. View looking west along Avenida De Los Arboles (Bell Bluff Truck Trail), 1.3 miles east of Proposed Project SVC area; existing Sunrise Powerlink 230-kV transmission line structure which connects to the Suncrest Substation is visible on the right of photograph.

Appendix C:

Air Quality Calculations

Suncrest Reactive Power Support Project

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	90.00	1000sqft	12.00	90,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage setup to 12

Construction Phase - Construction Schedule from Suncrest Construction Plan 071315

Off-road Equipment - Equipment Roster

Off-road Equipment - Splice truck

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Test truck

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Trips and VMT - 3,500 cubic yards of spoils will need to be hauled offsite = 438 trips * 8 cubic yards/trip

Grading -

Vehicle Trips - Assumes one (1) trip per day

Water And Wastewater - Unmanned facility, No planned indoor water use

Solid Waste - Unmanned facility, No solid waste generation

Land Use Change -

Construction Off-road Equipment Mitigation - All Engines are assumed to comply with Tier 2 engine

Area Mitigation - Low VOC paint

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstructionPhase	PhaseStartDate	1/28/2017	1/16/2017
tblConstructionPhase	PhaseStartDate	1/31/2017	3/1/2017
tblConstructionPhase	PhaseStartDate	6/16/2017	4/23/2017
tblConstructionPhase	PhaseStartDate	12/11/2016	10/1/2016
tblConstructionPhase	PhaseStartDate	11/21/2016	10/7/2016
tblConstructionPhase	PhaseStartDate	1/16/2017	10/31/2016
tblConstructionPhase	PhaseStartDate	3/11/2017	11/1/2016

tblConstructionPhase	PhaseStartDate	1/1/2017	12/11/2016
tblConstructionPhase	PhaseStartDate	11/1/2016	9/1/2016
tblConstructionPhase	PhaseStartDate	4/23/2017	4/15/2017
tblConstructionPhase	PhaseStartDate	8/16/2016	9/1/2016
tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
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tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	9.00
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tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

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tblTripsAndVMT	WorkerTripNumber	38.00	5.00
tblVehicleTrips	CC_TL	6.60	7.30
tblVehicleTrips	CNW_TL	6.60	7.30
tblVehicleTrips	CW_TL	14.70	9.50
tblVehicleTrips	ST_TR	1.32	1.00
tblVehicleTrips	SU_TR	0.68	1.00
tblVehicleTrips	WD_TR	6.97	1.00
tblWater	IndoorWaterUseRate	20,812,500.00	0.00

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					
2016	0.9418	10.5630	5.5484	0.0140	0.2579	0.4446	0.7025	0.0972	0.4120	0.5091	0.0000	1,287.9152	1,287.9152	0.2918	0.0000	1,294.0432
2017	0.4489	4.8833	2.7230	7.1200e-003	0.0817	0.2045	0.2862	0.0206	0.1899	0.2104	0.0000	643.6559	643.6559	0.1549	0.0000	646.9090
Total	**1.3908**	**15.4463**	**8.2714**	**0.0211**	**0.3396**	**0.6491**	**0.9887**	**0.1177**	**0.6018**	**0.7196**	**0.0000**	**1,931.5711**	**1,931.5711**	**0.4467**	**0.0000**	**1,940.9522**

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					
2016	0.3510	9.3234	6.6296	0.0140	0.1903	0.2317	0.4220	0.0625	0.2305	0.2929	0.0000	1,287.9140	1,287.9140	0.2918	0.0000	1,294.0420
2017	0.1803	4.8134	3.5312	7.1200e-003	0.0755	0.1221	0.1975	0.0199	0.1217	0.1416	0.0000	643.6553	643.6553	0.1549	0.0000	646.9084
Total	**0.5312**	**14.1369**	**10.1608**	**0.0211**	**0.2658**	**0.3537**	**0.6195**	**0.0824**	**0.3521**	**0.4345**	**0.0000**	**1,931.5693**	**1,931.5693**	**0.4467**	**0.0000**	**1,940.9504**

	ROG	NOx	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	**61.80**	**8.48**	**-22.84**	**0.00**	**21.75**	**45.50**	**37.34**	**30.03**	**41.49**	**39.61**	**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	tons/yr										MT/yr					
Area	0.4559	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7000e-003
Energy	5.7200e-003	0.0520	0.0437	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	321.3394	321.3394	0.0117	3.2400e-003	322.5912
Mobile	0.0549	0.1314	0.5847	1.4300e-003	0.0988	1.7500e-003	0.1006	0.0264	1.6100e-003	0.0280	0.0000	106.4810	106.4810	4.2800e-003	0.0000	106.5709
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5165**	**0.1834**	**0.6293**	**1.7400e-003**	**0.0988**	**5.7000e-003**	**0.1045**	**0.0264**	**5.5600e-003**	**0.0320**	**0.0000**	**427.8220**	**427.8220**	**0.0160**	**3.2400e-003**	**429.1638**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4559	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7000e-003
Energy	5.7200e-003	0.0520	0.0437	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	321.3394	321.3394	0.0117	3.2400e-003	322.5912
Mobile	0.0549	0.1314	0.5847	1.4300e-003	0.0988	1.7500e-003	0.1006	0.0264	1.6100e-003	0.0280	0.0000	106.4810	106.4810	4.2800e-003	0.0000	106.5709
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5165**	**0.1834**	**0.6293**	**1.7400e-003**	**0.0988**	**5.7000e-003**	**0.1045**	**0.0264**	**5.5600e-003**	**0.0320**	**0.0000**	**427.8220**	**427.8220**	**0.0160**	**3.2400e-003**	**429.1638**

	ROG	NOx	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-8.6200
Total	**-8.6200**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Field Survey	Site Preparation	8/1/2016	8/15/2016	7	15	Surveying includes setting up survey equipment, taking measurements, and installing stakes
2	SDG&E Site preparation	Site Preparation	9/1/2016	10/31/2016	7	61	SDG&E Site preparation phase
3	SVC Site Grading	Grading	9/1/2016	9/30/2016	7	30	Site earthwork and grading.
4	Trenching	Trenching	9/1/2016	12/10/2016	7	101	Trench will be approximately 30" wide by 60" deep.
5	Set SVC Substation Foundations	Building Construction	10/1/2016	11/20/2016	7	51	Auguring holes, removing soil, and foundation forming.
6	Material delivery	Building Construction	10/7/2016	1/15/2017	7	101	Material haul, transporting material to the site.
7	Substation construction	Building Construction	10/31/2016	3/10/2017	7	131	Install equipment, structural steel and bus work.
8	Structure Erection	Building Construction	11/1/2016	12/31/2016	7	61	SDG&E Suncrest Substation Structure and Equipment erection
9	Install Vaults	Building Construction	12/11/2016	1/9/2017	7	30	Excavate hole for vault, install vault sections, backfill with concrete
10	Install Transmission line foundations	Building Construction	12/31/2016	1/15/2017	7	16	Foundation installation includes auguring holes, remove soil and foundation formation,
11	Install duct package	Building Construction	1/10/2017	2/28/2017	7	50	Install approximately 100 feet of duct/day
12	Wire Stringing	Building Construction	1/15/2017	1/27/2017	5	10	Wire Stringing into SDG&E Suncrest Substation
13	Transformer & SVC Delivery	Building Construction	1/16/2017	1/30/2017	7	15	Install transformer and SVC
14	Pull cable	Building Construction	3/1/2017	3/21/2017	7	21	6 pulls at 850feet each
15	Install cable splices	Building Construction	3/22/2017	4/22/2017	7	32	Install cable splice. Assume 16 hours/day
16	Right-of-way restoration and cleanup	Site Preparation	4/15/2017	6/15/2017	7	62	Restore back to natural state, removing culverts, restoring original grade, seeding area with native plants
17	Test cable splices	Building Construction	4/23/2017	4/24/2017	7	2	Test cable splices per accepted standards and techniques.

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Note: This is a known issue with CalEEMod. Even though the emissions are calculated appropriately, the output file always shows "0" here, regardless of the actual calculation.

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Field Survey	Off-Highway Trucks	0	10.00	400	0.38
Field Survey	Rubber Tired Dozers	0	8.00	255	0.40
Field Survey	Tractors/Loaders/Backhoes	0	8.00	97	0.37
SDG&E Site preparation	Bore/Drill Rigs	1	5.00	205	0.50
SDG&E Site preparation	Cranes	1	2.50	226	0.29
SDG&E Site preparation	Excavators	1	7.00	162	0.38
SDG&E Site preparation	Off-Highway Trucks	2	10.00	400	0.38
SDG&E Site preparation	Off-Highway Trucks	2	3.00	400	0.38
SDG&E Site preparation	Rubber Tired Dozers	0	8.00	255	0.40
SDG&E Site preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
SVC Site Grading	Dumpers/Tenders	1	9.00	16	0.38
SVC Site Grading	Dumpers/Tenders	10	5.00	16	0.38
SVC Site Grading	Excavators	0	8.00	162	0.38
SVC Site Grading	Graders	1	9.00	174	0.41
SVC Site Grading	Off-Highway Trucks	1	10.00	400	0.38
SVC Site Grading	Rollers	2	5.00	80	0.38
SVC Site Grading	Rubber Tired Dozers	1	9.00	255	0.40
SVC Site Grading	Rubber Tired Loaders	1	9.00	199	0.36
SVC Site Grading	Scrapers	0	8.00	361	0.48
SVC Site Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37
Trenching	Dumpers/Tenders	1	10.00	16	0.38
Trenching	Off-Highway Trucks	1	10.00	400	0.38
Trenching	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Trenching	Trenchers	1	10.00	80	0.50

Set SVC Substation Foundations	Bore/Drill Rigs	1	5.00	205	0.50
Set SVC Substation Foundations	Cranes	1	3.00	226	0.29
Set SVC Substation Foundations	Excavators	1	9.00	162	0.38
Set SVC Substation Foundations	Forklifts	0	8.00	89	0.20
Set SVC Substation Foundations	Generator Sets	1	8.00	84	0.74
Set SVC Substation Foundations	Off-Highway Trucks	1	10.00	400	0.38
Set SVC Substation Foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set SVC Substation Foundations	Welders	0	8.00	46	0.45
Material delivery	Cranes	2	5.00	226	0.29
Material delivery	Forklifts	1	5.00	89	0.20
Material delivery	Generator Sets	0	8.00	84	0.74
Material delivery	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Material delivery	Welders	0	8.00	46	0.45
Substation construction	Cranes	1	7.50	226	0.29
Substation construction	Forklifts	0	8.00	89	0.20
Substation construction	Generator Sets	1	8.00	84	0.74
Substation construction	Off-Highway Trucks	2	10.00	400	0.38
Substation construction	Off-Highway Trucks	2	5.00	400	0.38
Substation construction	Tractors/Loaders/Backhoes	1	2.50	97	0.37
Substation construction	Welders	0	8.00	46	0.45
Structure Erection	Cranes	2	5.00	226	0.29
Structure Erection	Forklifts	0	8.00	89	0.20
Structure Erection	Generator Sets	1	8.00	84	0.74
Structure Erection	Off-Highway Trucks	5	10.00	400	0.38
Structure Erection	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Structure Erection	Welders	0	8.00	46	0.45
Install Vaults	Cranes	0	7.00	226	0.29
Install Vaults	Forklifts	0	8.00	89	0.20

Install Vaults	Generator Sets	1	8.00	84	0.74
Install Vaults	Off-Highway Trucks	3	10.00	400	0.38
Install Vaults	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Install Vaults	Welders	0	8.00	46	0.45
Install Transmission line foundations	Bore/Drill Rigs	1	5.00	205	0.50
Install Transmission line foundations	Cranes	1	2.50	226	0.29
Install Transmission line foundations	Excavators	1	7.00	162	0.38
Install Transmission line foundations	Forklifts	0	8.00	89	0.20
Install Transmission line foundations	Generator Sets	1	8.00	84	0.74
Install Transmission line foundations	Off-Highway Trucks	2	10.00	400	0.38
Install Transmission line foundations	Off-Highway Trucks	2	3.00	400	0.38
Install Transmission line foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install Transmission line foundations	Welders	0	8.00	46	0.45
Install duct package	Cranes	0	7.00	226	0.29
Install duct package	Forklifts	0	8.00	89	0.20
Install duct package	Generator Sets	1	8.00	84	0.74
Install duct package	Off-Highway Trucks	2	7.50	400	0.38
Install duct package	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install duct package	Welders	0	8.00	46	0.45
Wire Stringing	Cranes	1	1.00	226	0.29
Wire Stringing	Forklifts	0	8.00	89	0.20
Wire Stringing	Generator Sets	0	8.00	84	0.74
Wire Stringing	Off-Highway Trucks	3	10.00	400	0.38
Wire Stringing	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Wire Stringing	Welders	0	8.00	46	0.45
Transformer & SVC Delivery	Cranes	1	2.50	226	0.29
Transformer & SVC Delivery	Forklifts	0	8.00	89	0.20
Transformer & SVC Delivery	Generator Sets	0	8.00	84	0.74

Transformer & SVC Delivery	Tractors/Loaders/Backhoes	1	2.50	97	0.37
Transformer & SVC Delivery	Welders	0	8.00	46	0.45
Pull cable	Cranes	0	7.00	226	0.29
Pull cable	Forklifts	0	8.00	89	0.20
Pull cable	Generator Sets	0	8.00	84	0.74
Pull cable	Off-Highway Trucks	1	10.00	400	0.38
Pull cable	Other General Industrial Equipment	3	10.00	87	0.34
Pull cable	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Pull cable	Welders	0	8.00	46	0.45
Install cable splices	Cranes	0	7.00	226	0.29
Install cable splices	Forklifts	0	8.00	89	0.20
Install cable splices	Generator Sets	0	8.00	84	0.74
Install cable splices	Other Material Handling Equipment	1	16.00	167	0.40
Install cable splices	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install cable splices	Welders	0	8.00	46	0.45
Right-of-way restoration and cleanup	Excavators	1	5.00	162	0.38
Right-of-way restoration and cleanup	Graders	1	5.00	174	0.41
Right-of-way restoration and cleanup	Off-Highway Trucks	1	10.00	400	0.38
Right-of-way restoration and cleanup	Off-Highway Trucks	1	10.00	400	0.38
Right-of-way restoration and cleanup	Rubber Tired Dozers	0	8.00	255	0.40
Right-of-way restoration and cleanup	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Test cable splices	Cranes	0	7.00	226	0.29
Test cable splices	Forklifts	0	8.00	89	0.20
Test cable splices	Generator Sets	0	8.00	84	0.74
Test cable splices	Other General Industrial Equipment	1	10.00	87	0.34
Test cable splices	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Test cable splices	Welders	0	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
Field Survey	0	3.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
SDG&E Site preparation	7	9.00	5.00	0.00	65.00	91.00	65.00	LD_Mix	HDT_Mix	HHDT
SVC Site Grading	18	18.00	12.00	438.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Set SVC Substation Foundations	5	6.00	2.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Material delivery	4	3.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Substation construction	7	8.00	6.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Structure Erection	9	8.00	9.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install Vaults	5	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install Transmission line foundations	8	5.00	5.00	0.00	65.00	143.00	65.00	LD_Mix	HDT_Mix	HHDT
Install duct package	3	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Wire Stringing	5	15.00	6.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Transformer & SVC Delivery	2	5.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Pull cable	4	10.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install cable splices	1	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Right-of-way restoration and cleanu	4	6.00	3.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Test cable splices	1	3.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

Note: The format of this table is not editable by the end user, but several Phase Names have been truncated to fit into the table. The truncated phases are, in order:
SDG&E Site Preparation
Set SVC Substation Foundations
Substation Construction
Install Transmission Line Foundations
Transformer & SVC Delivery
Right-of-way restoration and cleanup

3.2 Field Survey - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	5.2700e-003	2.3700e-003	1.0000e-005	4.3000e-004	9.0000e-005	5.3000e-004	1.2000e-004	8.0000e-005	2.1000e-004	0.0000	1.3481	1.3481	1.0000e-005	0.0000	1.3483
Worker	1.9000e-004	5.5000e-004	4.9500e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9883	0.9883	5.0000e-005	0.0000	0.9893
Total	**4.9000e-004**	**5.8200e-003**	**7.3200e-003**	**2.0000e-005**	**1.5100e-003**	**1.0000e-004**	**1.6200e-003**	**4.1000e-004**	**9.0000e-005**	**5.0000e-004**	**0.0000**	**2.3364**	**2.3364**	**6.0000e-005**	**0.0000**	**2.3376**

3.2 Field Survey - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	5.2700e-003	2.3700e-003	1.0000e-005	4.3000e-004	9.0000e-005	5.3000e-004	1.2000e-004	8.0000e-005	2.1000e-004	0.0000	1.3481	1.3481	1.0000e-005	0.0000	1.3483
Worker	1.9000e-004	5.5000e-004	4.9500e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9883	0.9883	5.0000e-005	0.0000	0.9893
Total	**4.9000e-004**	**5.8200e-003**	**7.3200e-003**	**2.0000e-005**	**1.5100e-003**	**1.0000e-004**	**1.6200e-003**	**4.1000e-004**	**9.0000e-005**	**5.0000e-004**	**0.0000**	**2.3364**	**2.3364**	**6.0000e-005**	**0.0000**	**2.3376**

3.3 SDG&E Site preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1172	1.3753	0.6600	1.6700e-003		0.0530	0.0530		0.0488	0.0488	0.0000	156.9936	156.9936	0.0474	0.0000	157.9880
Total	**0.1172**	**1.3753**	**0.6600**	**1.6700e-003**	**0.0000**	**0.0530**	**0.0530**	**0.0000**	**0.0488**	**0.0488**	**0.0000**	**156.9936**	**156.9936**	**0.0474**	**0.0000**	**157.9880**

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	8.1500e-003	0.1489	0.0606	4.2000e-004	0.0123	2.6200e-003	0.0149	3.5200e-003	2.4100e-003	5.9300e-003	0.0000	38.2805	38.2805	2.6000e-004	0.0000	38.2861
Worker	2.3700e-003	6.7300e-003	0.0604	1.6000e-004	0.0132	9.0000e-005	0.0133	3.5200e-003	8.0000e-005	3.6000e-003	0.0000	12.0566	12.0566	6.1000e-004	0.0000	12.0693
Total	**0.0105**	**0.1556**	**0.1210**	**5.8000e-004**	**0.0256**	**2.7100e-003**	**0.0283**	**7.0400e-003**	**2.4900e-003**	**9.5300e-003**	**0.0000**	**50.3371**	**50.3371**	**8.7000e-004**	**0.0000**	**50.3554**

3.3 SDG&E Site preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	1.3167	0.9164	1.6700e-003		0.0311	0.0311		0.0311	0.0311	0.0000	156.9934	156.9934	0.0474	0.0000	157.9878
Total	**0.0429**	**1.3167**	**0.9164**	**1.6700e-003**	**0.0000**	**0.0311**	**0.0311**	**0.0000**	**0.0311**	**0.0311**	**0.0000**	**156.9934**	**156.9934**	**0.0474**	**0.0000**	**157.9878**

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	8.1500e-003	0.1489	0.0606	4.2000e-004	0.0123	2.6200e-003	0.0149	3.5200e-003	2.4100e-003	5.9300e-003	0.0000	38.2805	38.2805	2.6000e-004	0.0000	38.2861
Worker	2.3700e-003	6.7300e-003	0.0604	1.6000e-004	0.0132	9.0000e-005	0.0133	3.5200e-003	8.0000e-005	3.6000e-003	0.0000	12.0566	12.0566	6.1000e-004	0.0000	12.0693
Total	**0.0105**	**0.1556**	**0.1210**	**5.8000e-004**	**0.0256**	**2.7100e-003**	**0.0283**	**7.0400e-003**	**2.4900e-003**	**9.5300e-003**	**0.0000**	**50.3371**	**50.3371**	**8.7000e-004**	**0.0000**	**50.3554**

3.4 SVC Site Grading - 2016

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					0.1108	0.0000	0.1108	0.0569	0.0000	0.0569	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0844	0.8870	0.4921	7.9000e-004		0.0427	0.0427		0.0395	0.0395	0.0000	72.7756	72.7756	0.0208	0.0000	73.2118
Total	**0.0844**	**0.8870**	**0.4921**	**7.9000e-004**	**0.1108**	**0.0427**	**0.1536**	**0.0569**	**0.0395**	**0.0963**	**0.0000**	**72.7756**	**72.7756**	**0.0208**	**0.0000**	**73.2118**

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	9.9900e-003	0.1954	0.0850	5.2000e-004	0.0121	2.7000e-003	0.0148	3.3300e-003	2.4800e-003	5.8100e-003	0.0000	47.8357	47.8357	3.2000e-004	0.0000	47.8425
Vendor	7.2700e-003	0.1266	0.0570	3.5000e-004	0.0104	2.2100e-003	0.0126	2.9700e-003	2.0300e-003	5.0000e-003	0.0000	32.3544	32.3544	2.2000e-004	0.0000	32.3591
Worker	2.3300e-003	6.6200e-003	0.0594	1.6000e-004	0.0130	9.0000e-005	0.0131	3.4600e-003	8.0000e-005	3.5400e-003	0.0000	11.8590	11.8590	6.0000e-004	0.0000	11.8715
Total	**0.0196**	**0.3286**	**0.2013**	**1.0300e-003**	**0.0355**	**5.0000e-003**	**0.0405**	**9.7600e-003**	**4.5900e-003**	**0.0144**	**0.0000**	**92.0491**	**92.0491**	**1.1400e-003**	**0.0000**	**92.0731**

3.4 SVC Site Grading - 2016

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					0.0432	0.0000	0.0432	0.0222	0.0000	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.5920	0.4203	7.9000e-004		0.0157	0.0157		0.0157	0.0157	0.0000	72.7755	72.7755	0.0208	0.0000	73.2117
Total	**0.0210**	**0.5920**	**0.4203**	**7.9000e-004**	**0.0432**	**0.0157**	**0.0589**	**0.0222**	**0.0157**	**0.0379**	**0.0000**	**72.7755**	**72.7755**	**0.0208**	**0.0000**	**73.2117**

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	9.9900e-003	0.1954	0.0850	5.2000e-004	0.0121	2.7000e-003	0.0148	3.3300e-003	2.4800e-003	5.8100e-003	0.0000	47.8357	47.8357	3.2000e-004	0.0000	47.8425
Vendor	7.2700e-003	0.1266	0.0570	3.5000e-004	0.0104	2.2100e-003	0.0126	2.9700e-003	2.0300e-003	5.0000e-003	0.0000	32.3544	32.3544	2.2000e-004	0.0000	32.3591
Worker	2.3300e-003	6.6200e-003	0.0594	1.6000e-004	0.0130	9.0000e-005	0.0131	3.4600e-003	8.0000e-005	3.5400e-003	0.0000	11.8590	11.8590	6.0000e-004	0.0000	11.8715
Total	**0.0196**	**0.3286**	**0.2013**	**1.0300e-003**	**0.0355**	**5.0000e-003**	**0.0405**	**9.7600e-003**	**4.5900e-003**	**0.0144**	**0.0000**	**92.0491**	**92.0491**	**1.1400e-003**	**0.0000**	**92.0731**

3.5 Trenching - 2016

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	0.1207	1.2275	0.6648	1.2900e-003		0.0670	0.0670		0.0617	0.0617	0.0000	120.8994	120.8994	0.0358	0.0000	121.6511
Total	**0.1207**	**1.2275**	**0.6648**	**1.2900e-003**		**0.0670**	**0.0670**		**0.0617**	**0.0617**	**0.0000**	**120.8994**	**120.8994**	**0.0358**	**0.0000**	**121.6511**

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	2.1800e-003	6.1900e-003	0.0555	1.5000e-004	0.0122	8.0000e-005	0.0123	3.2300e-003	8.0000e-005	3.3100e-003	0.0000	11.0903	11.0903	5.6000e-004	0.0000	11.1020
Total	**2.1800e-003**	**6.1900e-003**	**0.0555**	**1.5000e-004**	**0.0122**	**8.0000e-005**	**0.0123**	**3.2300e-003**	**8.0000e-005**	**3.3100e-003**	**0.0000**	**11.0903**	**11.0903**	**5.6000e-004**	**0.0000**	**11.1020**

3.5 Trenching - 2016

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	0.0397	1.0427	0.7526	1.2900e-003		0.0311	0.0311		0.0311	0.0311	0.0000	120.8992	120.8992	0.0358	0.0000	121.6509
Total	**0.0397**	**1.0427**	**0.7526**	**1.2900e-003**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**120.8992**	**120.8992**	**0.0358**	**0.0000**	**121.6509**

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	2.1800e-003	6.1900e-003	0.0555	1.5000e-004	0.0122	8.0000e-005	0.0123	3.2300e-003	8.0000e-005	3.3100e-003	0.0000	11.0903	11.0903	5.6000e-004	0.0000	11.1020
Total	**2.1800e-003**	**6.1900e-003**	**0.0555**	**1.5000e-004**	**0.0122**	**8.0000e-005**	**0.0123**	**3.2300e-003**	**8.0000e-005**	**3.3100e-003**	**0.0000**	**11.0903**	**11.0903**	**5.6000e-004**	**0.0000**	**11.1020**

3.6 Set SVC Substation Foundations - 2016

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	0.0699	0.7615	0.4176	9.3000e-004		0.0341	0.0341		0.0321	0.0321	0.0000	86.4586	86.4586	0.0231	0.0000	86.9427
Total	**0.0699**	**0.7615**	**0.4176**	**9.3000e-004**		**0.0341**	**0.0341**		**0.0321**	**0.0321**	**0.0000**	**86.4586**	**86.4586**	**0.0231**	**0.0000**	**86.9427**

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	2.0600e-003	0.0359	0.0161	1.0000e-004	2.9400e-003	6.3000e-004	3.5700e-003	8.4000e-004	5.8000e-004	1.4200e-003	0.0000	9.1671	9.1671	6.0000e-005	0.0000	9.1684
Worker	1.3200e-003	3.7500e-003	0.0337	9.0000e-005	7.3800e-003	5.0000e-005	7.4300e-003	1.9600e-003	5.0000e-005	2.0100e-003	0.0000	6.7201	6.7201	3.4000e-004	0.0000	6.7272
Total	**3.3800e-003**	**0.0396**	**0.0498**	**1.9000e-004**	**0.0103**	**6.8000e-004**	**0.0110**	**2.8000e-003**	**6.3000e-004**	**3.4300e-003**	**0.0000**	**15.8872**	**15.8872**	**4.0000e-004**	**0.0000**	**15.8956**

3.6 Set SVC Substation Foundations - 2016

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	0.0274	0.7520	0.5445	9.3000e-004		0.0204	0.0204		0.0204	0.0204	0.0000	86.4585	86.4585	0.0231	0.0000	86.9426
Total	**0.0274**	**0.7520**	**0.5445**	**9.3000e-004**		**0.0204**	**0.0204**		**0.0204**	**0.0204**	**0.0000**	**86.4585**	**86.4585**	**0.0231**	**0.0000**	**86.9426**

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	2.0600e-003	0.0359	0.0161	1.0000e-004	2.9400e-003	6.3000e-004	3.5700e-003	8.4000e-004	5.8000e-004	1.4200e-003	0.0000	9.1671	9.1671	6.0000e-005	0.0000	9.1684
Worker	1.3200e-003	3.7500e-003	0.0337	9.0000e-005	7.3800e-003	5.0000e-005	7.4300e-003	1.9600e-003	5.0000e-005	2.0100e-003	0.0000	6.7201	6.7201	3.4000e-004	0.0000	6.7272
Total	**3.3800e-003**	**0.0396**	**0.0498**	**1.9000e-004**	**0.0103**	**6.8000e-004**	**0.0110**	**2.8000e-003**	**6.3000e-004**	**3.4300e-003**	**0.0000**	**15.8872**	**15.8872**	**4.0000e-004**	**0.0000**	**15.8956**

3.7 Material delivery - 2016

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	0.0540	0.5985	0.2592	4.3000e-004		0.0319	0.0319		0.0294	0.0294	0.0000	40.3467	40.3467	0.0122	0.0000	40.6023
Total	**0.0540**	**0.5985**	**0.2592**	**4.3000e-004**		**0.0319**	**0.0319**		**0.0294**	**0.0294**	**0.0000**	**40.3467**	**40.3467**	**0.0122**	**0.0000**	**40.6023**

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	1.7400e-003	0.0302	0.0136	8.0000e-005	2.4800e-003	5.3000e-004	3.0100e-003	7.1000e-004	4.9000e-004	1.2000e-003	0.0000	7.7291	7.7291	5.0000e-005	0.0000	7.7302
Worker	1.1100e-003	3.1600e-003	0.0284	7.0000e-005	6.2200e-003	4.0000e-005	6.2600e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.6660	5.6660	2.8000e-004	0.0000	5.6719
Total	**2.8500e-003**	**0.0334**	**0.0420**	**1.5000e-004**	**8.7000e-003**	**5.7000e-004**	**9.2700e-003**	**2.3600e-003**	**5.3000e-004**	**2.8900e-003**	**0.0000**	**13.3951**	**13.3951**	**3.3000e-004**	**0.0000**	**13.4022**

3.7 Material delivery - 2016

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	0.0133	0.3787	0.2557	4.3000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	40.3466	40.3466	0.0122	0.0000	40.6022
Total	**0.0133**	**0.3787**	**0.2557**	**4.3000e-004**		**0.0104**	**0.0104**		**0.0104**	**0.0104**	**0.0000**	**40.3466**	**40.3466**	**0.0122**	**0.0000**	**40.6022**

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	1.7400e-003	0.0302	0.0136	8.0000e-005	2.4800e-003	5.3000e-004	3.0100e-003	7.1000e-004	4.9000e-004	1.2000e-003	0.0000	7.7291	7.7291	5.0000e-005	0.0000	7.7302
Worker	1.1100e-003	3.1600e-003	0.0284	7.0000e-005	6.2200e-003	4.0000e-005	6.2600e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.6660	5.6660	2.8000e-004	0.0000	5.6719
Total	**2.8500e-003**	**0.0334**	**0.0420**	**1.5000e-004**	**8.7000e-003**	**5.7000e-004**	**9.2700e-003**	**2.3600e-003**	**5.3000e-004**	**2.8900e-003**	**0.0000**	**13.3951**	**13.3951**	**3.3000e-004**	**0.0000**	**13.4022**

3.7 Material delivery - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5500e-003	0.0950	0.0429	7.0000e-005		4.9900e-003	4.9900e-003		4.6000e-003	4.6000e-003	0.0000	6.9272	6.9272	2.1200e-003	0.0000	6.9718
Total	**8.5500e-003**	**0.0950**	**0.0429**	**7.0000e-005**		**4.9900e-003**	**4.9900e-003**		**4.6000e-003**	**4.6000e-003**	**0.0000**	**6.9272**	**6.9272**	**2.1200e-003**	**0.0000**	**6.9718**

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	2.8000e-004	4.6500e-003	2.2000e-003	1.0000e-005	4.3000e-004	8.0000e-005	5.1000e-004	1.2000e-004	7.0000e-005	2.0000e-004	0.0000	1.3253	1.3253	1.0000e-005	0.0000	1.3255
Worker	1.7000e-004	5.0000e-004	4.4500e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9500	0.9500	5.0000e-005	0.0000	0.9510
Total	**4.5000e-004**	**5.1500e-003**	**6.6500e-003**	**2.0000e-005**	**1.5100e-003**	**9.0000e-005**	**1.6000e-003**	**4.1000e-004**	**8.0000e-005**	**4.9000e-004**	**0.0000**	**2.2753**	**2.2753**	**6.0000e-005**	**0.0000**	**2.2765**

3.7 Material delivery - 2017

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	2.3200e-003	0.0661	0.0446	7.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	6.9272	6.9272	2.1200e-003	0.0000	6.9718
Total	**2.3200e-003**	**0.0661**	**0.0446**	**7.0000e-005**		**1.8100e-003**	**1.8100e-003**		**1.8100e-003**	**1.8100e-003**	**0.0000**	**6.9272**	**6.9272**	**2.1200e-003**	**0.0000**	**6.9718**

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	2.8000e-004	4.6500e-003	2.2000e-003	1.0000e-005	4.3000e-004	8.0000e-005	5.1000e-004	1.2000e-004	7.0000e-005	2.0000e-004	0.0000	1.3253	1.3253	1.0000e-005	0.0000	1.3255
Worker	1.7000e-004	5.0000e-004	4.4500e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9500	0.9500	5.0000e-005	0.0000	0.9510
Total	**4.5000e-004**	**5.1500e-003**	**6.6500e-003**	**2.0000e-005**	**1.5100e-003**	**9.0000e-005**	**1.6000e-003**	**4.1000e-004**	**8.0000e-005**	**4.9000e-004**	**0.0000**	**2.2753**	**2.2753**	**6.0000e-005**	**0.0000**	**2.2765**

3.8 Substation construction - 2016

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	0.1535	1.6909	0.8155	1.9300e-003		0.0718	0.0718		0.0669	0.0669	0.0000	179.9699	179.9699	0.0506	0.0000	181.0325
Total	**0.1535**	**1.6909**	**0.8155**	**1.9300e-003**		**0.0718**	**0.0718**		**0.0669**	**0.0669**	**0.0000**	**179.9699**	**179.9699**	**0.0506**	**0.0000**	**181.0325**

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	7.5100e-003	0.1308	0.0589	3.7000e-004	0.0107	2.2900e-003	0.0130	3.0700e-003	2.1000e-003	5.1700e-003	0.0000	33.4328	33.4328	2.3000e-004	0.0000	33.4377
Worker	2.1400e-003	6.0800e-003	0.0545	1.4000e-004	0.0120	8.0000e-005	0.0120	3.1800e-003	8.0000e-005	3.2500e-003	0.0000	10.8927	10.8927	5.5000e-004	0.0000	10.9042
Total	**9.6500e-003**	**0.1369**	**0.1134**	**5.1000e-004**	**0.0227**	**2.3700e-003**	**0.0251**	**6.2500e-003**	**2.1800e-003**	**8.4200e-003**	**0.0000**	**44.3255**	**44.3255**	**7.8000e-004**	**0.0000**	**44.3419**

3.8 Substation construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0507	1.5111	1.0461	1.9300e-003		0.0381	0.0381		0.0381	0.0381	0.0000	179.9697	179.9697	0.0506	0.0000	181.0323
Total	**0.0507**	**1.5111**	**1.0461**	**1.9300e-003**		**0.0381**	**0.0381**		**0.0381**	**0.0381**	**0.0000**	**179.9697**	**179.9697**	**0.0506**	**0.0000**	**181.0323**

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	7.5100e-003	0.1308	0.0589	3.7000e-004	0.0107	2.2900e-003	0.0130	3.0700e-003	2.1000e-003	5.1700e-003	0.0000	33.4328	33.4328	2.3000e-004	0.0000	33.4377
Worker	2.1400e-003	6.0800e-003	0.0545	1.4000e-004	0.0120	8.0000e-005	0.0120	3.1800e-003	8.0000e-005	3.2500e-003	0.0000	10.8927	10.8927	5.5000e-004	0.0000	10.9042
Total	**9.6500e-003**	**0.1369**	**0.1134**	**5.1000e-004**	**0.0227**	**2.3700e-003**	**0.0251**	**6.2500e-003**	**2.1800e-003**	**8.4200e-003**	**0.0000**	**44.3255**	**44.3255**	**7.8000e-004**	**0.0000**	**44.3419**

3.8 Substation construction - 2017

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	0.1569	1.7080	0.8513	2.1400e-003		0.0712	0.0712		0.0663	0.0663	0.0000	197.3217	197.3217	0.0561	0.0000	198.4991
Total	**0.1569**	**1.7080**	**0.8513**	**2.1400e-003**		**0.0712**	**0.0712**		**0.0663**	**0.0663**	**0.0000**	**197.3217**	**197.3217**	**0.0561**	**0.0000**	**198.4991**

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	7.6900e-003	0.1284	0.0606	4.1000e-004	0.0120	2.2100e-003	0.0142	3.4200e-003	2.0300e-003	5.4500e-003	0.0000	36.5777	36.5777	2.4000e-004	0.0000	36.5828
Worker	2.0800e-003	6.1600e-003	0.0546	1.6000e-004	0.0133	9.0000e-005	0.0134	3.5300e-003	8.0000e-005	3.6200e-003	0.0000	11.6537	11.6537	5.6000e-004	0.0000	11.6656
Total	**9.7700e-003**	**0.1346**	**0.1152**	**5.7000e-004**	**0.0253**	**2.3000e-003**	**0.0276**	**6.9500e-003**	**2.1100e-003**	**9.0700e-003**	**0.0000**	**48.2314**	**48.2314**	**8.0000e-004**	**0.0000**	**48.2484**

3.8 Substation construction - 2017

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	0.0564	1.6817	1.1642	2.1400e-003		0.0424	0.0424		0.0424	0.0424	0.0000	197.3215	197.3215	0.0561	0.0000	198.4988
Total	**0.0564**	**1.6817**	**1.1642**	**2.1400e-003**		**0.0424**	**0.0424**		**0.0424**	**0.0424**	**0.0000**	**197.3215**	**197.3215**	**0.0561**	**0.0000**	**198.4988**

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	7.6900e-003	0.1284	0.0606	4.1000e-004	0.0120	2.2100e-003	0.0142	3.4200e-003	2.0300e-003	5.4500e-003	0.0000	36.5777	36.5777	2.4000e-004	0.0000	36.5828
Worker	2.0800e-003	6.1600e-003	0.0546	1.6000e-004	0.0133	9.0000e-005	0.0134	3.5300e-003	8.0000e-005	3.6200e-003	0.0000	11.6537	11.6537	5.6000e-004	0.0000	11.6656
Total	**9.7700e-003**	**0.1346**	**0.1152**	**5.7000e-004**	**0.0253**	**2.3000e-003**	**0.0276**	**6.9500e-003**	**2.1100e-003**	**9.0700e-003**	**0.0000**	**48.2314**	**48.2314**	**8.0000e-004**	**0.0000**	**48.2484**

3.9 Structure Erection - 2016

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	0.2291	2.5662	1.2116	2.9500e-003		0.1051	0.1051		0.0975	0.0975	0.0000	276.1248	276.1248	0.0797	0.0000	277.7978
Total	**0.2291**	**2.5662**	**1.2116**	**2.9500e-003**		**0.1051**	**0.1051**		**0.0975**	**0.0975**	**0.0000**	**276.1248**	**276.1248**	**0.0797**	**0.0000**	**277.7978**

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	0.0111	0.1931	0.0869	5.4000e-004	0.0159	3.3700e-003	0.0192	4.5300e-003	3.1000e-003	7.6300e-003	0.0000	49.3404	49.3404	3.4000e-004	0.0000	49.3476
Worker	2.1000e-003	5.9800e-003	0.0537	1.4000e-004	0.0118	8.0000e-005	0.0119	3.1200e-003	7.0000e-005	3.2000e-003	0.0000	10.7170	10.7170	5.4000e-004	0.0000	10.7283
Total	**0.0132**	**0.1990**	**0.1405**	**6.8000e-004**	**0.0276**	**3.4500e-003**	**0.0311**	**7.6500e-003**	**3.1700e-003**	**0.0108**	**0.0000**	**60.0574**	**60.0574**	**8.8000e-004**	**0.0000**	**60.0759**

3.9 Structure Erection - 2016

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	0.0754	2.3015	1.5848	2.9500e-003		0.0562	0.0562		0.0562	0.0562	0.0000	276.1245	276.1245	0.0797	0.0000	277.7975
Total	**0.0754**	**2.3015**	**1.5848**	**2.9500e-003**		**0.0562**	**0.0562**		**0.0562**	**0.0562**	**0.0000**	**276.1245**	**276.1245**	**0.0797**	**0.0000**	**277.7975**

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	0.0111	0.1931	0.0869	5.4000e-004	0.0159	3.3700e-003	0.0192	4.5300e-003	3.1000e-003	7.6300e-003	0.0000	49.3404	49.3404	3.4000e-004	0.0000	49.3476
Worker	2.1000e-003	5.9800e-003	0.0537	1.4000e-004	0.0118	8.0000e-005	0.0119	3.1200e-003	7.0000e-005	3.2000e-003	0.0000	10.7170	10.7170	5.4000e-004	0.0000	10.7283
Total	**0.0132**	**0.1990**	**0.1405**	**6.8000e-004**	**0.0276**	**3.4500e-003**	**0.0311**	**7.6500e-003**	**3.1700e-003**	**0.0108**	**0.0000**	**60.0574**	**60.0574**	**8.8000e-004**	**0.0000**	**60.0759**

3.10 Install Vaults - 2016

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	0.0483	0.5208	0.2706	6.3000e-004		0.0230	0.0230		0.0214	0.0214	0.0000	58.6129	58.6129	0.0164	0.0000	58.9580
Total	**0.0483**	**0.5208**	**0.2706**	**6.3000e-004**		**0.0230**	**0.0230**		**0.0214**	**0.0214**	**0.0000**	**58.6129**	**58.6129**	**0.0164**	**0.0000**	**58.9580**

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	4.5000e-004	1.2900e-003	0.0116	3.0000e-005	2.5300e-003	2.0000e-005	2.5500e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.3059	2.3059	1.2000e-004	0.0000	2.3083
Total	**4.5000e-004**	**1.2900e-003**	**0.0116**	**3.0000e-005**	**2.5300e-003**	**2.0000e-005**	**2.5500e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**2.3059**	**2.3059**	**1.2000e-004**	**0.0000**	**2.3083**

3.10 Install Vaults - 2016

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	0.0172	0.4942	0.3478	6.3000e-004		0.0131	0.0131		0.0131	0.0131	0.0000	58.6128	58.6128	0.0164	0.0000	58.9579
Total	**0.0172**	**0.4942**	**0.3478**	**6.3000e-004**		**0.0131**	**0.0131**		**0.0131**	**0.0131**	**0.0000**	**58.6128**	**58.6128**	**0.0164**	**0.0000**	**58.9579**

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	4.5000e-004	1.2900e-003	0.0116	3.0000e-005	2.5300e-003	2.0000e-005	2.5500e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.3059	2.3059	1.2000e-004	0.0000	2.3083
Total	**4.5000e-004**	**1.2900e-003**	**0.0116**	**3.0000e-005**	**2.5300e-003**	**2.0000e-005**	**2.5500e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**2.3059**	**2.3059**	**1.2000e-004**	**0.0000**	**2.3083**

3.10 Install Vaults - 2017

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	0.0191	0.2032	0.1095	2.7000e-004		8.8000e-003	8.8000e-003		8.2000e-003	8.2000e-003	0.0000	24.7465	24.7465	7.0100e-003	0.0000	24.8937
Total	**0.0191**	**0.2032**	**0.1095**	**2.7000e-004**		**8.8000e-003**	**8.8000e-003**		**8.2000e-003**	**8.2000e-003**	**0.0000**	**24.7465**	**24.7465**	**7.0100e-003**	**0.0000**	**24.8937**

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	1.7000e-004	5.0000e-004	4.4500e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9500	0.9500	5.0000e-005	0.0000	0.9510
Total	**1.7000e-004**	**5.0000e-004**	**4.4500e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9500**	**0.9500**	**5.0000e-005**	**0.0000**	**0.9510**

3.10 Install Vaults - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.3800e-003	0.2118	0.1491	2.7000e-004		5.6100e-003	5.6100e-003		5.6100e-003	5.6100e-003	0.0000	24.7465	24.7465	7.0100e-003	0.0000	24.8936
Total	**7.3800e-003**	**0.2118**	**0.1491**	**2.7000e-004**		**5.6100e-003**	**5.6100e-003**		**5.6100e-003**	**5.6100e-003**	**0.0000**	**24.7465**	**24.7465**	**7.0100e-003**	**0.0000**	**24.8936**

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	1.7000e-004	5.0000e-004	4.4500e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9500	0.9500	5.0000e-005	0.0000	0.9510
Total	**1.7000e-004**	**5.0000e-004**	**4.4500e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9500**	**0.9500**	**5.0000e-005**	**0.0000**	**0.9510**

3.11 Install Transmission line foundations - 2016

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	2.2400e-003	0.0250	0.0127	3.0000e-005		1.0400e-003	1.0400e-003		9.7000e-004	9.7000e-004	0.0000	2.8563	2.8563	8.0000e-004	0.0000	2.8731
Total	**2.2400e-003**	**0.0250**	**0.0127**	**3.0000e-005**		**1.0400e-003**	**1.0400e-003**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**2.8563**	**2.8563**	**8.0000e-004**	**0.0000**	**2.8731**

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	2.0000e-004	3.8000e-003	1.4000e-003	1.0000e-005	3.2000e-004	7.0000e-005	3.8000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	0.9839	0.9839	1.0000e-005	0.0000	0.9841
Worker	2.0000e-005	6.0000e-005	5.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1098	0.1098	1.0000e-005	0.0000	0.1099
Total	**2.2000e-004**	**3.8600e-003**	**1.9500e-003**	**1.0000e-005**	**4.4000e-004**	**7.0000e-005**	**5.0000e-004**	**1.2000e-004**	**6.0000e-005**	**1.8000e-004**	**0.0000**	**1.0937**	**1.0937**	**2.0000e-005**	**0.0000**	**1.0940**

3.11 Install Transmission line foundations - 2016

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	8.3000e-004	0.0242	0.0171	3.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	2.8563	2.8563	8.0000e-004	0.0000	2.8731
Total	**8.3000e-004**	**0.0242**	**0.0171**	**3.0000e-005**		**6.2000e-004**	**6.2000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**2.8563**	**2.8563**	**8.0000e-004**	**0.0000**	**2.8731**

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	2.0000e-004	3.8000e-003	1.4000e-003	1.0000e-005	3.2000e-004	7.0000e-005	3.8000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	0.9839	0.9839	1.0000e-005	0.0000	0.9841
Worker	2.0000e-005	6.0000e-005	5.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1098	0.1098	1.0000e-005	0.0000	0.1099
Total	**2.2000e-004**	**3.8600e-003**	**1.9500e-003**	**1.0000e-005**	**4.4000e-004**	**7.0000e-005**	**5.0000e-004**	**1.2000e-004**	**6.0000e-005**	**1.8000e-004**	**0.0000**	**1.0937**	**1.0937**	**2.0000e-005**	**0.0000**	**1.0940**

3.11 Install Transmission line foundations - 2017

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	0.0309	0.3390	0.1808	4.6000e-004		0.0139	0.0139		0.0129	0.0129	0.0000	42.2126	42.2126	0.0120	0.0000	42.4641
Total	**0.0309**	**0.3390**	**0.1808**	**4.6000e-004**		**0.0139**	**0.0139**		**0.0129**	**0.0129**	**0.0000**	**42.2126**	**42.2126**	**0.0120**	**0.0000**	**42.4641**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7500e-003	0.0503	0.0193	1.6000e-004	4.7600e-003	8.8000e-004	5.6400e-003	1.3600e-003	8.1000e-004	2.1700e-003	0.0000	14.5089	14.5089	9.0000e-005	0.0000	14.5109
Worker	2.8000e-004	8.4000e-004	7.4200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5834	1.5834	8.0000e-005	0.0000	1.5850
Total	**3.0300e-003**	**0.0511**	**0.0267**	**1.8000e-004**	**6.5700e-003**	**8.9000e-004**	**7.4600e-003**	**1.8400e-003**	**8.2000e-004**	**2.6600e-003**	**0.0000**	**16.0923**	**16.0923**	**1.7000e-004**	**0.0000**	**16.0959**

3.11 Install Transmission line foundations - 2017

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	0.0124	0.3628	0.2558	4.6000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	42.2126	42.2126	0.0120	0.0000	42.4641
Total	**0.0124**	**0.3628**	**0.2558**	**4.6000e-004**		**9.2300e-003**	**9.2300e-003**		**9.2300e-003**	**9.2300e-003**	**0.0000**	**42.2126**	**42.2126**	**0.0120**	**0.0000**	**42.4641**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7500e-003	0.0503	0.0193	1.6000e-004	4.7600e-003	8.8000e-004	5.6400e-003	1.3600e-003	8.1000e-004	2.1700e-003	0.0000	14.5089	14.5089	9.0000e-005	0.0000	14.5109
Worker	2.8000e-004	8.4000e-004	7.4200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5834	1.5834	8.0000e-005	0.0000	1.5850
Total	**3.0300e-003**	**0.0511**	**0.0267**	**1.8000e-004**	**6.5700e-003**	**8.9000e-004**	**7.4600e-003**	**1.8400e-003**	**8.2000e-004**	**2.6600e-003**	**0.0000**	**16.0923**	**16.0923**	**1.7000e-004**	**0.0000**	**16.0959**

3.12 Install duct package - 2017

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	0.0551	0.5726	0.3140	7.8000e-004		0.0246	0.0246		0.0233	0.0233	0.0000	71.2940	71.2940	0.0187	0.0000	71.6858
Total	**0.0551**	**0.5726**	**0.3140**	**7.8000e-004**		**0.0246**	**0.0246**		**0.0233**	**0.0233**	**0.0000**	**71.2940**	**71.2940**	**0.0187**	**0.0000**	**71.6858**

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	9.4000e-004	2.7900e-003	0.0247	7.0000e-005	6.0300e-003	4.0000e-005	6.0700e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.2780	5.2780	2.6000e-004	0.0000	5.2833
Total	**9.4000e-004**	**2.7900e-003**	**0.0247**	**7.0000e-005**	**6.0300e-003**	**4.0000e-005**	**6.0700e-003**	**1.6000e-003**	**4.0000e-005**	**1.6400e-003**	**0.0000**	**5.2780**	**5.2780**	**2.6000e-004**	**0.0000**	**5.2833**

3.12 Install duct package - 2017

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	0.0214	0.6065	0.4281	7.8000e-004		0.0163	0.0163		0.0163	0.0163	0.0000	71.2939	71.2939	0.0187	0.0000	71.6857
Total	**0.0214**	**0.6065**	**0.4281**	**7.8000e-004**		**0.0163**	**0.0163**		**0.0163**	**0.0163**	**0.0000**	**71.2939**	**71.2939**	**0.0187**	**0.0000**	**71.6857**

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	9.4000e-004	2.7900e-003	0.0247	7.0000e-005	6.0300e-003	4.0000e-005	6.0700e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.2780	5.2780	2.6000e-004	0.0000	5.2833
Total	**9.4000e-004**	**2.7900e-003**	**0.0247**	**7.0000e-005**	**6.0300e-003**	**4.0000e-005**	**6.0700e-003**	**1.6000e-003**	**4.0000e-005**	**1.6400e-003**	**0.0000**	**5.2780**	**5.2780**	**2.6000e-004**	**0.0000**	**5.2833**

3.13 Wire Stringing - 2017

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	0.0187	0.2082	0.1045	2.7000e-004		8.4900e-003	8.4900e-003		7.8100e-003	7.8100e-003	0.0000	24.9973	24.9973	7.6600e-003	0.0000	25.1582
Total	**0.0187**	**0.2082**	**0.1045**	**2.7000e-004**		**8.4900e-003**	**8.4900e-003**		**7.8100e-003**	**7.8100e-003**	**0.0000**	**24.9973**	**24.9973**	**7.6600e-003**	**0.0000**	**25.1582**

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	1.1100e-003	0.0186	8.7900e-003	6.0000e-005	1.7300e-003	3.2000e-004	2.0500e-003	4.9000e-004	2.9000e-004	7.9000e-004	0.0000	5.3011	5.3011	3.0000e-005	0.0000	5.3019
Worker	5.7000e-004	1.6700e-003	0.0148	4.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.1668	3.1668	1.5000e-004	0.0000	3.1700
Total	**1.6800e-003**	**0.0203**	**0.0236**	**1.0000e-004**	**5.3500e-003**	**3.4000e-004**	**5.6900e-003**	**1.4500e-003**	**3.1000e-004**	**1.7700e-003**	**0.0000**	**8.4679**	**8.4679**	**1.8000e-004**	**0.0000**	**8.4718**

3.13 Wire Stringing - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0300e-003	0.2123	0.1472	2.7000e-004		5.2500e-003	5.2500e-003		5.2500e-003	5.2500e-003	0.0000	24.9973	24.9973	7.6600e-003	0.0000	25.1582
Total	**7.0300e-003**	**0.2123**	**0.1472**	**2.7000e-004**		**5.2500e-003**	**5.2500e-003**		**5.2500e-003**	**5.2500e-003**	**0.0000**	**24.9973**	**24.9973**	**7.6600e-003**	**0.0000**	**25.1582**

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	1.1100e-003	0.0186	8.7900e-003	6.0000e-005	1.7300e-003	3.2000e-004	2.0500e-003	4.9000e-004	2.9000e-004	7.9000e-004	0.0000	5.3011	5.3011	3.0000e-005	0.0000	5.3019
Worker	5.7000e-004	1.6700e-003	0.0148	4.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.1668	3.1668	1.5000e-004	0.0000	3.1700
Total	**1.6800e-003**	**0.0203**	**0.0236**	**1.0000e-004**	**5.3500e-003**	**3.4000e-004**	**5.6900e-003**	**1.4500e-003**	**3.1000e-004**	**1.7700e-003**	**0.0000**	**8.4679**	**8.4679**	**1.8000e-004**	**0.0000**	**8.4718**

3.14 Transformer & SVC Delivery - 2017

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	2.2600e-003	0.0252	0.0121	2.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	1.9040	1.9040	5.8000e-004	0.0000	1.9163
Total	**2.2600e-003**	**0.0252**	**0.0121**	**2.0000e-005**		**1.3400e-003**	**1.3400e-003**		**1.2300e-003**	**1.2300e-003**	**0.0000**	**1.9040**	**1.9040**	**5.8000e-004**	**0.0000**	**1.9163**

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	2.8000e-004	4.6500e-003	2.2000e-003	1.0000e-005	4.3000e-004	8.0000e-005	5.1000e-004	1.2000e-004	7.0000e-005	2.0000e-004	0.0000	1.3253	1.3253	1.0000e-005	0.0000	1.3255
Worker	2.8000e-004	8.4000e-004	7.4200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5834	1.5834	8.0000e-005	0.0000	1.5850
Total	**5.6000e-004**	**5.4900e-003**	**9.6200e-003**	**3.0000e-005**	**2.2400e-003**	**9.0000e-005**	**2.3300e-003**	**6.0000e-004**	**8.0000e-005**	**6.9000e-004**	**0.0000**	**2.9087**	**2.9087**	**9.0000e-005**	**0.0000**	**2.9105**

3.14 Transformer & SVC Delivery - 2017

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	6.7000e-004	0.0183	0.0125	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.9040	1.9040	5.8000e-004	0.0000	1.9163
Total	**6.7000e-004**	**0.0183**	**0.0125**	**2.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**1.9040**	**1.9040**	**5.8000e-004**	**0.0000**	**1.9163**

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	2.8000e-004	4.6500e-003	2.2000e-003	1.0000e-005	4.3000e-004	8.0000e-005	5.1000e-004	1.2000e-004	7.0000e-005	2.0000e-004	0.0000	1.3253	1.3253	1.0000e-005	0.0000	1.3255
Worker	2.8000e-004	8.4000e-004	7.4200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5834	1.5834	8.0000e-005	0.0000	1.5850
Total	**5.6000e-004**	**5.4900e-003**	**9.6200e-003**	**3.0000e-005**	**2.2400e-003**	**9.0000e-005**	**2.3300e-003**	**6.0000e-004**	**8.0000e-005**	**6.9000e-004**	**0.0000**	**2.9087**	**2.9087**	**9.0000e-005**	**0.0000**	**2.9105**

3.15 Pull cable - 2017

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	0.0250	0.2466	0.1436	2.7000e-004		0.0145	0.0145		0.0133	0.0133	0.0000	25.2511	25.2511	7.7400e-003	0.0000	25.4136
Total	**0.0250**	**0.2466**	**0.1436**	**2.7000e-004**		**0.0145**	**0.0145**		**0.0133**	**0.0133**	**0.0000**	**25.2511**	**25.2511**	**7.7400e-003**	**0.0000**	**25.4136**

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	7.9000e-004	2.3400e-003	0.0208	6.0000e-005	5.0600e-003	3.0000e-005	5.1000e-003	1.3400e-003	3.0000e-005	1.3800e-003	0.0000	4.4335	4.4335	2.1000e-004	0.0000	4.4380
Total	**7.9000e-004**	**2.3400e-003**	**0.0208**	**6.0000e-005**	**5.0600e-003**	**3.0000e-005**	**5.1000e-003**	**1.3400e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**4.4335**	**4.4335**	**2.1000e-004**	**0.0000**	**4.4380**

3.15 Pull cable - 2017

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	8.9500e-003	0.2309	0.1675	2.7000e-004		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	25.2511	25.2511	7.7400e-003	0.0000	25.4135
Total	**8.9500e-003**	**0.2309**	**0.1675**	**2.7000e-004**		**7.0400e-003**	**7.0400e-003**		**7.0400e-003**	**7.0400e-003**	**0.0000**	**25.2511**	**25.2511**	**7.7400e-003**	**0.0000**	**25.4135**

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	7.9000e-004	2.3400e-003	0.0208	6.0000e-005	5.0600e-003	3.0000e-005	5.1000e-003	1.3400e-003	3.0000e-005	1.3800e-003	0.0000	4.4335	4.4335	2.1000e-004	0.0000	4.4380
Total	**7.9000e-004**	**2.3400e-003**	**0.0208**	**6.0000e-005**	**5.0600e-003**	**3.0000e-005**	**5.1000e-003**	**1.3400e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**4.4335**	**4.4335**	**2.1000e-004**	**0.0000**	**4.4380**

3.16 Install cable splices - 2017

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	0.0161	0.1692	0.1263	1.8000e-004		8.9700e-003	8.9700e-003		8.2500e-003	8.2500e-003	0.0000	17.0479	17.0479	5.2200e-003	0.0000	17.1576
Total	**0.0161**	**0.1692**	**0.1263**	**1.8000e-004**		**8.9700e-003**	**8.9700e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**17.0479**	**17.0479**	**5.2200e-003**	**0.0000**	**17.1576**

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	6.0000e-004	1.7800e-003	0.0158	5.0000e-005	3.8600e-003	3.0000e-005	3.8800e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.3779	3.3779	1.6000e-004	0.0000	3.3813
Total	**6.0000e-004**	**1.7800e-003**	**0.0158**	**5.0000e-005**	**3.8600e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.3779**	**3.3779**	**1.6000e-004**	**0.0000**	**3.3813**

3.16 Install cable splices - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.1600e-003	0.1572	0.1395	1.8000e-004		4.8300e-003	4.8300e-003		4.8300e-003	4.8300e-003	0.0000	17.0479	17.0479	5.2200e-003	0.0000	17.1576
Total	**7.1600e-003**	**0.1572**	**0.1395**	**1.8000e-004**		**4.8300e-003**	**4.8300e-003**		**4.8300e-003**	**4.8300e-003**	**0.0000**	**17.0479**	**17.0479**	**5.2200e-003**	**0.0000**	**17.1576**

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	6.0000e-004	1.7800e-003	0.0158	5.0000e-005	3.8600e-003	3.0000e-005	3.8800e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.3779	3.3779	1.6000e-004	0.0000	3.3813
Total	**6.0000e-004**	**1.7800e-003**	**0.0158**	**5.0000e-005**	**3.8600e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.3779**	**3.3779**	**1.6000e-004**	**0.0000**	**3.3813**

3.17 Right-of-way restoration and cleanup - 2017

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					0.0103	0.0000	0.0103	1.1100e-003	0.0000	1.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0931	1.0268	0.5231	1.2400e-003		0.0426	0.0426		0.0392	0.0392	0.0000	115.2313	115.2313	0.0353	0.0000	115.9728
Total	**0.0931**	**1.0268**	**0.5231**	**1.2400e-003**	**0.0103**	**0.0426**	**0.0529**	**1.1100e-003**	**0.0392**	**0.0403**	**0.0000**	**115.2313**	**115.2313**	**0.0353**	**0.0000**	**115.9728**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4500e-003	0.0577	0.0272	1.8000e-004	5.3700e-003	9.9000e-004	6.3600e-003	1.5300e-003	9.1000e-004	2.4500e-003	0.0000	16.4335	16.4335	1.1000e-004	0.0000	16.4357
Worker	1.4000e-003	4.1500e-003	0.0368	1.1000e-004	8.9700e-003	6.0000e-005	9.0300e-003	2.3800e-003	5.0000e-005	2.4400e-003	0.0000	7.8536	7.8536	3.8000e-004	0.0000	7.8616
Total	**4.8500e-003**	**0.0618**	**0.0640**	**2.9000e-004**	**0.0143**	**1.0500e-003**	**0.0154**	**3.9100e-003**	**9.6000e-004**	**4.8900e-003**	**0.0000**	**24.2871**	**24.2871**	**4.9000e-004**	**0.0000**	**24.2973**

3.17 Right-of-way restoration and cleanup - 2017

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					4.0100e-003	0.0000	4.0100e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0336	0.9768	0.7082	1.2400e-003		0.0241	0.0241		0.0241	0.0241	0.0000	115.2312	115.2312	0.0353	0.0000	115.9727
Total	**0.0336**	**0.9768**	**0.7082**	**1.2400e-003**	**4.0100e-003**	**0.0241**	**0.0281**	**4.3000e-004**	**0.0241**	**0.0245**	**0.0000**	**115.2312**	**115.2312**	**0.0353**	**0.0000**	**115.9727**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4500e-003	0.0577	0.0272	1.8000e-004	5.3700e-003	9.9000e-004	6.3600e-003	1.5300e-003	9.1000e-004	2.4500e-003	0.0000	16.4335	16.4335	1.1000e-004	0.0000	16.4357
Worker	1.4000e-003	4.1500e-003	0.0368	1.1000e-004	8.9700e-003	6.0000e-005	9.0300e-003	2.3800e-003	5.0000e-005	2.4400e-003	0.0000	7.8536	7.8536	3.8000e-004	0.0000	7.8616
Total	**4.8500e-003**	**0.0618**	**0.0640**	**2.9000e-004**	**0.0143**	**1.0500e-003**	**0.0154**	**3.9100e-003**	**9.6000e-004**	**4.8900e-003**	**0.0000**	**24.2871**	**24.2871**	**4.9000e-004**	**0.0000**	**24.2973**

3.18 Test cable splices - 2017

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	4.3000e-004	3.7300e-003	2.6100e-003	0.0000		3.1000e-004	3.1000e-004		2.8000e-004	2.8000e-004	0.0000	0.2935	0.2935	9.0000e-005	0.0000	0.2954
Total	**4.3000e-004**	**3.7300e-003**	**2.6100e-003**	**0.0000**		**3.1000e-004**	**3.1000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.2935**	**0.2935**	**9.0000e-005**	**0.0000**	**0.2954**

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	2.0000e-005	7.0000e-005	5.9000e-004	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1267	0.1267	1.0000e-005	0.0000	0.1268
Total	**2.0000e-005**	**7.0000e-005**	**5.9000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1267**	**0.1267**	**1.0000e-005**	**0.0000**	**0.1268**

3.18 Test cable splices - 2017

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	1.5000e-004	3.1000e-003	2.4100e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2935	0.2935	9.0000e-005	0.0000	0.2954
Total	**1.5000e-004**	**3.1000e-003**	**2.4100e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2935**	**0.2935**	**9.0000e-005**	**0.0000**	**0.2954**

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	2.0000e-005	7.0000e-005	5.9000e-004	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1267	0.1267	1.0000e-005	0.0000	0.1268
Total	**2.0000e-005**	**7.0000e-005**	**5.9000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1267**	**0.1267**	**1.0000e-005**	**0.0000**	**0.1268**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0549	0.1314	0.5847	1.4300e-003	0.0988	1.7500e-003	0.1006	0.0264	1.6100e-003	0.0280	0.0000	106.4810	106.4810	4.2800e-003	0.0000	106.5709
Unmitigated	0.0549	0.1314	0.5847	1.4300e-003	0.0988	1.7500e-003	0.1006	0.0264	1.6100e-003	0.0280	0.0000	106.4810	106.4810	4.2800e-003	0.0000	106.5709

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	90.00	90.00	90.00	262,756	262,756
Total	90.00	90.00	90.00	262,756	262,756

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	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511818	0.073499	0.191840	0.131575	0.036332	0.005186	0.012677	0.022513	0.001864	0.002072	0.006564	0.000601	0.003458

4.4 Fleet Mix

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	264.7151	264.7151	0.0107	2.2000e-003	265.6222
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	264.7151	264.7151	0.0107	2.2000e-003	265.6222
NaturalGas Mitigated	5.7200e-003	0.0520	0.0437	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	56.6243	56.6243	1.0900e-003	1.0400e-003	56.9689
NaturalGas Unmitigated	5.7200e-003	0.0520	0.0437	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	56.6243	56.6243	1.0900e-003	1.0400e-003	56.9689

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	1.0611e+006	5.7200e-003	0.0520	0.0437	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	56.6243	56.6243	1.0900e-003	1.0400e-003	56.9689
Total		**5.7200e-003**	**0.0520**	**0.0437**	**3.1000e-004**		**3.9500e-003**	**3.9500e-003**		**3.9500e-003**	**3.9500e-003**	**0.0000**	**56.6243**	**56.6243**	**1.0900e-003**	**1.0400e-003**	**56.9689**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.0611e+006	5.7200e-003	0.0520	0.0437	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	56.6243	56.6243	1.0900e-003	1.0400e-003	56.9689
Total		**5.7200e-003**	**0.0520**	**0.0437**	**3.1000e-004**		**3.9500e-003**	**3.9500e-003**		**3.9500e-003**	**3.9500e-003**	**0.0000**	**56.6243**	**56.6243**	**1.0900e-003**	**1.0400e-003**	**56.9689**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	810000	264.7151	0.0107	2.2000e-003	265.6222
Total		**264.7151**	**0.0107**	**2.2000e-003**	**265.6222**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	810000	264.7151	0.0107	2.2000e-003	265.6222
Total		**264.7151**	**0.0107**	**2.2000e-003**	**265.6222**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4559	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7000e-003
Unmitigated	0.4559	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7000e-003

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	0.1043					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3515					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7000e-003
Total	**0.4559**	**1.0000e-005**	**8.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6100e-003**	**1.6100e-003**	**0.0000**	**0.0000**	**1.7000e-003**

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	0.1043					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3515					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7000e-003
Total	**0.4559**	**1.0000e-005**	**8.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6100e-003**	**1.6100e-003**	**0.0000**	**0.0000**	**1.7000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-8.6200	0.0000	0.0000	-8.6200

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	12 / 10	-8.6200	0.0000	0.0000	-8.6200
Total		**-8.6200**	**0.0000**	**0.0000**	**-8.6200**

Suncrest Reactive Power Support Project

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	90.00	1000sqft	12.00	90,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage setup to 12

Construction Phase - Construction Schedule from Suncrest Construction Plan 20150625

Off-road Equipment - Equipment Roster

Off-road Equipment - Splice truck

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Test truck

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Trips and VMT - 3,500 cubic yards of spoils will need to be hauled offsite = 438 trips * 8 cubic yards/trip

Grading -

Vehicle Trips - Assumes one (1) trip per day

Water And Wastewater - Unmanned facility, No planned indoor water use

Solid Waste - Unmanned facility, No solid waste generation

Land Use Change -

Construction Off-road Equipment Mitigation - All Engines are asuumed to comply with Tier 2 engine

Area Mitigation - Low VOC paint

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	31.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstructionPhase	PhaseStartDate	4/23/2017	4/15/2017
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tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
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tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

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tblVehicleTrips	CNW_TL	6.60	7.30
tblVehicleTrips	CW_TL	14.70	9.50
tblVehicleTrips	ST_TR	1.32	1.00
tblVehicleTrips	SU_TR	0.68	1.00
tblVehicleTrips	WD_TR	6.97	1.00
tblWater	IndoorWaterUseRate	20,812,500.00	0.00

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					
2016	24.0832	270.9327	137.5461	0.3605	10.9137	11.1076	17.2508	4.7550	10.3274	11.1603	0.0000	36,686.1062	36,686.1062	8.5917	0.0000	36,866.5308
2017	16.8753	186.8572	101.6845	0.2874	3.1918	7.5276	10.7194	0.8742	6.9975	7.8717	0.0000	28,615.6165	28,615.6165	6.4867	0.0000	28,751.8373
Total	**40.9585**	**457.7899**	**239.2306**	**0.6480**	**14.1055**	**18.6352**	**27.9701**	**5.6292**	**17.3249**	**19.0320**	**0.0000**	**65,301.7227**	**65,301.7227**	**15.0784**	**0.0000**	**65,618.3681**

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					
2016	8.9982	247.2625	173.1483	0.3605	6.4071	6.1298	9.5113	2.4425	6.1025	6.9354	0.0000	36,686.1062	36,686.1062	8.5917	0.0000	36,866.5308
2017	6.9792	187.5968	134.0784	0.2874	3.1918	4.6688	7.8606	0.8742	4.6474	5.5216	0.0000	28,615.6165	28,615.6165	6.4867	0.0000	28,751.8373
Total	**15.9774**	**434.8593**	**307.2266**	**0.6480**	**9.5989**	**10.7986**	**17.3719**	**3.3167**	**10.7499**	**12.4570**	**0.0000**	**65,301.7227**	**65,301.7227**	**15.0784**	**0.0000**	**65,618.3681**

	ROG	NOx	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	**60.99**	**5.01**	**-28.42**	**0.00**	**31.95**	**42.05**	**37.89**	**41.08**	**37.95**	**34.55**	**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	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Energy	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Mobile	0.3025	0.6823	3.1569	8.2400e-003	0.5560	9.6200e-003	0.5656	0.1484	8.8600e-003	0.1573		672.8211	672.8211	0.0260		673.3661
Total	**2.8322**	**0.9674**	**3.4057**	**9.9500e-003**	**0.5560**	**0.0313**	**0.5873**	**0.1484**	**0.0306**	**0.1790**		**1,014.8553**	**1,014.8553**	**0.0326**	**6.2700e-003**	**1,017.4828**

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	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Energy	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Mobile	0.3025	0.6823	3.1569	8.2400e-003	0.5560	9.6200e-003	0.5656	0.1484	8.8600e-003	0.1573		672.8211	672.8211	0.0260		673.3661
Total	**2.8322**	**0.9674**	**3.4057**	**9.9500e-003**	**0.5560**	**0.0313**	**0.5873**	**0.1484**	**0.0306**	**0.1790**		**1,014.8553**	**1,014.8553**	**0.0326**	**6.2700e-003**	**1,017.4828**

	ROG	NOx	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	Field Survey	Site Preparation	8/1/2016	8/15/2016	7	15	Surveying includes setting up survey equipment, taking measurements, and installing stakes
2	SDG&E Site preparation	Site Preparation	9/1/2016	10/31/2016	7	61	SDG&E Site preparation phase
3	SVC Site Grading	Grading	9/1/2016	9/30/2016	7	30	Site earthwork and grading.
4	Trenching	Trenching	9/1/2016	12/10/2016	7	101	Trench will be approximately 30" wide by 60" deep.
5	Set SVC Substation Foundations	Building Construction	10/1/2016	11/20/2016	7	51	Auguring holes, removing soil, and foundation forming.
6	Material delivery	Building Construction	10/7/2016	1/15/2017	7	101	Material haul, transporting material to the site.
7	Substation construction	Building Construction	10/31/2016	3/10/2017	7	131	Install equipment, structural steel and bus work.
8	Structure Erection	Building Construction	11/1/2016	12/31/2016	7	61	SDG&E Suncrest Substation Structure and Equipment erection
9	Install Vaults	Building Construction	12/11/2016	1/9/2017	7	30	Excavate hole for vault, install vault sections, backfill with concrete
10	Install Transmission line foundations	Building Construction	12/31/2016	1/15/2017	7	16	Foundation installation includes auguring holes, remove soil and foundation formation,
11	Install duct package	Building Construction	1/10/2017	2/28/2017	7	50	Install approximately 100 feet of duct/day
12	Wire Stringing	Building Construction	1/15/2017	1/27/2017	5	10	Wire Stringing into SDG&E Suncrest Substation
13	Transformer & SVC Delivery	Building Construction	1/16/2017	1/30/2017	7	15	Install transformer and SVC
14	Pull cable	Building Construction	3/1/2017	3/21/2017	7	21	6 pulls at 850feet each
15	Install cable splices	Building Construction	3/22/2017	4/22/2017	7	32	Install cable splice. Assume 16 hours/day
16	Right-of-way restoration and cleanup	Site Preparation	4/15/2017	6/15/2017	7	62	Restore back to natural state, removing culverts, restoring original grade, seeding area with native plants
17	Test cable splices	Building Construction	4/23/2017	4/24/2017	7	2	Test cable splices per accepted standards and techniques.

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Field Survey	Off-Highway Trucks	0	10.00	400	0.38
Field Survey	Rubber Tired Dozers	0	8.00	255	0.40
Field Survey	Tractors/Loaders/Backhoes	0	8.00	97	0.37
SDG&E Site preparation	Bore/Drill Rigs	1	5.00	205	0.50
SDG&E Site preparation	Cranes	1	2.50	226	0.29
SDG&E Site preparation	Excavators	1	7.00	162	0.38
SDG&E Site preparation	Off-Highway Trucks	2	10.00	400	0.38
SDG&E Site preparation	Off-Highway Trucks	2	3.00	400	0.38
SDG&E Site preparation	Rubber Tired Dozers	0	8.00	255	0.40
SDG&E Site preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
SVC Site Grading	Dumpers/Tenders	1	9.00	16	0.38
SVC Site Grading	Dumpers/Tenders	10	5.00	16	0.38
SVC Site Grading	Excavators	0	8.00	162	0.38
SVC Site Grading	Graders	1	9.00	174	0.41
SVC Site Grading	Off-Highway Trucks	1	10.00	400	0.38
SVC Site Grading	Rollers	2	5.00	80	0.38
SVC Site Grading	Rubber Tired Dozers	1	9.00	255	0.40
SVC Site Grading	Rubber Tired Loaders	1	9.00	199	0.36
SVC Site Grading	Scrapers	0	8.00	361	0.48
SVC Site Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37
Trenching	Dumpers/Tenders	1	10.00	16	0.38
Trenching	Off-Highway Trucks	1	10.00	400	0.38
Trenching	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Trenching	Trenchers	1	10.00	80	0.50

Set SVC Substation Foundations	Bore/Drill Rigs	1	5.00	205	0.50
Set SVC Substation Foundations	Cranes	1	3.00	226	0.29
Set SVC Substation Foundations	Excavators	1	9.00	162	0.38
Set SVC Substation Foundations	Forklifts	0	8.00	89	0.20
Set SVC Substation Foundations	Generator Sets	1	8.00	84	0.74
Set SVC Substation Foundations	Off-Highway Trucks	1	10.00	400	0.38
Set SVC Substation Foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set SVC Substation Foundations	Welders	0	8.00	46	0.45
Material delivery	Cranes	2	5.00	226	0.29
Material delivery	Forklifts	1	5.00	89	0.20
Material delivery	Generator Sets	0	8.00	84	0.74
Material delivery	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Material delivery	Welders	0	8.00	46	0.45
Substation construction	Cranes	1	7.50	226	0.29
Substation construction	Forklifts	0	8.00	89	0.20
Substation construction	Generator Sets	1	8.00	84	0.74
Substation construction	Off-Highway Trucks	2	10.00	400	0.38
Substation construction	Off-Highway Trucks	2	5.00	400	0.38
Substation construction	Tractors/Loaders/Backhoes	1	2.50	97	0.37
Substation construction	Welders	0	8.00	46	0.45
Structure Erection	Cranes	2	5.00	226	0.29
Structure Erection	Forklifts	0	8.00	89	0.20
Structure Erection	Generator Sets	1	8.00	84	0.74
Structure Erection	Off-Highway Trucks	5	10.00	400	0.38
Structure Erection	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Structure Erection	Welders	0	8.00	46	0.45
Install Vaults	Cranes	0	7.00	226	0.29
Install Vaults	Forklifts	0	8.00	89	0.20

Install Vaults	Generator Sets	1	8.00	84	0.74
Install Vaults	Off-Highway Trucks	3	10.00	400	0.38
Install Vaults	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Install Vaults	Welders	0	8.00	46	0.45
Install Transmission line foundations	Bore/Drill Rigs	1	5.00	205	0.50
Install Transmission line foundations	Cranes	1	2.50	226	0.29
Install Transmission line foundations	Excavators	1	7.00	162	0.38
Install Transmission line foundations	Forklifts	0	8.00	89	0.20
Install Transmission line foundations	Generator Sets	1	8.00	84	0.74
Install Transmission line foundations	Off-Highway Trucks	2	10.00	400	0.38
Install Transmission line foundations	Off-Highway Trucks	2	3.00	400	0.38
Install Transmission line foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install Transmission line foundations	Welders	0	8.00	46	0.45
Install duct package	Cranes	0	7.00	226	0.29
Install duct package	Forklifts	0	8.00	89	0.20
Install duct package	Generator Sets	1	8.00	84	0.74
Install duct package	Off-Highway Trucks	2	7.50	400	0.38
Install duct package	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install duct package	Welders	0	8.00	46	0.45
Wire Stringing	Cranes	1	1.00	226	0.29
Wire Stringing	Forklifts	0	8.00	89	0.20
Wire Stringing	Generator Sets	0	8.00	84	0.74
Wire Stringing	Off-Highway Trucks	3	10.00	400	0.38
Wire Stringing	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Wire Stringing	Welders	0	8.00	46	0.45
Transformer & SVC Delivery	Cranes	1	2.50	226	0.29
Transformer & SVC Delivery	Forklifts	0	8.00	89	0.20
Transformer & SVC Delivery	Generator Sets	0	8.00	84	0.74

Transformer & SVC Delivery	Tractors/Loaders/Backhoes	1	2.50	97	0.37
Transformer & SVC Delivery	Welders	0	8.00	46	0.45
Pull cable	Cranes	0	7.00	226	0.29
Pull cable	Forklifts	0	8.00	89	0.20
Pull cable	Generator Sets	0	8.00	84	0.74
Pull cable	Off-Highway Trucks	1	10.00	400	0.38
Pull cable	Other General Industrial Equipment	3	10.00	87	0.34
Pull cable	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Pull cable	Welders	0	8.00	46	0.45
Install cable splices	Cranes	0	7.00	226	0.29
Install cable splices	Forklifts	0	8.00	89	0.20
Install cable splices	Generator Sets	0	8.00	84	0.74
Install cable splices	Other Material Handling Equipment	1	16.00	167	0.40
Install cable splices	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install cable splices	Welders	0	8.00	46	0.45
Right-of-way restoration and cleanup	Excavators	1	5.00	162	0.38
Right-of-way restoration and cleanup	Graders	1	5.00	174	0.41
Right-of-way restoration and cleanup	Off-Highway Trucks	1	10.00	400	0.38
Right-of-way restoration and cleanup	Off-Highway Trucks	1	10.00	400	0.38
Right-of-way restoration and cleanup	Rubber Tired Dozers	0	8.00	255	0.40
Right-of-way restoration and cleanup	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Test cable splices	Cranes	0	7.00	226	0.29
Test cable splices	Forklifts	0	8.00	89	0.20
Test cable splices	Generator Sets	0	8.00	84	0.74
Test cable splices	Other General Industrial Equipment	1	10.00	87	0.34
Test cable splices	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Test cable splices	Welders	0	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
Field Survey	0	3.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
SDG&E Site preparation	7	9.00	5.00	0.00	65.00	91.00	65.00	LD_Mix	HDT_Mix	HHDT
SVC Site Grading	18	18.00	12.00	438.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Set SVC Substation Foundations	5	6.00	2.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Material delivery	4	3.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Substation construction	7	8.00	6.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Structure Erection	9	8.00	9.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install Vaults	5	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install Transmission line foundations	8	5.00	5.00	0.00	65.00	143.00	65.00	LD_Mix	HDT_Mix	HHDT
Install duct package	3	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Wire Stringing	5	15.00	6.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Transformer & SVC Delivery	2	5.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Pull cable	4	10.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install cable splices	1	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Right-of-way restoration and cleanu	4	6.00	3.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Test cable splices	1	3.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Field Survey - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0395	0.6774	0.2921	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.2133	198.2133	1.3700e-003		198.2422
Worker	0.0267	0.0665	0.7156	1.8400e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		153.2679	153.2679	7.3000e-003		153.4212
Total	**0.0662**	**0.7439**	**1.0077**	**3.8100e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**351.4812**	**351.4812**	**8.6700e-003**		**351.6633**

3.2 Field Survey - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0395	0.6774	0.2921	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.2133	198.2133	1.3700e-003		198.2422
Worker	0.0267	0.0665	0.7156	1.8400e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		153.2679	153.2679	7.3000e-003		153.4212
Total	**0.0662**	**0.7439**	**1.0077**	**3.8100e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**351.4812**	**351.4812**	**8.6700e-003**		**351.6633**

3.3 SDG&E Site preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	3.8435	45.0908	21.6382	0.0546		1.7386	1.7386		1.5995	1.5995		5,673.9603	5,673.9603	1.7115		5,709.9011
Total	**3.8435**	**45.0908**	**21.6382**	**0.0546**	**0.0000**	**1.7386**	**1.7386**	**0.0000**	**1.5995**	**1.5995**		**5,673.9603**	**5,673.9603**	**1.7115**		**5,709.9011**

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	0.2630	4.6998	1.8677	0.0137	0.4123	0.0859	0.4982	0.1175	0.0790	0.1965		1,383.8931	1,383.8931	9.5400e-003		1,384.0935
Worker	0.0802	0.1996	2.1468	5.5100e-003	0.4445	2.9800e-003	0.4475	0.1179	2.7400e-003	0.1206		459.8037	459.8037	0.0219		460.2635
Total	**0.3432**	**4.8993**	**4.0145**	**0.0192**	**0.8568**	**0.0888**	**0.9457**	**0.2353**	**0.0817**	**0.3171**		**1,843.6968**	**1,843.6968**	**0.0314**		**1,844.3570**

3.3 SDG&E Site preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.4050	43.1706	30.0449	0.0546		1.0195	1.0195		1.0195	1.0195	0.0000	5,673.9603	5,673.9603	1.7115		5,709.9011
Total	**1.4050**	**43.1706**	**30.0449**	**0.0546**	**0.0000**	**1.0195**	**1.0195**	**0.0000**	**1.0195**	**1.0195**	**0.0000**	**5,673.9603**	**5,673.9603**	**1.7115**		**5,709.9011**

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	0.2630	4.6998	1.8677	0.0137	0.4123	0.0859	0.4982	0.1175	0.0790	0.1965		1,383.8931	1,383.8931	9.5400e-003		1,384.0935
Worker	0.0802	0.1996	2.1468	5.5100e-003	0.4445	2.9800e-003	0.4475	0.1179	2.7400e-003	0.1206		459.8037	459.8037	0.0219		460.2635
Total	**0.3432**	**4.8993**	**4.0145**	**0.0192**	**0.8568**	**0.0888**	**0.9457**	**0.2353**	**0.0817**	**0.3171**		**1,843.6968**	**1,843.6968**	**0.0314**		**1,844.3570**

3.4 SVC Site Grading - 2016

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					7.3880	0.0000	7.3880	3.7909	0.0000	3.7909			0.0000			0.0000
Off-Road	5.6254	59.1329	32.8038	0.0527		2.8487	2.8487		2.6319	2.6319		5,348.0893	5,348.0893	1.5266		5,380.1487
Total	**5.6254**	**59.1329**	**32.8038**	**0.0527**	**7.3880**	**2.8487**	**10.2366**	**3.7909**	**2.6319**	**6.4228**		**5,348.0893**	**5,348.0893**	**1.5266**		**5,380.1487**

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	0.6470	12.5532	5.1074	0.0348	0.8261	0.1800	1.0061	0.2261	0.1656	0.3917		3,516.4079	3,516.4079	0.0238		3,516.9075
Vendor	0.4741	8.1289	3.5047	0.0236	0.7069	0.1474	0.8543	0.2014	0.1356	0.3370		2,378.5601	2,378.5601	0.0165		2,378.9061
Worker	0.1604	0.3991	4.2935	0.0110	0.8890	5.9700e-003	0.8950	0.2357	5.4800e-003	0.2412		919.6073	919.6073	0.0438		920.5270
Total	**1.2814**	**21.0812**	**12.9056**	**0.0694**	**2.4220**	**0.3334**	**2.7554**	**0.6633**	**0.3067**	**0.9699**		**6,814.5753**	**6,814.5753**	**0.0841**		**6,816.3406**

3.4 SVC Site Grading - 2016

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					2.8813	0.0000	2.8813	1.4785	0.0000	1.4785			0.0000			0.0000
Off-Road	1.4024	39.4670	28.0224	0.0527		1.0447	1.0447		1.0447	1.0447	0.0000	5,348.0893	5,348.0893	1.5266		5,380.1487
Total	**1.4024**	**39.4670**	**28.0224**	**0.0527**	**2.8813**	**1.0447**	**3.9260**	**1.4785**	**1.0447**	**2.5231**	**0.0000**	**5,348.0893**	**5,348.0893**	**1.5266**		**5,380.1487**

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	0.6470	12.5532	5.1074	0.0348	0.8261	0.1800	1.0061	0.2261	0.1656	0.3917		3,516.4079	3,516.4079	0.0238		3,516.9075
Vendor	0.4741	8.1289	3.5047	0.0236	0.7069	0.1474	0.8543	0.2014	0.1356	0.3370		2,378.5601	2,378.5601	0.0165		2,378.9061
Worker	0.1604	0.3991	4.2935	0.0110	0.8890	5.9700e-003	0.8950	0.2357	5.4800e-003	0.2412		919.6073	919.6073	0.0438		920.5270
Total	**1.2814**	**21.0812**	**12.9056**	**0.0694**	**2.4220**	**0.3334**	**2.7554**	**0.6633**	**0.3067**	**0.9699**		**6,814.5753**	**6,814.5753**	**0.0841**		**6,816.3406**

3.5 Trenching - 2016

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	2.3905	24.3073	13.1642	0.0256		1.3259	1.3259		1.2217	1.2217		2,638.9849	2,638.9849	0.7813		2,655.3931
Total	**2.3905**	**24.3073**	**13.1642**	**0.0256**		**1.3259**	**1.3259**		**1.2217**	**1.2217**		**2,638.9849**	**2,638.9849**	**0.7813**		**2,655.3931**

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	0.0446	0.1109	1.1926	3.0600e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		255.4465	255.4465	0.0122		255.7019
Total	**0.0446**	**0.1109**	**1.1926**	**3.0600e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**255.4465**	**255.4465**	**0.0122**		**255.7019**

3.5 Trenching - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7869	20.6476	14.9031	0.0256		0.6161	0.6161		0.6161	0.6161	0.0000	2,638.9849	2,638.9849	0.7813		2,655.3931
Total	**0.7869**	**20.6476**	**14.9031**	**0.0256**		**0.6161**	**0.6161**		**0.6161**	**0.6161**	**0.0000**	**2,638.9849**	**2,638.9849**	**0.7813**		**2,655.3931**

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	0.0446	0.1109	1.1926	3.0600e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		255.4465	255.4465	0.0122		255.7019
Total	**0.0446**	**0.1109**	**1.1926**	**3.0600e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**255.4465**	**255.4465**	**0.0122**		**255.7019**

3.6 Set SVC Substation Foundations - 2016

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	2.7408	29.8627	16.3770	0.0366		1.3372	1.3372		1.2573	1.2573		3,737.4250	3,737.4250	0.9964		3,758.3498
Total	**2.7408**	**29.8627**	**16.3770**	**0.0366**		**1.3372**	**1.3372**		**1.2573**	**1.2573**		**3,737.4250**	**3,737.4250**	**0.9964**		**3,758.3498**

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	0.0790	1.3548	0.5841	3.9300e-003	0.1178	0.0246	0.1424	0.0336	0.0226	0.0562		396.4267	396.4267	2.7500e-003		396.4843
Worker	0.0535	0.1330	1.4312	3.6700e-003	0.2964	1.9900e-003	0.2983	0.0786	1.8300e-003	0.0804		306.5358	306.5358	0.0146		306.8423
Total	**0.1325**	**1.4879**	**2.0153**	**7.6000e-003**	**0.4142**	**0.0266**	**0.4407**	**0.1121**	**0.0244**	**0.1366**		**702.9625**	**702.9625**	**0.0174**		**703.3267**

3.6 Set SVC Substation Foundations - 2016

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	1.0740	29.4892	21.3531	0.0366		0.7993	0.7993		0.7993	0.7993	0.0000	3,737.4250	3,737.4250	0.9964		3,758.3498
Total	**1.0740**	**29.4892**	**21.3531**	**0.0366**		**0.7993**	**0.7993**		**0.7993**	**0.7993**	**0.0000**	**3,737.4250**	**3,737.4250**	**0.9964**		**3,758.3498**

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	0.0790	1.3548	0.5841	3.9300e-003	0.1178	0.0246	0.1424	0.0336	0.0226	0.0562		396.4267	396.4267	2.7500e-003		396.4843
Worker	0.0535	0.1330	1.4312	3.6700e-003	0.2964	1.9900e-003	0.2983	0.0786	1.8300e-003	0.0804		306.5358	306.5358	0.0146		306.8423
Total	**0.1325**	**1.4879**	**2.0153**	**7.6000e-003**	**0.4142**	**0.0266**	**0.4407**	**0.1121**	**0.0244**	**0.1366**		**702.9625**	**702.9625**	**0.0174**		**703.3267**

3.7 Material delivery - 2016

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	1.2547	13.9197	6.0283	9.9400e-003		0.7426	0.7426		0.6832	0.6832		1,034.2930	1,034.2930	0.3120		1,040.8445
Total	**1.2547**	**13.9197**	**6.0283**	**9.9400e-003**		**0.7426**	**0.7426**		**0.6832**	**0.6832**		**1,034.2930**	**1,034.2930**	**0.3120**		**1,040.8445**

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	0.0395	0.6774	0.2921	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.2133	198.2133	1.3700e-003		198.2422
Worker	0.0267	0.0665	0.7156	1.8400e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		153.2679	153.2679	7.3000e-003		153.4212
Total	**0.0662**	**0.7439**	**1.0077**	**3.8100e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**351.4812**	**351.4812**	**8.6700e-003**		**351.6633**

3.7 Material delivery - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3095	8.8076	5.9465	9.9400e-003		0.2408	0.2408		0.2408	0.2408	0.0000	1,034.2929	1,034.2929	0.3120		1,040.8445
Total	**0.3095**	**8.8076**	**5.9465**	**9.9400e-003**		**0.2408**	**0.2408**		**0.2408**	**0.2408**	**0.0000**	**1,034.2929**	**1,034.2929**	**0.3120**		**1,040.8445**

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	0.0395	0.6774	0.2921	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.2133	198.2133	1.3700e-003		198.2422
Worker	0.0267	0.0665	0.7156	1.8400e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		153.2679	153.2679	7.3000e-003		153.4212
Total	**0.0662**	**0.7439**	**1.0077**	**3.8100e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**351.4812**	**351.4812**	**8.6700e-003**		**351.6633**

3.7 Material delivery - 2017

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	1.1398	12.6602	5.7223	9.9500e-003		0.6660	0.6660		0.6127	0.6127		1,018.1223	1,018.1223	0.3120		1,024.6733
Total	**1.1398**	**12.6602**	**5.7223**	**9.9500e-003**		**0.6660**	**0.6660**		**0.6127**	**0.6127**		**1,018.1223**	**1,018.1223**	**0.3120**		**1,024.6733**

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	0.0363	0.5976	0.2692	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8200e-003	0.0266		194.8586	194.8586	1.2800e-003		194.8855
Worker	0.0235	0.0605	0.6467	1.8400e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		147.3490	147.3490	6.7700e-003		147.4911
Total	**0.0599**	**0.6581**	**0.9159**	**3.8000e-003**	**0.2071**	**0.0116**	**0.2187**	**0.0561**	**0.0107**	**0.0668**		**342.2076**	**342.2076**	**8.0500e-003**		**342.3766**

3.7 Material delivery - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3095	8.8076	5.9465	9.9500e-003		0.2408	0.2408		0.2408	0.2408	0.0000	1,018.1223	1,018.1223	0.3120		1,024.6733
Total	**0.3095**	**8.8076**	**5.9465**	**9.9500e-003**		**0.2408**	**0.2408**		**0.2408**	**0.2408**	**0.0000**	**1,018.1223**	**1,018.1223**	**0.3120**		**1,024.6733**

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	0.0363	0.5976	0.2692	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8200e-003	0.0266		194.8586	194.8586	1.2800e-003		194.8855
Worker	0.0235	0.0605	0.6467	1.8400e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		147.3490	147.3490	6.7700e-003		147.4911
Total	**0.0599**	**0.6581**	**0.9159**	**3.8000e-003**	**0.2071**	**0.0116**	**0.2187**	**0.0561**	**0.0107**	**0.0668**		**342.2076**	**342.2076**	**8.0500e-003**		**342.3766**

3.8 Substation construction - 2016

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	4.9529	54.5450	26.3078	0.0622		2.3153	2.3153		2.1572	2.1572		6,399.4458	6,399.4458	1.7994		6,437.2327
Total	**4.9529**	**54.5450**	**26.3078**	**0.0622**		**2.3153**	**2.3153**		**2.1572**	**2.1572**		**6,399.4458**	**6,399.4458**	**1.7994**		**6,437.2327**

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	0.2370	4.0645	1.7524	0.0118	0.3534	0.0737	0.4271	0.1007	0.0678	0.1685		1,189.2800	1,189.2800	8.2400e-003		1,189.4530
Worker	0.0713	0.1774	1.9082	4.9000e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		408.7144	408.7144	0.0195		409.1231
Total	**0.3083**	**4.2418**	**3.6606**	**0.0167**	**0.7486**	**0.0764**	**0.8249**	**0.2055**	**0.0702**	**0.2757**		**1,597.9944**	**1,597.9944**	**0.0277**		**1,598.5761**

3.8 Substation construction - 2016

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	1.6341	48.7455	33.7438	0.0622		1.2285	1.2285		1.2285	1.2285	0.0000	6,399.4458	6,399.4458	1.7994		6,437.2327
Total	**1.6341**	**48.7455**	**33.7438**	**0.0622**		**1.2285**	**1.2285**		**1.2285**	**1.2285**	**0.0000**	**6,399.4458**	**6,399.4458**	**1.7994**		**6,437.2327**

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	0.2370	4.0645	1.7524	0.0118	0.3534	0.0737	0.4271	0.1007	0.0678	0.1685		1,189.2800	1,189.2800	8.2400e-003		1,189.4530
Worker	0.0713	0.1774	1.9082	4.9000e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		408.7144	408.7144	0.0195		409.1231
Total	**0.3083**	**4.2418**	**3.6606**	**0.0167**	**0.7486**	**0.0764**	**0.8249**	**0.2055**	**0.0702**	**0.2757**		**1,597.9944**	**1,597.9944**	**0.0277**		**1,598.5761**

3.8 Substation construction - 2017

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	4.5465	49.5064	24.6757	0.0621		2.0625	2.0625		1.9215	1.9215		6,304.6372	6,304.6372	1.7913		6,342.2537
Total	**4.5465**	**49.5064**	**24.6757**	**0.0621**		**2.0625**	**2.0625**		**1.9215**	**1.9215**		**6,304.6372**	**6,304.6372**	**1.7913**		**6,342.2537**

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	0.2181	3.5853	1.6152	0.0118	0.3535	0.0640	0.4175	0.1007	0.0589	0.1596		1,169.1514	1,169.1514	7.6800e-003		1,169.3127
Worker	0.0627	0.1614	1.7246	4.9000e-003	0.3951	2.5600e-003	0.3977	0.1048	2.3600e-003	0.1071		392.9307	392.9307	0.0181		393.3097
Total	**0.2808**	**3.7467**	**3.3398**	**0.0167**	**0.7486**	**0.0666**	**0.8152**	**0.2055**	**0.0613**	**0.2668**		**1,562.0820**	**1,562.0820**	**0.0257**		**1,562.6224**

3.8 Substation construction - 2017

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	1.6341	48.7455	33.7438	0.0621		1.2285	1.2285		1.2285	1.2285	0.0000	6,304.6372	6,304.6372	1.7913		6,342.2537
Total	**1.6341**	**48.7455**	**33.7438**	**0.0621**		**1.2285**	**1.2285**		**1.2285**	**1.2285**	**0.0000**	**6,304.6372**	**6,304.6372**	**1.7913**		**6,342.2537**

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	0.2181	3.5853	1.6152	0.0118	0.3535	0.0640	0.4175	0.1007	0.0589	0.1596		1,169.1514	1,169.1514	7.6800e-003		1,169.3127
Worker	0.0627	0.1614	1.7246	4.9000e-003	0.3951	2.5600e-003	0.3977	0.1048	2.3600e-003	0.1071		392.9307	392.9307	0.0181		393.3097
Total	**0.2808**	**3.7467**	**3.3398**	**0.0167**	**0.7486**	**0.0666**	**0.8152**	**0.2055**	**0.0613**	**0.2668**		**1,562.0820**	**1,562.0820**	**0.0257**		**1,562.6224**

3.9 Structure Erection - 2016

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	7.5114	84.1375	39.7247	0.0967		3.4441	3.4441		3.1957	3.1957		9,979.5256	9,979.5256	2.8793		10,039.9900
Total	**7.5114**	**84.1375**	**39.7247**	**0.0967**		**3.4441**	**3.4441**		**3.1957**	**3.1957**		**9,979.5256**	**9,979.5256**	**2.8793**		**10,039.9900**

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	0.3555	6.0967	2.6285	0.0177	0.5302	0.1106	0.6407	0.1511	0.1017	0.2528		1,783.9201	1,783.9201	0.0124		1,784.1796
Worker	0.0713	0.1774	1.9082	4.9000e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		408.7144	408.7144	0.0195		409.1231
Total	**0.4268**	**6.2741**	**4.5368**	**0.0226**	**0.9253**	**0.1132**	**1.0385**	**0.2558**	**0.1041**	**0.3600**		**2,192.6344**	**2,192.6344**	**0.0318**		**2,193.3026**

3.9 Structure Erection - 2016

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	2.4726	75.4575	51.9620	0.0967		1.8425	1.8425		1.8425	1.8425	0.0000	9,979.5256	9,979.5256	2.8793		10,039.9900
Total	**2.4726**	**75.4575**	**51.9620**	**0.0967**		**1.8425**	**1.8425**		**1.8425**	**1.8425**	**0.0000**	**9,979.5256**	**9,979.5256**	**2.8793**		**10,039.9900**

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	0.3555	6.0967	2.6285	0.0177	0.5302	0.1106	0.6407	0.1511	0.1017	0.2528		1,783.9201	1,783.9201	0.0124		1,784.1796
Worker	0.0713	0.1774	1.9082	4.9000e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		408.7144	408.7144	0.0195		409.1231
Total	**0.4268**	**6.2741**	**4.5368**	**0.0226**	**0.9253**	**0.1132**	**1.0385**	**0.2558**	**0.1041**	**0.3600**		**2,192.6344**	**2,192.6344**	**0.0318**		**2,193.3026**

3.10 Install Vaults - 2016

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	4.5971	49.5983	25.7713	0.0598		2.1873	2.1873		2.0394	2.0394		6,153.2981	6,153.2981	1.7251		6,189.5259
Total	**4.5971**	**49.5983**	**25.7713**	**0.0598**		**2.1873**	**2.1873**		**2.0394**	**2.0394**		**6,153.2981**	**6,153.2981**	**1.7251**		**6,189.5259**

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	0.0446	0.1109	1.1926	3.0600e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		255.4465	255.4465	0.0122		255.7019
Total	**0.0446**	**0.1109**	**1.1926**	**3.0600e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**255.4465**	**255.4465**	**0.0122**		**255.7019**

3.10 Install Vaults - 2016

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	1.6405	47.0671	33.1220	0.0598		1.2471	1.2471		1.2471	1.2471	0.0000	6,153.2981	6,153.2981	1.7251		6,189.5259
Total	**1.6405**	**47.0671**	**33.1220**	**0.0598**		**1.2471**	**1.2471**		**1.2471**	**1.2471**	**0.0000**	**6,153.2981**	**6,153.2981**	**1.7251**		**6,189.5259**

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	0.0446	0.1109	1.1926	3.0600e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		255.4465	255.4465	0.0122		255.7019
Total	**0.0446**	**0.1109**	**1.1926**	**3.0600e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**255.4465**	**255.4465**	**0.0122**		**255.7019**

3.10 Install Vaults - 2017

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	4.2360	45.1478	24.3359	0.0598		1.9556	1.9556		1.8231	1.8231		6,061.8499	6,061.8499	1.7169		6,097.9043
Total	**4.2360**	**45.1478**	**24.3359**	**0.0598**		**1.9556**	**1.9556**		**1.8231**	**1.8231**		**6,061.8499**	**6,061.8499**	**1.7169**		**6,097.9043**

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	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0392**	**0.1009**	**1.0779**	**3.0600e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**245.5817**	**245.5817**	**0.0113**		**245.8186**

3.10 Install Vaults - 2017

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	1.6405	47.0671	33.1220	0.0598		1.2471	1.2471		1.2471	1.2471	0.0000	6,061.8499	6,061.8499	1.7169		6,097.9043
Total	**1.6405**	**47.0671**	**33.1220**	**0.0598**		**1.2471**	**1.2471**		**1.2471**	**1.2471**	**0.0000**	**6,061.8499**	**6,061.8499**	**1.7169**		**6,097.9043**

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	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0392**	**0.1009**	**1.0779**	**3.0600e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**245.5817**	**245.5817**	**0.0113**		**245.8186**

3.11 Install Transmission line foundations - 2016

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	4.4827	49.9256	25.4413	0.0612		2.0773	2.0773		1.9383	1.9383		6,296.9948	6,296.9948	1.7685		6,334.1328
Total	**4.4827**	**49.9256**	**25.4413**	**0.0612**		**2.0773**	**2.0773**		**1.9383**	**1.9383**		**6,296.9948**	**6,296.9948**	**1.7685**		**6,334.1328**

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	0.3940	7.3252	2.6825	0.0215	0.6478	0.1348	0.7826	0.1846	0.1240	0.3086		2,169.5459	2,169.5459	0.0149		2,169.8588
Worker	0.0446	0.1109	1.1926	3.0600e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		255.4465	255.4465	0.0122		255.7019
Total	**0.4386**	**7.4360**	**3.8751**	**0.0246**	**0.8948**	**0.1364**	**1.0312**	**0.2501**	**0.1255**	**0.3756**		**2,424.9924**	**2,424.9924**	**0.0271**		**2,425.5608**

3.11 Install Transmission line foundations - 2016

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	1.6571	48.3781	34.1012	0.0612		1.2300	1.2300		1.2300	1.2300	0.0000	6,296.9948	6,296.9948	1.7685		6,334.1328
Total	**1.6571**	**48.3781**	**34.1012**	**0.0612**		**1.2300**	**1.2300**		**1.2300**	**1.2300**	**0.0000**	**6,296.9948**	**6,296.9948**	**1.7685**		**6,334.1328**

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	0.3940	7.3252	2.6825	0.0215	0.6478	0.1348	0.7826	0.1846	0.1240	0.3086		2,169.5459	2,169.5459	0.0149		2,169.8588
Worker	0.0446	0.1109	1.1926	3.0600e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		255.4465	255.4465	0.0122		255.7019
Total	**0.4386**	**7.4360**	**3.8751**	**0.0246**	**0.8948**	**0.1364**	**1.0312**	**0.2501**	**0.1255**	**0.3756**		**2,424.9924**	**2,424.9924**	**0.0271**		**2,425.5608**

3.11 Install Transmission line foundations - 2017

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	4.1195	45.1936	24.1009	0.0612		1.8489	1.8489		1.7250	1.7250		6,204.1899	6,204.1899	1.7605		6,241.1601
Total	**4.1195**	**45.1936**	**24.1009**	**0.0612**		**1.8489**	**1.8489**		**1.7250**	**1.7250**		**6,204.1899**	**6,204.1899**	**1.7605**		**6,241.1601**

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	0.3627	6.4538	2.4598	0.0215	0.6479	0.1171	0.7650	0.1846	0.1077	0.2923		2,132.8211	2,132.8211	0.0139		2,133.1126
Worker	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.4019**	**6.5547**	**3.5377**	**0.0245**	**0.8948**	**0.1187**	**1.0135**	**0.2501**	**0.1092**	**0.3593**		**2,378.4028**	**2,378.4028**	**0.0252**		**2,378.9311**

3.11 Install Transmission line foundations - 2017

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	1.6571	48.3781	34.1012	0.0612		1.2300	1.2300		1.2300	1.2300	0.0000	6,204.1899	6,204.1899	1.7605		6,241.1601
Total	**1.6571**	**48.3781**	**34.1012**	**0.0612**		**1.2300**	**1.2300**		**1.2300**	**1.2300**	**0.0000**	**6,204.1899**	**6,204.1899**	**1.7605**		**6,241.1601**

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	0.3627	6.4538	2.4598	0.0215	0.6479	0.1171	0.7650	0.1846	0.1077	0.2923		2,132.8211	2,132.8211	0.0139		2,133.1126
Worker	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.4019**	**6.5547**	**3.5377**	**0.0245**	**0.8948**	**0.1187**	**1.0135**	**0.2501**	**0.1092**	**0.3593**		**2,378.4028**	**2,378.4028**	**0.0252**		**2,378.9311**

3.12 Install duct package - 2017

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	2.2051	22.9036	12.5586	0.0312		0.9849	0.9849		0.9301	0.9301		3,143.5267	3,143.5267	0.8227		3,160.8035
Total	**2.2051**	**22.9036**	**12.5586**	**0.0312**		**0.9849**	**0.9849**		**0.9301**	**0.9301**		**3,143.5267**	**3,143.5267**	**0.8227**		**3,160.8035**

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	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0392**	**0.1009**	**1.0779**	**3.0600e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**245.5817**	**245.5817**	**0.0113**		**245.8186**

3.12 Install duct package - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8553	24.2581	17.1254	0.0312		0.6528	0.6528		0.6528	0.6528	0.0000	3,143.5267	3,143.5267	0.8227		3,160.8035
Total	**0.8553**	**24.2581**	**17.1254**	**0.0312**		**0.6528**	**0.6528**		**0.6528**	**0.6528**	**0.0000**	**3,143.5267**	**3,143.5267**	**0.8227**		**3,160.8035**

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	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0392**	**0.1009**	**1.0779**	**3.0600e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**245.5817**	**245.5817**	**0.0113**		**245.8186**

3.13 Wire Stringing - 2017

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	3.7469	41.6453	20.9069	0.0539		1.6980	1.6980		1.5622	1.5622		5,510.9701	5,510.9701	1.6886		5,546.4297
Total	**3.7469**	**41.6453**	**20.9069**	**0.0539**		**1.6980**	**1.6980**		**1.5622**	**1.5622**		**5,510.9701**	**5,510.9701**	**1.6886**		**5,546.4297**

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	0.2181	3.5853	1.6152	0.0118	0.3535	0.0640	0.4175	0.1007	0.0589	0.1596		1,169.1514	1,169.1514	7.6800e-003		1,169.3127
Worker	0.1176	0.3026	3.2337	9.1800e-003	0.7409	4.8000e-003	0.7457	0.1964	4.4300e-003	0.2008		736.7450	736.7450	0.0338		737.4557
Total	**0.3357**	**3.8879**	**4.8488**	**0.0210**	**1.0943**	**0.0688**	**1.1632**	**0.2971**	**0.0633**	**0.3605**		**1,905.8963**	**1,905.8963**	**0.0415**		**1,906.7684**

3.13 Wire Stringing - 2017

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	1.4057	42.4592	29.4413	0.0539		1.0493	1.0493		1.0493	1.0493	0.0000	5,510.9701	5,510.9701	1.6886		5,546.4297
Total	**1.4057**	**42.4592**	**29.4413**	**0.0539**		**1.0493**	**1.0493**		**1.0493**	**1.0493**	**0.0000**	**5,510.9701**	**5,510.9701**	**1.6886**		**5,546.4297**

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	0.2181	3.5853	1.6152	0.0118	0.3535	0.0640	0.4175	0.1007	0.0589	0.1596		1,169.1514	1,169.1514	7.6800e-003		1,169.3127
Worker	0.1176	0.3026	3.2337	9.1800e-003	0.7409	4.8000e-003	0.7457	0.1964	4.4300e-003	0.2008		736.7450	736.7450	0.0338		737.4557
Total	**0.3357**	**3.8879**	**4.8488**	**0.0210**	**1.0943**	**0.0688**	**1.1632**	**0.2971**	**0.0633**	**0.3605**		**1,905.8963**	**1,905.8963**	**0.0415**		**1,906.7684**

3.14 Transformer & SVC Delivery - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3015	3.3553	1.6094	2.7300e-003		0.1787	0.1787		0.1644	0.1644		279.8447	279.8447	0.0857		281.6453
Total	**0.3015**	**3.3553**	**1.6094**	**2.7300e-003**		**0.1787**	**0.1787**		**0.1644**	**0.1644**		**279.8447**	**279.8447**	**0.0857**		**281.6453**

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	0.0363	0.5976	0.2692	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8200e-003	0.0266		194.8586	194.8586	1.2800e-003		194.8855
Worker	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0755**	**0.6984**	**1.3471**	**5.0200e-003**	**0.3059**	**0.0123**	**0.3181**	**0.0823**	**0.0113**	**0.0936**		**440.4402**	**440.4402**	**0.0126**		**440.7040**

3.14 Transformer & SVC Delivery - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0888	2.4387	1.6711	2.7300e-003		0.0698	0.0698		0.0698	0.0698	0.0000	279.8447	279.8447	0.0857		281.6453
Total	**0.0888**	**2.4387**	**1.6711**	**2.7300e-003**		**0.0698**	**0.0698**		**0.0698**	**0.0698**	**0.0000**	**279.8447**	**279.8447**	**0.0857**		**281.6453**

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	0.0363	0.5976	0.2692	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8200e-003	0.0266		194.8586	194.8586	1.2800e-003		194.8855
Worker	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0755**	**0.6984**	**1.3471**	**5.0200e-003**	**0.3059**	**0.0123**	**0.3181**	**0.0823**	**0.0113**	**0.0936**		**440.4402**	**440.4402**	**0.0126**		**440.7040**

3.15 Pull cable - 2017

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	2.3812	23.4861	13.6785	0.0259		1.3768	1.3768		1.2666	1.2666		2,650.9105	2,650.9105	0.8122		2,667.9674
Total	**2.3812**	**23.4861**	**13.6785**	**0.0259**		**1.3768**	**1.3768**		**1.2666**	**1.2666**		**2,650.9105**	**2,650.9105**	**0.8122**		**2,667.9674**

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	0.0784	0.2018	2.1558	6.1200e-003	0.4939	3.2000e-003	0.4971	0.1309	2.9500e-003	0.1339		491.1633	491.1633	0.0226		491.6371
Total	**0.0784**	**0.2018**	**2.1558**	**6.1200e-003**	**0.4939**	**3.2000e-003**	**0.4971**	**0.1309**	**2.9500e-003**	**0.1339**		**491.1633**	**491.1633**	**0.0226**		**491.6371**

3.15 Pull cable - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8521	21.9932	15.9513	0.0259		0.6705	0.6705		0.6705	0.6705	0.0000	2,650.9105	2,650.9105	0.8122		2,667.9674
Total	**0.8521**	**21.9932**	**15.9513**	**0.0259**		**0.6705**	**0.6705**		**0.6705**	**0.6705**	**0.0000**	**2,650.9105**	**2,650.9105**	**0.8122**		**2,667.9674**

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	0.0784	0.2018	2.1558	6.1200e-003	0.4939	3.2000e-003	0.4971	0.1309	2.9500e-003	0.1339		491.1633	491.1633	0.0226		491.6371
Total	**0.0784**	**0.2018**	**2.1558**	**6.1200e-003**	**0.4939**	**3.2000e-003**	**0.4971**	**0.1309**	**2.9500e-003**	**0.1339**		**491.1633**	**491.1633**	**0.0226**		**491.6371**

3.16 Install cable splices - 2017

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	1.0058	10.5753	7.8964	0.0115		0.5605	0.5605		0.5157	0.5157		1,174.5068	1,174.5068	0.3599		1,182.0640
Total	**1.0058**	**10.5753**	**7.8964**	**0.0115**		**0.5605**	**0.5605**		**0.5157**	**0.5157**		**1,174.5068**	**1,174.5068**	**0.3599**		**1,182.0640**

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	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0392**	**0.1009**	**1.0779**	**3.0600e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**245.5817**	**245.5817**	**0.0113**		**245.8186**

3.16 Install cable splices - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4477	9.8258	8.7183	0.0115		0.3016	0.3016		0.3016	0.3016	0.0000	1,174.5068	1,174.5068	0.3599		1,182.0640
Total	**0.4477**	**9.8258**	**8.7183**	**0.0115**		**0.3016**	**0.3016**		**0.3016**	**0.3016**	**0.0000**	**1,174.5068**	**1,174.5068**	**0.3599**		**1,182.0640**

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	0.0392	0.1009	1.0779	3.0600e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		245.5817	245.5817	0.0113		245.8186
Total	**0.0392**	**0.1009**	**1.0779**	**3.0600e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**245.5817**	**245.5817**	**0.0113**		**245.8186**

3.17 Right-of-way restoration and cleanup - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3315	0.0000	0.3315	0.0358	0.0000	0.0358			0.0000			0.0000
Off-Road	3.0017	33.1222	16.8754	0.0401		1.3747	1.3747		1.2647	1.2647		4,097.4456	4,097.4456	1.2555		4,123.8100
Total	**3.0017**	**33.1222**	**16.8754**	**0.0401**	**0.3315**	**1.3747**	**1.7062**	**0.0358**	**1.2647**	**1.3005**		**4,097.4456**	**4,097.4456**	**1.2555**		**4,123.8100**

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	0.1090	1.7927	0.8076	5.8900e-003	0.1767	0.0320	0.2088	0.0504	0.0295	0.0798		584.5757	584.5757	3.8400e-003		584.6564
Worker	0.0470	0.1211	1.2935	3.6700e-003	0.2964	1.9200e-003	0.2983	0.0786	1.7700e-003	0.0803		294.6980	294.6980	0.0135		294.9823
Total	**0.1561**	**1.9137**	**2.1011**	**9.5600e-003**	**0.4731**	**0.0339**	**0.5070**	**0.1289**	**0.0312**	**0.1602**		**879.2737**	**879.2737**	**0.0174**		**879.6386**

3.17 Right-of-way restoration and cleanup - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1293	0.0000	0.1293	0.0140	0.0000	0.0140			0.0000			0.0000
Off-Road	1.0826	31.5097	22.8457	0.0401		0.7773	0.7773		0.7773	0.7773	0.0000	4,097.4456	4,097.4456	1.2555		4,123.8100
Total	**1.0826**	**31.5097**	**22.8457**	**0.0401**	**0.1293**	**0.7773**	**0.9066**	**0.0140**	**0.7773**	**0.7913**	**0.0000**	**4,097.4456**	**4,097.4456**	**1.2555**		**4,123.8100**

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	0.1090	1.7927	0.8076	5.8900e-003	0.1767	0.0320	0.2088	0.0504	0.0295	0.0798		584.5757	584.5757	3.8400e-003		584.6564
Worker	0.0470	0.1211	1.2935	3.6700e-003	0.2964	1.9200e-003	0.2983	0.0786	1.7700e-003	0.0803		294.6980	294.6980	0.0135		294.9823
Total	**0.1561**	**1.9137**	**2.1011**	**9.5600e-003**	**0.4731**	**0.0339**	**0.5070**	**0.1289**	**0.0312**	**0.1602**		**879.2737**	**879.2737**	**0.0174**		**879.6386**

3.18 Test cable splices - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4304	3.7311	2.6073	3.1600e-003		0.3068	0.3068		0.2823	0.2823		323.5275	323.5275	0.0991		325.6092
Total	**0.4304**	**3.7311**	**2.6073**	**3.1600e-003**		**0.3068**	**0.3068**		**0.2823**	**0.2823**		**323.5275**	**323.5275**	**0.0991**		**325.6092**

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	0.0235	0.0605	0.6467	1.8400e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		147.3490	147.3490	6.7700e-003		147.4911
Total	**0.0235**	**0.0605**	**0.6467**	**1.8400e-003**	**0.1482**	**9.6000e-004**	**0.1491**	**0.0393**	**8.9000e-004**	**0.0402**		**147.3490**	**147.3490**	**6.7700e-003**		**147.4911**

3.18 Test cable splices - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1500	3.0976	2.4129	3.1600e-003		0.1252	0.1252		0.1252	0.1252	0.0000	323.5275	323.5275	0.0991		325.6092
Total	**0.1500**	**3.0976**	**2.4129**	**3.1600e-003**		**0.1252**	**0.1252**		**0.1252**	**0.1252**	**0.0000**	**323.5275**	**323.5275**	**0.0991**		**325.6092**

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	0.0235	0.0605	0.6467	1.8400e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		147.3490	147.3490	6.7700e-003		147.4911
Total	**0.0235**	**0.0605**	**0.6467**	**1.8400e-003**	**0.1482**	**9.6000e-004**	**0.1491**	**0.0393**	**8.9000e-004**	**0.0402**		**147.3490**	**147.3490**	**6.7700e-003**		**147.4911**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3025	0.6823	3.1569	8.2400e-003	0.5560	9.6200e-003	0.5656	0.1484	8.8600e-003	0.1573		672.8211	672.8211	0.0260		673.3661
Unmitigated	0.3025	0.6823	3.1569	8.2400e-003	0.5560	9.6200e-003	0.5656	0.1484	8.8600e-003	0.1573		672.8211	672.8211	0.0260		673.3661

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	90.00	90.00	90.00	262,756	262,756
Total	90.00	90.00	90.00	262,756	262,756

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	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511818	0.073499	0.191840	0.131575	0.036332	0.005186	0.012677	0.022513	0.001864	0.002072	0.006564	0.000601	0.003458

4.4 Fleet Mix

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	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
NaturalGas Unmitigated	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960

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	2907.12	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Total		**0.0314**	**0.2850**	**0.2394**	**1.7100e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**		**342.0145**	**342.0145**	**6.5600e-003**	**6.2700e-003**	**344.0960**

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	2.90712	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Total		**0.0314**	**0.2850**	**0.2394**	**1.7100e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**		**342.0145**	**342.0145**	**6.5600e-003**	**6.2700e-003**	**344.0960**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	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	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Unmitigated	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208

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	0.5714					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.9000e-004	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Total	**2.4983**	**9.0000e-005**	**9.3200e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0197**	**0.0197**	**5.0000e-005**		**0.0208**

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	0.5714					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.9000e-004	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Total	**2.4983**	**9.0000e-005**	**9.3200e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0197**	**0.0197**	**5.0000e-005**		**0.0208**

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 Vegetation

Suncrest Reactive Power Support Project

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	90.00	1000sqft	12.00	90,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage setup to 12

Construction Phase - Construction Schedule from Suncrest Construction Plan 20150625

Off-road Equipment - Equipment Roster

Off-road Equipment - Splice truck

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Test truck

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Off-road Equipment - Equipment Roster

Trips and VMT - 3,500 cubic yards of spoils will need to be hauled offsite = 438 trips * 8 cubic yards/trip

Grading -

Vehicle Trips - Assumes one (1) trip per day

Water And Wastewater - Unmanned facility, No planned indoor water use

Solid Waste - Unmanned facility, No solid waste generation

Land Use Change -

Construction Off-road Equipment Mitigation - All Engines are asuumed to comply with Tier 2 engine

Area Mitigation - Low VOC paint

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblVehicleTrips	CW_TL	14.70	9.50
tblVehicleTrips	ST_TR	1.32	1.00
tblVehicleTrips	SU_TR	0.68	1.00
tblVehicleTrips	WD_TR	6.97	1.00
tblWater	IndoorWaterUseRate	20,812,500.00	0.00

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					
2016	24.1142	271.6413	137.7157	0.3594	10.9137	11.1079	17.2512	4.7550	10.3277	11.1605	0.0000	36,590.7094	36,590.7094	8.5917	0.0000	36,771.1360
2017	16.8963	187.4388	101.5999	0.2860	3.1918	7.5278	10.7196	0.8742	6.9977	7.8719	0.0000	28,502.9956	28,502.9956	6.4868	0.0000	28,639.2182
Total	**41.0105**	**459.0801**	**239.3155**	**0.6454**	**14.1055**	**18.6357**	**27.9708**	**5.6292**	**17.3254**	**19.0325**	**0.0000**	**65,093.7050**	**65,093.7050**	**15.0785**	**0.0000**	**65,410.3542**

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					
2016	9.0292	247.9712	173.3179	0.3594	6.4071	6.1301	9.5117	2.4425	6.1028	6.9357	0.0000	36,590.7093	36,590.7093	8.5917	0.0000	36,771.1360
2017	7.0002	188.1783	133.9937	0.2860	3.1918	4.6690	7.8608	0.8742	4.6476	5.5218	0.0000	28,502.9956	28,502.9956	6.4868	0.0000	28,639.2182
Total	**16.0294**	**436.1495**	**307.3116**	**0.6454**	**9.5989**	**10.7991**	**17.3725**	**3.3167**	**10.7504**	**12.4575**	**0.0000**	**65,093.7049**	**65,093.7049**	**15.0785**	**0.0000**	**65,410.3542**

	ROG	NOx	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	**60.91**	**4.99**	**-28.41**	**0.00**	**31.95**	**42.05**	**37.89**	**41.08**	**37.95**	**34.55**	**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	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Energy	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Mobile	0.3210	0.7249	3.2982	7.8300e-003	0.5560	9.6600e-003	0.5656	0.1484	8.9000e-003	0.1573		640.4780	640.4780	0.0260		641.0234
Total	**2.8506**	**1.0100**	**3.5469**	**9.5400e-003**	**0.5560**	**0.0314**	**0.5873**	**0.1484**	**0.0306**	**0.1790**		**982.5122**	**982.5122**	**0.0326**	**6.2700e-003**	**985.1402**

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	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Energy	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Mobile	0.3210	0.7249	3.2982	7.8300e-003	0.5560	9.6600e-003	0.5656	0.1484	8.9000e-003	0.1573		640.4780	640.4780	0.0260		641.0234
Total	**2.8506**	**1.0100**	**3.5469**	**9.5400e-003**	**0.5560**	**0.0314**	**0.5873**	**0.1484**	**0.0306**	**0.1790**		**982.5122**	**982.5122**	**0.0326**	**6.2700e-003**	**985.1402**

	ROG	NOx	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	Field Survey	Site Preparation	8/1/2016	8/15/2016	7	15	Surveying includes setting up survey equipment, taking measurements, and installing stakes
2	SDG&E Site preparation	Site Preparation	9/1/2016	10/31/2016	7	61	SDG&E Site preparation phase
3	SVC Site Grading	Grading	9/1/2016	9/30/2016	7	30	Site earthwork and grading.
4	Trenching	Trenching	9/1/2016	12/10/2016	7	101	Trench will be approximately 30" wide by 60" deep.
5	Set SVC Substation Foundations	Building Construction	10/1/2016	11/20/2016	7	51	Auguring holes, removing soil, and foundation forming.
6	Material delivery	Building Construction	10/7/2016	1/15/2017	7	101	Material haul, transporting material to the site.
7	Substation construction	Building Construction	10/31/2016	3/10/2017	7	131	Install equipment, structural steel and bus work.
8	Structure Erection	Building Construction	11/1/2016	12/31/2016	7	61	SDG&E Suncrest Substation Structure and Equipment erection
9	Install Vaults	Building Construction	12/11/2016	1/9/2017	7	30	Excavate hole for vault, install vault sections, backfill with concrete
10	Install Transmission line foundations	Building Construction	12/31/2016	1/15/2017	7	16	Foundation installation includes auguring holes, remove soil and foundation formation,
11	Install duct package	Building Construction	1/10/2017	2/28/2017	7	50	Install approximately 100 feet of duct/day
12	Wire Stringing	Building Construction	1/15/2017	1/27/2017	5	10	Wire Stringing into SDG&E Suncrest Substation
13	Transformer & SVC Delivery	Building Construction	1/16/2017	1/30/2017	7	15	Install transformer and SVC
14	Pull cable	Building Construction	3/1/2017	3/21/2017	7	21	6 pulls at 850feet each
15	Install cable splices	Building Construction	3/22/2017	4/22/2017	7	32	Install cable splice. Assume 16 hours/day
16	Right-of-way restoration and cleanup	Site Preparation	4/15/2017	6/15/2017	7	62	Restore back to natural state, removing culverts, restoring original grade, seeding area with native plants
17	Test cable splices	Building Construction	4/23/2017	4/24/2017	7	2	Test cable splices per accepted standards and techniques.

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Field Survey	Off-Highway Trucks	0	10.00	400	0.38
Field Survey	Rubber Tired Dozers	0	8.00	255	0.40
Field Survey	Tractors/Loaders/Backhoes	0	8.00	97	0.37
SDG&E Site preparation	Bore/Drill Rigs	1	5.00	205	0.50
SDG&E Site preparation	Cranes	1	2.50	226	0.29
SDG&E Site preparation	Excavators	1	7.00	162	0.38
SDG&E Site preparation	Off-Highway Trucks	2	10.00	400	0.38
SDG&E Site preparation	Off-Highway Trucks	2	3.00	400	0.38
SDG&E Site preparation	Rubber Tired Dozers	0	8.00	255	0.40
SDG&E Site preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
SVC Site Grading	Dumpers/Tenders	1	9.00	16	0.38
SVC Site Grading	Dumpers/Tenders	10	5.00	16	0.38
SVC Site Grading	Excavators	0	8.00	162	0.38
SVC Site Grading	Graders	1	9.00	174	0.41
SVC Site Grading	Off-Highway Trucks	1	10.00	400	0.38
SVC Site Grading	Rollers	2	5.00	80	0.38
SVC Site Grading	Rubber Tired Dozers	1	9.00	255	0.40
SVC Site Grading	Rubber Tired Loaders	1	9.00	199	0.36
SVC Site Grading	Scrapers	0	8.00	361	0.48
SVC Site Grading	Tractors/Loaders/Backhoes	1	9.00	97	0.37
Trenching	Dumpers/Tenders	1	10.00	16	0.38
Trenching	Off-Highway Trucks	1	10.00	400	0.38
Trenching	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Trenching	Trenchers	1	10.00	80	0.50

Set SVC Substation Foundations	Bore/Drill Rigs	1	5.00	205	0.50
Set SVC Substation Foundations	Cranes	1	3.00	226	0.29
Set SVC Substation Foundations	Excavators	1	9.00	162	0.38
Set SVC Substation Foundations	Forklifts	0	8.00	89	0.20
Set SVC Substation Foundations	Generator Sets	1	8.00	84	0.74
Set SVC Substation Foundations	Off-Highway Trucks	1	10.00	400	0.38
Set SVC Substation Foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set SVC Substation Foundations	Welders	0	8.00	46	0.45
Material delivery	Cranes	2	5.00	226	0.29
Material delivery	Forklifts	1	5.00	89	0.20
Material delivery	Generator Sets	0	8.00	84	0.74
Material delivery	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Material delivery	Welders	0	8.00	46	0.45
Substation construction	Cranes	1	7.50	226	0.29
Substation construction	Forklifts	0	8.00	89	0.20
Substation construction	Generator Sets	1	8.00	84	0.74
Substation construction	Off-Highway Trucks	2	10.00	400	0.38
Substation construction	Off-Highway Trucks	2	5.00	400	0.38
Substation construction	Tractors/Loaders/Backhoes	1	2.50	97	0.37
Substation construction	Welders	0	8.00	46	0.45
Structure Erection	Cranes	2	5.00	226	0.29
Structure Erection	Forklifts	0	8.00	89	0.20
Structure Erection	Generator Sets	1	8.00	84	0.74
Structure Erection	Off-Highway Trucks	5	10.00	400	0.38
Structure Erection	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Structure Erection	Welders	0	8.00	46	0.45
Install Vaults	Cranes	0	7.00	226	0.29
Install Vaults	Forklifts	0	8.00	89	0.20

Install Vaults	Generator Sets	1	8.00	84	0.74
Install Vaults	Off-Highway Trucks	3	10.00	400	0.38
Install Vaults	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Install Vaults	Welders	0	8.00	46	0.45
Install Transmission line foundations	Bore/Drill Rigs	1	5.00	205	0.50
Install Transmission line foundations	Cranes	1	2.50	226	0.29
Install Transmission line foundations	Excavators	1	7.00	162	0.38
Install Transmission line foundations	Forklifts	0	8.00	89	0.20
Install Transmission line foundations	Generator Sets	1	8.00	84	0.74
Install Transmission line foundations	Off-Highway Trucks	2	10.00	400	0.38
Install Transmission line foundations	Off-Highway Trucks	2	3.00	400	0.38
Install Transmission line foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install Transmission line foundations	Welders	0	8.00	46	0.45
Install duct package	Cranes	0	7.00	226	0.29
Install duct package	Forklifts	0	8.00	89	0.20
Install duct package	Generator Sets	1	8.00	84	0.74
Install duct package	Off-Highway Trucks	2	7.50	400	0.38
Install duct package	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install duct package	Welders	0	8.00	46	0.45
Wire Stringing	Cranes	1	1.00	226	0.29
Wire Stringing	Forklifts	0	8.00	89	0.20
Wire Stringing	Generator Sets	0	8.00	84	0.74
Wire Stringing	Off-Highway Trucks	3	10.00	400	0.38
Wire Stringing	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Wire Stringing	Welders	0	8.00	46	0.45
Transformer & SVC Delivery	Cranes	1	2.50	226	0.29
Transformer & SVC Delivery	Forklifts	0	8.00	89	0.20
Transformer & SVC Delivery	Generator Sets	0	8.00	84	0.74

Transformer & SVC Delivery	Tractors/Loaders/Backhoes	1	2.50	97	0.37
Transformer & SVC Delivery	Welders	0	8.00	46	0.45
Pull cable	Cranes	0	7.00	226	0.29
Pull cable	Forklifts	0	8.00	89	0.20
Pull cable	Generator Sets	0	8.00	84	0.74
Pull cable	Off-Highway Trucks	1	10.00	400	0.38
Pull cable	Other General Industrial Equipment	3	10.00	87	0.34
Pull cable	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Pull cable	Welders	0	8.00	46	0.45
Install cable splices	Cranes	0	7.00	226	0.29
Install cable splices	Forklifts	0	8.00	89	0.20
Install cable splices	Generator Sets	0	8.00	84	0.74
Install cable splices	Other Material Handling Equipment	1	16.00	167	0.40
Install cable splices	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Install cable splices	Welders	0	8.00	46	0.45
Right-of-way restoration and cleanup	Excavators	1	5.00	162	0.38
Right-of-way restoration and cleanup	Graders	1	5.00	174	0.41
Right-of-way restoration and cleanup	Off-Highway Trucks	1	10.00	400	0.38
Right-of-way restoration and cleanup	Off-Highway Trucks	1	10.00	400	0.38
Right-of-way restoration and cleanup	Rubber Tired Dozers	0	8.00	255	0.40
Right-of-way restoration and cleanup	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Test cable splices	Cranes	0	7.00	226	0.29
Test cable splices	Forklifts	0	8.00	89	0.20
Test cable splices	Generator Sets	0	8.00	84	0.74
Test cable splices	Other General Industrial Equipment	1	10.00	87	0.34
Test cable splices	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Test cable splices	Welders	0	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
Field Survey	0	3.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
SDG&E Site preparation	7	9.00	5.00	0.00	65.00	91.00	65.00	LD_Mix	HDT_Mix	HHDT
SVC Site Grading	18	18.00	12.00	438.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Set SVC Substation Foundations	5	6.00	2.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Material delivery	4	3.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Substation construction	7	8.00	6.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Structure Erection	9	8.00	9.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install Vaults	5	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install Transmission line foundations	8	5.00	5.00	0.00	65.00	143.00	65.00	LD_Mix	HDT_Mix	HHDT
Install duct package	3	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Wire Stringing	5	15.00	6.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Transformer & SVC Delivery	2	5.00	1.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Pull cable	4	10.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Install cable splices	1	5.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Right-of-way restoration and cleanu	4	6.00	3.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT
Test cable splices	1	3.00	0.00	0.00	65.00	65.00	65.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Field Survey - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0410	0.7007	0.3290	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.0304	198.0304	1.3800e-003		198.0594
Worker	0.0267	0.0746	0.6540	1.7200e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		143.7966	143.7966	7.3000e-003		143.9499
Total	**0.0677**	**0.7753**	**0.9830**	**3.6900e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**341.8270**	**341.8270**	**8.6800e-003**		**342.0093**

3.2 Field Survey - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0410	0.7007	0.3290	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.0304	198.0304	1.3800e-003		198.0594
Worker	0.0267	0.0746	0.6540	1.7200e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		143.7966	143.7966	7.3000e-003		143.9499
Total	**0.0677**	**0.7753**	**0.9830**	**3.6900e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**341.8270**	**341.8270**	**8.6800e-003**		**342.0093**

3.3 SDG&E Site preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	3.8435	45.0908	21.6382	0.0546		1.7386	1.7386		1.5995	1.5995		5,673.9603	5,673.9603	1.7115		5,709.9011
Total	**3.8435**	**45.0908**	**21.6382**	**0.0546**	**0.0000**	**1.7386**	**1.7386**	**0.0000**	**1.5995**	**1.5995**		**5,673.9603**	**5,673.9603**	**1.7115**		**5,709.9011**

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	0.2705	4.8634	2.0488	0.0137	0.4123	0.0859	0.4982	0.1175	0.0791	0.1965		1,382.9785	1,382.9785	9.5700e-003		1,383.1794
Worker	0.0800	0.2238	1.9620	5.1600e-003	0.4445	2.9800e-003	0.4475	0.1179	2.7400e-003	0.1206		431.3899	431.3899	0.0219		431.8497
Total	**0.3505**	**5.0872**	**4.0108**	**0.0189**	**0.8568**	**0.0889**	**0.9457**	**0.2353**	**0.0818**	**0.3171**		**1,814.3684**	**1,814.3684**	**0.0315**		**1,815.0291**

3.3 SDG&E Site preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.4050	43.1706	30.0449	0.0546		1.0195	1.0195		1.0195	1.0195	0.0000	5,673.9603	5,673.9603	1.7115		5,709.9011
Total	**1.4050**	**43.1706**	**30.0449**	**0.0546**	**0.0000**	**1.0195**	**1.0195**	**0.0000**	**1.0195**	**1.0195**	**0.0000**	**5,673.9603**	**5,673.9603**	**1.7115**		**5,709.9011**

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	0.2705	4.8634	2.0488	0.0137	0.4123	0.0859	0.4982	0.1175	0.0791	0.1965		1,382.9785	1,382.9785	9.5700e-003		1,383.1794
Worker	0.0800	0.2238	1.9620	5.1600e-003	0.4445	2.9800e-003	0.4475	0.1179	2.7400e-003	0.1206		431.3899	431.3899	0.0219		431.8497
Total	**0.3505**	**5.0872**	**4.0108**	**0.0189**	**0.8568**	**0.0889**	**0.9457**	**0.2353**	**0.0818**	**0.3171**		**1,814.3684**	**1,814.3684**	**0.0315**		**1,815.0291**

3.4 SVC Site Grading - 2016

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					7.3880	0.0000	7.3880	3.7909	0.0000	3.7909			0.0000			0.0000
Off-Road	5.6254	59.1329	32.8038	0.0527		2.8487	2.8487		2.6319	2.6319		5,348.0893	5,348.0893	1.5266		5,380.1487
Total	**5.6254**	**59.1329**	**32.8038**	**0.0527**	**7.3880**	**2.8487**	**10.2366**	**3.7909**	**2.6319**	**6.4228**		**5,348.0893**	**5,348.0893**	**1.5266**		**5,380.1487**

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	0.6788	12.9841	5.9408	0.0348	0.8261	0.1802	1.0063	0.2261	0.1657	0.3919		3,513.8272	3,513.8272	0.0239		3,514.3290
Vendor	0.4925	8.4082	3.9477	0.0236	0.7069	0.1476	0.8545	0.2014	0.1358	0.3372		2,376.3650	2,376.3650	0.0165		2,376.7122
Worker	0.1600	0.4476	3.9241	0.0103	0.8890	5.9700e-003	0.8950	0.2357	5.4800e-003	0.2412		862.7798	862.7798	0.0438		863.6995
Total	**1.3312**	**21.8399**	**13.8126**	**0.0687**	**2.4220**	**0.3337**	**2.7557**	**0.6633**	**0.3070**	**0.9702**		**6,752.9720**	**6,752.9720**	**0.0842**		**6,754.7406**

3.4 SVC Site Grading - 2016

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					2.8813	0.0000	2.8813	1.4785	0.0000	1.4785			0.0000			0.0000
Off-Road	1.4024	39.4670	28.0224	0.0527		1.0447	1.0447		1.0447	1.0447	0.0000	5,348.0893	5,348.0893	1.5266		5,380.1487
Total	**1.4024**	**39.4670**	**28.0224**	**0.0527**	**2.8813**	**1.0447**	**3.9260**	**1.4785**	**1.0447**	**2.5231**	**0.0000**	**5,348.0893**	**5,348.0893**	**1.5266**		**5,380.1487**

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	0.6788	12.9841	5.9408	0.0348	0.8261	0.1802	1.0063	0.2261	0.1657	0.3919		3,513.8272	3,513.8272	0.0239		3,514.3290
Vendor	0.4925	8.4082	3.9477	0.0236	0.7069	0.1476	0.8545	0.2014	0.1358	0.3372		2,376.3650	2,376.3650	0.0165		2,376.7122
Worker	0.1600	0.4476	3.9241	0.0103	0.8890	5.9700e-003	0.8950	0.2357	5.4800e-003	0.2412		862.7798	862.7798	0.0438		863.6995
Total	**1.3312**	**21.8399**	**13.8126**	**0.0687**	**2.4220**	**0.3337**	**2.7557**	**0.6633**	**0.3070**	**0.9702**		**6,752.9720**	**6,752.9720**	**0.0842**		**6,754.7406**

3.5 Trenching - 2016

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	2.3905	24.3073	13.1642	0.0256		1.3259	1.3259		1.2217	1.2217		2,638.9849	2,638.9849	0.7813		2,655.3931
Total	**2.3905**	**24.3073**	**13.1642**	**0.0256**		**1.3259**	**1.3259**		**1.2217**	**1.2217**		**2,638.9849**	**2,638.9849**	**0.7813**		**2,655.3931**

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	0.0444	0.1243	1.0900	2.8700e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		239.6611	239.6611	0.0122		239.9165
Total	**0.0444**	**0.1243**	**1.0900**	**2.8700e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**239.6611**	**239.6611**	**0.0122**		**239.9165**

3.5 Trenching - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7869	20.6476	14.9031	0.0256		0.6161	0.6161		0.6161	0.6161	0.0000	2,638.9849	2,638.9849	0.7813		2,655.3931
Total	**0.7869**	**20.6476**	**14.9031**	**0.0256**		**0.6161**	**0.6161**		**0.6161**	**0.6161**	**0.0000**	**2,638.9849**	**2,638.9849**	**0.7813**		**2,655.3931**

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	0.0444	0.1243	1.0900	2.8700e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		239.6611	239.6611	0.0122		239.9165
Total	**0.0444**	**0.1243**	**1.0900**	**2.8700e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**239.6611**	**239.6611**	**0.0122**		**239.9165**

3.6 Set SVC Substation Foundations - 2016

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	2.7408	29.8627	16.3770	0.0366		1.3372	1.3372		1.2573	1.2573		3,737.4250	3,737.4250	0.9964		3,758.3498
Total	**2.7408**	**29.8627**	**16.3770**	**0.0366**		**1.3372**	**1.3372**		**1.2573**	**1.2573**		**3,737.4250**	**3,737.4250**	**0.9964**		**3,758.3498**

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	0.0821	1.4014	0.6580	3.9300e-003	0.1178	0.0246	0.1424	0.0336	0.0226	0.0562		396.0608	396.0608	2.7600e-003		396.1187
Worker	0.0533	0.1492	1.3080	3.4400e-003	0.2964	1.9900e-003	0.2983	0.0786	1.8300e-003	0.0804		287.5933	287.5933	0.0146		287.8998
Total	**0.1354**	**1.5506**	**1.9660**	**7.3700e-003**	**0.4142**	**0.0266**	**0.4408**	**0.1121**	**0.0245**	**0.1366**		**683.6541**	**683.6541**	**0.0174**		**684.0185**

3.6 Set SVC Substation Foundations - 2016

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	1.0740	29.4892	21.3531	0.0366		0.7993	0.7993		0.7993	0.7993	0.0000	3,737.4250	3,737.4250	0.9964		3,758.3498
Total	**1.0740**	**29.4892**	**21.3531**	**0.0366**		**0.7993**	**0.7993**		**0.7993**	**0.7993**	**0.0000**	**3,737.4250**	**3,737.4250**	**0.9964**		**3,758.3498**

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	0.0821	1.4014	0.6580	3.9300e-003	0.1178	0.0246	0.1424	0.0336	0.0226	0.0562		396.0608	396.0608	2.7600e-003		396.1187
Worker	0.0533	0.1492	1.3080	3.4400e-003	0.2964	1.9900e-003	0.2983	0.0786	1.8300e-003	0.0804		287.5933	287.5933	0.0146		287.8998
Total	**0.1354**	**1.5506**	**1.9660**	**7.3700e-003**	**0.4142**	**0.0266**	**0.4408**	**0.1121**	**0.0245**	**0.1366**		**683.6541**	**683.6541**	**0.0174**		**684.0185**

3.7 Material delivery - 2016

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	1.2547	13.9197	6.0283	9.9400e-003		0.7426	0.7426		0.6832	0.6832		1,034.2930	1,034.2930	0.3120		1,040.8445
Total	**1.2547**	**13.9197**	**6.0283**	**9.9400e-003**		**0.7426**	**0.7426**		**0.6832**	**0.6832**		**1,034.2930**	**1,034.2930**	**0.3120**		**1,040.8445**

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	0.0410	0.7007	0.3290	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.0304	198.0304	1.3800e-003		198.0594
Worker	0.0267	0.0746	0.6540	1.7200e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		143.7966	143.7966	7.3000e-003		143.9499
Total	**0.0677**	**0.7753**	**0.9830**	**3.6900e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**341.8270**	**341.8270**	**8.6800e-003**		**342.0093**

3.7 Material delivery - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3095	8.8076	5.9465	9.9400e-003		0.2408	0.2408		0.2408	0.2408	0.0000	1,034.2929	1,034.2929	0.3120		1,040.8445
Total	**0.3095**	**8.8076**	**5.9465**	**9.9400e-003**		**0.2408**	**0.2408**		**0.2408**	**0.2408**	**0.0000**	**1,034.2929**	**1,034.2929**	**0.3120**		**1,040.8445**

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	0.0410	0.7007	0.3290	1.9700e-003	0.0589	0.0123	0.0712	0.0168	0.0113	0.0281		198.0304	198.0304	1.3800e-003		198.0594
Worker	0.0267	0.0746	0.6540	1.7200e-003	0.1482	9.9000e-004	0.1492	0.0393	9.1000e-004	0.0402		143.7966	143.7966	7.3000e-003		143.9499
Total	**0.0677**	**0.7753**	**0.9830**	**3.6900e-003**	**0.2071**	**0.0133**	**0.2204**	**0.0561**	**0.0122**	**0.0683**		**341.8270**	**341.8270**	**8.6800e-003**		**342.0093**

3.7 Material delivery - 2017

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	1.1398	12.6602	5.7223	9.9500e-003		0.6660	0.6660		0.6127	0.6127		1,018.1223	1,018.1223	0.3120		1,024.6733
Total	**1.1398**	**12.6602**	**5.7223**	**9.9500e-003**		**0.6660**	**0.6660**		**0.6127**	**0.6127**		**1,018.1223**	**1,018.1223**	**0.3120**		**1,024.6733**

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	0.0377	0.6180	0.3049	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8300e-003	0.0266		194.6782	194.6782	1.2900e-003		194.7052
Worker	0.0233	0.0679	0.5870	1.7200e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		138.2345	138.2345	6.7700e-003		138.3767
Total	**0.0610**	**0.6859**	**0.8920**	**3.6800e-003**	**0.2071**	**0.0116**	**0.2187**	**0.0561**	**0.0107**	**0.0668**		**332.9127**	**332.9127**	**8.0600e-003**		**333.0818**

3.7 Material delivery - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3095	8.8076	5.9465	9.9500e-003		0.2408	0.2408		0.2408	0.2408	0.0000	1,018.1223	1,018.1223	0.3120		1,024.6733
Total	**0.3095**	**8.8076**	**5.9465**	**9.9500e-003**		**0.2408**	**0.2408**		**0.2408**	**0.2408**	**0.0000**	**1,018.1223**	**1,018.1223**	**0.3120**		**1,024.6733**

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	0.0377	0.6180	0.3049	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8300e-003	0.0266		194.6782	194.6782	1.2900e-003		194.7052
Worker	0.0233	0.0679	0.5870	1.7200e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		138.2345	138.2345	6.7700e-003		138.3767
Total	**0.0610**	**0.6859**	**0.8920**	**3.6800e-003**	**0.2071**	**0.0116**	**0.2187**	**0.0561**	**0.0107**	**0.0668**		**332.9127**	**332.9127**	**8.0600e-003**		**333.0818**

3.8 Substation construction - 2016

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	4.9529	54.5450	26.3078	0.0622		2.3153	2.3153		2.1572	2.1572		6,399.4458	6,399.4458	1.7994		6,437.2327
Total	**4.9529**	**54.5450**	**26.3078**	**0.0622**		**2.3153**	**2.3153**		**2.1572**	**2.1572**		**6,399.4458**	**6,399.4458**	**1.7994**		**6,437.2327**

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	0.2463	4.2041	1.9739	0.0118	0.3534	0.0738	0.4272	0.1007	0.0679	0.1686		1,188.1825	1,188.1825	8.2700e-003		1,188.3561
Worker	0.0711	0.1989	1.7440	4.5900e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		383.4577	383.4577	0.0195		383.8664
Total	**0.3173**	**4.4030**	**3.7179**	**0.0164**	**0.7486**	**0.0764**	**0.8250**	**0.2055**	**0.0703**	**0.2758**		**1,571.6402**	**1,571.6402**	**0.0277**		**1,572.2225**

3.8 Substation construction - 2016

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	1.6341	48.7455	33.7438	0.0622		1.2285	1.2285		1.2285	1.2285	0.0000	6,399.4458	6,399.4458	1.7994		6,437.2327
Total	**1.6341**	**48.7455**	**33.7438**	**0.0622**		**1.2285**	**1.2285**		**1.2285**	**1.2285**	**0.0000**	**6,399.4458**	**6,399.4458**	**1.7994**		**6,437.2327**

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	0.2463	4.2041	1.9739	0.0118	0.3534	0.0738	0.4272	0.1007	0.0679	0.1686		1,188.1825	1,188.1825	8.2700e-003		1,188.3561
Worker	0.0711	0.1989	1.7440	4.5900e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		383.4577	383.4577	0.0195		383.8664
Total	**0.3173**	**4.4030**	**3.7179**	**0.0164**	**0.7486**	**0.0764**	**0.8250**	**0.2055**	**0.0703**	**0.2758**		**1,571.6402**	**1,571.6402**	**0.0277**		**1,572.2225**

3.8 Substation construction - 2017

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	4.5465	49.5064	24.6757	0.0621		2.0625	2.0625		1.9215	1.9215		6,304.6372	6,304.6372	1.7913		6,342.2537
Total	**4.5465**	**49.5064**	**24.6757**	**0.0621**		**2.0625**	**2.0625**		**1.9215**	**1.9215**		**6,304.6372**	**6,304.6372**	**1.7913**		**6,342.2537**

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	0.2263	3.7082	1.8295	0.0118	0.3535	0.0641	0.4176	0.1007	0.0590	0.1597		1,168.0690	1,168.0690	7.7100e-003		1,168.2309
Worker	0.0621	0.1810	1.5654	4.5900e-003	0.3951	2.5600e-003	0.3977	0.1048	2.3600e-003	0.1071		368.6254	368.6254	0.0181		369.0044
Total	**0.2883**	**3.8891**	**3.3949**	**0.0164**	**0.7486**	**0.0667**	**0.8153**	**0.2055**	**0.0613**	**0.2668**		**1,536.6944**	**1,536.6944**	**0.0258**		**1,537.2353**

3.8 Substation construction - 2017

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	1.6341	48.7455	33.7438	0.0621		1.2285	1.2285		1.2285	1.2285	0.0000	6,304.6372	6,304.6372	1.7913		6,342.2537
Total	**1.6341**	**48.7455**	**33.7438**	**0.0621**		**1.2285**	**1.2285**		**1.2285**	**1.2285**	**0.0000**	**6,304.6372**	**6,304.6372**	**1.7913**		**6,342.2537**

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	0.2263	3.7082	1.8295	0.0118	0.3535	0.0641	0.4176	0.1007	0.0590	0.1597		1,168.0690	1,168.0690	7.7100e-003		1,168.2309
Worker	0.0621	0.1810	1.5654	4.5900e-003	0.3951	2.5600e-003	0.3977	0.1048	2.3600e-003	0.1071		368.6254	368.6254	0.0181		369.0044
Total	**0.2883**	**3.8891**	**3.3949**	**0.0164**	**0.7486**	**0.0667**	**0.8153**	**0.2055**	**0.0613**	**0.2668**		**1,536.6944**	**1,536.6944**	**0.0258**		**1,537.2353**

3.9 Structure Erection - 2016

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	7.5114	84.1375	39.7247	0.0967		3.4441	3.4441		3.1957	3.1957		9,979.5256	9,979.5256	2.8793		10,039.9900
Total	**7.5114**	**84.1375**	**39.7247**	**0.0967**		**3.4441**	**3.4441**		**3.1957**	**3.1957**		**9,979.5256**	**9,979.5256**	**2.8793**		**10,039.9900**

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	0.3694	6.3062	2.9608	0.0177	0.5302	0.1107	0.6408	0.1511	0.1018	0.2529		1,782.2737	1,782.2737	0.0124		1,782.5341
Worker	0.0711	0.1989	1.7440	4.5900e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		383.4577	383.4577	0.0195		383.8664
Total	**0.4405**	**6.5051**	**4.7048**	**0.0223**	**0.9253**	**0.1133**	**1.0386**	**0.2558**	**0.1043**	**0.3601**		**2,165.7314**	**2,165.7314**	**0.0319**		**2,166.4005**

3.9 Structure Erection - 2016

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	2.4726	75.4575	51.9620	0.0967		1.8425	1.8425		1.8425	1.8425	0.0000	9,979.5256	9,979.5256	2.8793		10,039.9900
Total	**2.4726**	**75.4575**	**51.9620**	**0.0967**		**1.8425**	**1.8425**		**1.8425**	**1.8425**	**0.0000**	**9,979.5256**	**9,979.5256**	**2.8793**		**10,039.9900**

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	0.3694	6.3062	2.9608	0.0177	0.5302	0.1107	0.6408	0.1511	0.1018	0.2529		1,782.2737	1,782.2737	0.0124		1,782.5341
Worker	0.0711	0.1989	1.7440	4.5900e-003	0.3951	2.6500e-003	0.3978	0.1048	2.4400e-003	0.1072		383.4577	383.4577	0.0195		383.8664
Total	**0.4405**	**6.5051**	**4.7048**	**0.0223**	**0.9253**	**0.1133**	**1.0386**	**0.2558**	**0.1043**	**0.3601**		**2,165.7314**	**2,165.7314**	**0.0319**		**2,166.4005**

3.10 Install Vaults - 2016

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	4.5971	49.5983	25.7713	0.0598		2.1873	2.1873		2.0394	2.0394		6,153.2981	6,153.2981	1.7251		6,189.5259
Total	**4.5971**	**49.5983**	**25.7713**	**0.0598**		**2.1873**	**2.1873**		**2.0394**	**2.0394**		**6,153.2981**	**6,153.2981**	**1.7251**		**6,189.5259**

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	0.0444	0.1243	1.0900	2.8700e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		239.6611	239.6611	0.0122		239.9165
Total	**0.0444**	**0.1243**	**1.0900**	**2.8700e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**239.6611**	**239.6611**	**0.0122**		**239.9165**

3.10 Install Vaults - 2016

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	1.6405	47.0671	33.1220	0.0598		1.2471	1.2471		1.2471	1.2471	0.0000	6,153.2981	6,153.2981	1.7251		6,189.5259
Total	**1.6405**	**47.0671**	**33.1220**	**0.0598**		**1.2471**	**1.2471**		**1.2471**	**1.2471**	**0.0000**	**6,153.2981**	**6,153.2981**	**1.7251**		**6,189.5259**

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	0.0444	0.1243	1.0900	2.8700e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		239.6611	239.6611	0.0122		239.9165
Total	**0.0444**	**0.1243**	**1.0900**	**2.8700e-003**	**0.2470**	**1.6600e-003**	**0.2486**	**0.0655**	**1.5200e-003**	**0.0670**		**239.6611**	**239.6611**	**0.0122**		**239.9165**

3.10 Install Vaults - 2017

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	4.2360	45.1478	24.3359	0.0598		1.9556	1.9556		1.8231	1.8231		6,061.8499	6,061.8499	1.7169		6,097.9043
Total	**4.2360**	**45.1478**	**24.3359**	**0.0598**		**1.9556**	**1.9556**		**1.8231**	**1.8231**		**6,061.8499**	**6,061.8499**	**1.7169**		**6,097.9043**

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	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0388**	**0.1131**	**0.9784**	**2.8700e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**230.3909**	**230.3909**	**0.0113**		**230.6278**

3.10 Install Vaults - 2017

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	1.6405	47.0671	33.1220	0.0598		1.2471	1.2471		1.2471	1.2471	0.0000	6,061.8499	6,061.8499	1.7169		6,097.9043
Total	**1.6405**	**47.0671**	**33.1220**	**0.0598**		**1.2471**	**1.2471**		**1.2471**	**1.2471**	**0.0000**	**6,061.8499**	**6,061.8499**	**1.7169**		**6,097.9043**

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	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0388**	**0.1131**	**0.9784**	**2.8700e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**230.3909**	**230.3909**	**0.0113**		**230.6278**

3.11 Install Transmission line foundations - 2016

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	4.4827	49.9256	25.4413	0.0612		2.0773	2.0773		1.9383	1.9383		6,296.9948	6,296.9948	1.7685		6,334.1328
Total	**4.4827**	**49.9256**	**25.4413**	**0.0612**		**2.0773**	**2.0773**		**1.9383**	**1.9383**		**6,296.9948**	**6,296.9948**	**1.7685**		**6,334.1328**

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	0.4011	7.5833	2.8566	0.0215	0.6478	0.1348	0.7827	0.1846	0.1240	0.3086		2,168.6313	2,168.6313	0.0149		2,168.9447
Worker	0.0444	0.1243	1.0900	2.8700e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		239.6611	239.6611	0.0122		239.9165
Total	**0.4455**	**7.7077**	**3.9466**	**0.0244**	**0.8948**	**0.1365**	**1.0313**	**0.2501**	**0.1256**	**0.3756**		**2,408.2924**	**2,408.2924**	**0.0271**		**2,408.8612**

3.11 Install Transmission line foundations - 2016

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	1.6571	48.3781	34.1012	0.0612		1.2300	1.2300		1.2300	1.2300	0.0000	6,296.9948	6,296.9948	1.7685		6,334.1328
Total	**1.6571**	**48.3781**	**34.1012**	**0.0612**		**1.2300**	**1.2300**		**1.2300**	**1.2300**	**0.0000**	**6,296.9948**	**6,296.9948**	**1.7685**		**6,334.1328**

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	0.4011	7.5833	2.8566	0.0215	0.6478	0.1348	0.7827	0.1846	0.1240	0.3086		2,168.6313	2,168.6313	0.0149		2,168.9447
Worker	0.0444	0.1243	1.0900	2.8700e-003	0.2470	1.6600e-003	0.2486	0.0655	1.5200e-003	0.0670		239.6611	239.6611	0.0122		239.9165
Total	**0.4455**	**7.7077**	**3.9466**	**0.0244**	**0.8948**	**0.1365**	**1.0313**	**0.2501**	**0.1256**	**0.3756**		**2,408.2924**	**2,408.2924**	**0.0271**		**2,408.8612**

3.11 Install Transmission line foundations - 2017

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	4.1195	45.1936	24.1009	0.0612		1.8489	1.8489		1.7250	1.7250		6,204.1899	6,204.1899	1.7605		6,241.1601
Total	**4.1195**	**45.1936**	**24.1009**	**0.0612**		**1.8489**	**1.8489**		**1.7250**	**1.7250**		**6,204.1899**	**6,204.1899**	**1.7605**		**6,241.1601**

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	0.3690	6.6810	2.6271	0.0215	0.6479	0.1172	0.7650	0.1846	0.1078	0.2924		2,131.9191	2,131.9191	0.0139		2,132.2111
Worker	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.4077**	**6.7941**	**3.6055**	**0.0243**	**0.8948**	**0.1188**	**1.0136**	**0.2501**	**0.1093**	**0.3593**		**2,362.3100**	**2,362.3100**	**0.0252**		**2,362.8388**

3.11 Install Transmission line foundations - 2017

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	1.6571	48.3781	34.1012	0.0612		1.2300	1.2300		1.2300	1.2300	0.0000	6,204.1899	6,204.1899	1.7605		6,241.1601
Total	**1.6571**	**48.3781**	**34.1012**	**0.0612**		**1.2300**	**1.2300**		**1.2300**	**1.2300**	**0.0000**	**6,204.1899**	**6,204.1899**	**1.7605**		**6,241.1601**

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	0.3690	6.6810	2.6271	0.0215	0.6479	0.1172	0.7650	0.1846	0.1078	0.2924		2,131.9191	2,131.9191	0.0139		2,132.2111
Worker	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.4077**	**6.7941**	**3.6055**	**0.0243**	**0.8948**	**0.1188**	**1.0136**	**0.2501**	**0.1093**	**0.3593**		**2,362.3100**	**2,362.3100**	**0.0252**		**2,362.8388**

3.12 Install duct package - 2017

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	2.2051	22.9036	12.5586	0.0312		0.9849	0.9849		0.9301	0.9301		3,143.5267	3,143.5267	0.8227		3,160.8035
Total	**2.2051**	**22.9036**	**12.5586**	**0.0312**		**0.9849**	**0.9849**		**0.9301**	**0.9301**		**3,143.5267**	**3,143.5267**	**0.8227**		**3,160.8035**

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	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0388**	**0.1131**	**0.9784**	**2.8700e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**230.3909**	**230.3909**	**0.0113**		**230.6278**

3.12 Install duct package - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8553	24.2581	17.1254	0.0312		0.6528	0.6528		0.6528	0.6528	0.0000	3,143.5267	3,143.5267	0.8227		3,160.8035
Total	**0.8553**	**24.2581**	**17.1254**	**0.0312**		**0.6528**	**0.6528**		**0.6528**	**0.6528**	**0.0000**	**3,143.5267**	**3,143.5267**	**0.8227**		**3,160.8035**

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	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0388**	**0.1131**	**0.9784**	**2.8700e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**230.3909**	**230.3909**	**0.0113**		**230.6278**

3.13 Wire Stringing - 2017

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	3.7469	41.6453	20.9069	0.0539		1.6980	1.6980		1.5622	1.5622		5,510.9701	5,510.9701	1.6886		5,546.4297
Total	**3.7469**	**41.6453**	**20.9069**	**0.0539**		**1.6980**	**1.6980**		**1.5622**	**1.5622**		**5,510.9701**	**5,510.9701**	**1.6886**		**5,546.4297**

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	0.2263	3.7082	1.8295	0.0118	0.3535	0.0641	0.4176	0.1007	0.0590	0.1597		1,168.0690	1,168.0690	7.7100e-003		1,168.2309
Worker	0.1164	0.3394	2.9352	8.6100e-003	0.7409	4.8000e-003	0.7457	0.1964	4.4300e-003	0.2008		691.1726	691.1726	0.0338		691.8833
Total	**0.3426**	**4.0475**	**4.7647**	**0.0204**	**1.0943**	**0.0689**	**1.1632**	**0.2971**	**0.0634**	**0.3605**		**1,859.2416**	**1,859.2416**	**0.0416**		**1,860.1142**

3.13 Wire Stringing - 2017

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	1.4057	42.4592	29.4413	0.0539		1.0493	1.0493		1.0493	1.0493	0.0000	5,510.9701	5,510.9701	1.6886		5,546.4297
Total	**1.4057**	**42.4592**	**29.4413**	**0.0539**		**1.0493**	**1.0493**		**1.0493**	**1.0493**	**0.0000**	**5,510.9701**	**5,510.9701**	**1.6886**		**5,546.4297**

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	0.2263	3.7082	1.8295	0.0118	0.3535	0.0641	0.4176	0.1007	0.0590	0.1597		1,168.0690	1,168.0690	7.7100e-003		1,168.2309
Worker	0.1164	0.3394	2.9352	8.6100e-003	0.7409	4.8000e-003	0.7457	0.1964	4.4300e-003	0.2008		691.1726	691.1726	0.0338		691.8833
Total	**0.3426**	**4.0475**	**4.7647**	**0.0204**	**1.0943**	**0.0689**	**1.1632**	**0.2971**	**0.0634**	**0.3605**		**1,859.2416**	**1,859.2416**	**0.0416**		**1,860.1142**

3.14 Transformer & SVC Delivery - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3015	3.3553	1.6094	2.7300e-003		0.1787	0.1787		0.1644	0.1644		279.8447	279.8447	0.0857		281.6453
Total	**0.3015**	**3.3553**	**1.6094**	**2.7300e-003**		**0.1787**	**0.1787**		**0.1644**	**0.1644**		**279.8447**	**279.8447**	**0.0857**		**281.6453**

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	0.0377	0.6180	0.3049	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8300e-003	0.0266		194.6782	194.6782	1.2900e-003		194.7052
Worker	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0765**	**0.7312**	**1.2833**	**4.8300e-003**	**0.3059**	**0.0123**	**0.3182**	**0.0823**	**0.0113**	**0.0936**		**425.0690**	**425.0690**	**0.0126**		**425.3329**

3.14 Transformer & SVC Delivery - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0888	2.4387	1.6711	2.7300e-003		0.0698	0.0698		0.0698	0.0698	0.0000	279.8447	279.8447	0.0857		281.6453
Total	**0.0888**	**2.4387**	**1.6711**	**2.7300e-003**		**0.0698**	**0.0698**		**0.0698**	**0.0698**	**0.0000**	**279.8447**	**279.8447**	**0.0857**		**281.6453**

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	0.0377	0.6180	0.3049	1.9600e-003	0.0589	0.0107	0.0696	0.0168	9.8300e-003	0.0266		194.6782	194.6782	1.2900e-003		194.7052
Worker	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0765**	**0.7312**	**1.2833**	**4.8300e-003**	**0.3059**	**0.0123**	**0.3182**	**0.0823**	**0.0113**	**0.0936**		**425.0690**	**425.0690**	**0.0126**		**425.3329**

3.15 Pull cable - 2017

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	2.3812	23.4861	13.6785	0.0259		1.3768	1.3768		1.2666	1.2666		2,650.9105	2,650.9105	0.8122		2,667.9674
Total	**2.3812**	**23.4861**	**13.6785**	**0.0259**		**1.3768**	**1.3768**		**1.2666**	**1.2666**		**2,650.9105**	**2,650.9105**	**0.8122**		**2,667.9674**

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	0.0776	0.2262	1.9568	5.7400e-003	0.4939	3.2000e-003	0.4971	0.1309	2.9500e-003	0.1339		460.7817	460.7817	0.0226		461.2556
Total	**0.0776**	**0.2262**	**1.9568**	**5.7400e-003**	**0.4939**	**3.2000e-003**	**0.4971**	**0.1309**	**2.9500e-003**	**0.1339**		**460.7817**	**460.7817**	**0.0226**		**461.2556**

3.15 Pull cable - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8521	21.9932	15.9513	0.0259		0.6705	0.6705		0.6705	0.6705	0.0000	2,650.9105	2,650.9105	0.8122		2,667.9674
Total	**0.8521**	**21.9932**	**15.9513**	**0.0259**		**0.6705**	**0.6705**		**0.6705**	**0.6705**	**0.0000**	**2,650.9105**	**2,650.9105**	**0.8122**		**2,667.9674**

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	0.0776	0.2262	1.9568	5.7400e-003	0.4939	3.2000e-003	0.4971	0.1309	2.9500e-003	0.1339		460.7817	460.7817	0.0226		461.2556
Total	**0.0776**	**0.2262**	**1.9568**	**5.7400e-003**	**0.4939**	**3.2000e-003**	**0.4971**	**0.1309**	**2.9500e-003**	**0.1339**		**460.7817**	**460.7817**	**0.0226**		**461.2556**

3.16 Install cable splices - 2017

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	1.0058	10.5753	7.8964	0.0115		0.5605	0.5605		0.5157	0.5157		1,174.5068	1,174.5068	0.3599		1,182.0640
Total	**1.0058**	**10.5753**	**7.8964**	**0.0115**		**0.5605**	**0.5605**		**0.5157**	**0.5157**		**1,174.5068**	**1,174.5068**	**0.3599**		**1,182.0640**

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	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0388**	**0.1131**	**0.9784**	**2.8700e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**230.3909**	**230.3909**	**0.0113**		**230.6278**

3.16 Install cable splices - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4477	9.8258	8.7183	0.0115		0.3016	0.3016		0.3016	0.3016	0.0000	1,174.5068	1,174.5068	0.3599		1,182.0640
Total	**0.4477**	**9.8258**	**8.7183**	**0.0115**		**0.3016**	**0.3016**		**0.3016**	**0.3016**	**0.0000**	**1,174.5068**	**1,174.5068**	**0.3599**		**1,182.0640**

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	0.0388	0.1131	0.9784	2.8700e-003	0.2470	1.6000e-003	0.2486	0.0655	1.4800e-003	0.0670		230.3909	230.3909	0.0113		230.6278
Total	**0.0388**	**0.1131**	**0.9784**	**2.8700e-003**	**0.2470**	**1.6000e-003**	**0.2486**	**0.0655**	**1.4800e-003**	**0.0670**		**230.3909**	**230.3909**	**0.0113**		**230.6278**

3.17 Right-of-way restoration and cleanup - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3315	0.0000	0.3315	0.0358	0.0000	0.0358			0.0000			0.0000
Off-Road	3.0017	33.1222	16.8754	0.0401		1.3747	1.3747		1.2647	1.2647		4,097.4456	4,097.4456	1.2555		4,123.8100
Total	**3.0017**	**33.1222**	**16.8754**	**0.0401**	**0.3315**	**1.3747**	**1.7062**	**0.0358**	**1.2647**	**1.3005**		**4,097.4456**	**4,097.4456**	**1.2555**		**4,123.8100**

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	0.1131	1.8541	0.9148	5.8900e-003	0.1767	0.0321	0.2088	0.0504	0.0295	0.0799		584.0345	584.0345	3.8600e-003		584.1155
Worker	0.0465	0.1358	1.1741	3.4400e-003	0.2964	1.9200e-003	0.2983	0.0786	1.7700e-003	0.0803		276.4690	276.4690	0.0135		276.7533
Total	**0.1597**	**1.9898**	**2.0888**	**9.3300e-003**	**0.4731**	**0.0340**	**0.5071**	**0.1289**	**0.0313**	**0.1602**		**860.5035**	**860.5035**	**0.0174**		**860.8688**

3.17 Right-of-way restoration and cleanup - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1293	0.0000	0.1293	0.0140	0.0000	0.0140			0.0000			0.0000
Off-Road	1.0826	31.5097	22.8457	0.0401		0.7773	0.7773		0.7773	0.7773	0.0000	4,097.4456	4,097.4456	1.2555		4,123.8100
Total	**1.0826**	**31.5097**	**22.8457**	**0.0401**	**0.1293**	**0.7773**	**0.9066**	**0.0140**	**0.7773**	**0.7913**	**0.0000**	**4,097.4456**	**4,097.4456**	**1.2555**		**4,123.8100**

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	0.1131	1.8541	0.9148	5.8900e-003	0.1767	0.0321	0.2088	0.0504	0.0295	0.0799		584.0345	584.0345	3.8600e-003		584.1155
Worker	0.0465	0.1358	1.1741	3.4400e-003	0.2964	1.9200e-003	0.2983	0.0786	1.7700e-003	0.0803		276.4690	276.4690	0.0135		276.7533
Total	**0.1597**	**1.9898**	**2.0888**	**9.3300e-003**	**0.4731**	**0.0340**	**0.5071**	**0.1289**	**0.0313**	**0.1602**		**860.5035**	**860.5035**	**0.0174**		**860.8688**

3.18 Test cable splices - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4304	3.7311	2.6073	3.1600e-003		0.3068	0.3068		0.2823	0.2823		323.5275	323.5275	0.0991		325.6092
Total	**0.4304**	**3.7311**	**2.6073**	**3.1600e-003**		**0.3068**	**0.3068**		**0.2823**	**0.2823**		**323.5275**	**323.5275**	**0.0991**		**325.6092**

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	0.0233	0.0679	0.5870	1.7200e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		138.2345	138.2345	6.7700e-003		138.3767
Total	**0.0233**	**0.0679**	**0.5870**	**1.7200e-003**	**0.1482**	**9.6000e-004**	**0.1491**	**0.0393**	**8.9000e-004**	**0.0402**		**138.2345**	**138.2345**	**6.7700e-003**		**138.3767**

3.18 Test cable splices - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1500	3.0976	2.4129	3.1600e-003		0.1252	0.1252		0.1252	0.1252	0.0000	323.5275	323.5275	0.0991		325.6092
Total	**0.1500**	**3.0976**	**2.4129**	**3.1600e-003**		**0.1252**	**0.1252**		**0.1252**	**0.1252**	**0.0000**	**323.5275**	**323.5275**	**0.0991**		**325.6092**

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	0.0233	0.0679	0.5870	1.7200e-003	0.1482	9.6000e-004	0.1491	0.0393	8.9000e-004	0.0402		138.2345	138.2345	6.7700e-003		138.3767
Total	**0.0233**	**0.0679**	**0.5870**	**1.7200e-003**	**0.1482**	**9.6000e-004**	**0.1491**	**0.0393**	**8.9000e-004**	**0.0402**		**138.2345**	**138.2345**	**6.7700e-003**		**138.3767**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3210	0.7249	3.2982	7.8300e-003	0.5560	9.6600e-003	0.5656	0.1484	8.9000e-003	0.1573		640.4780	640.4780	0.0260		641.0234
Unmitigated	0.3210	0.7249	3.2982	7.8300e-003	0.5560	9.6600e-003	0.5656	0.1484	8.9000e-003	0.1573		640.4780	640.4780	0.0260		641.0234

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	90.00	90.00	90.00	262,756	262,756
Total	90.00	90.00	90.00	262,756	262,756

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	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511818	0.073499	0.191840	0.131575	0.036332	0.005186	0.012677	0.022513	0.001864	0.002072	0.006564	0.000601	0.003458

4.4 Fleet Mix

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	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
NaturalGas Unmitigated	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960

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	2907.12	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Total		**0.0314**	**0.2850**	**0.2394**	**1.7100e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**		**342.0145**	**342.0145**	**6.5600e-003**	**6.2700e-003**	**344.0960**

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	2.90712	0.0314	0.2850	0.2394	1.7100e-003		0.0217	0.0217		0.0217	0.0217		342.0145	342.0145	6.5600e-003	6.2700e-003	344.0960
Total		**0.0314**	**0.2850**	**0.2394**	**1.7100e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**		**342.0145**	**342.0145**	**6.5600e-003**	**6.2700e-003**	**344.0960**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	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	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Unmitigated	2.4983	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208

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	0.5714					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.9000e-004	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Total	**2.4983**	**9.0000e-005**	**9.3200e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0197**	**0.0197**	**5.0000e-005**		**0.0208**

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	0.5714					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.9000e-004	9.0000e-005	9.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0197	0.0197	5.0000e-005		0.0208
Total	**2.4983**	**9.0000e-005**	**9.3200e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0197**	**0.0197**	**5.0000e-005**		**0.0208**

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 Vegetation

Suncrest Reactive Power Support Project

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Field Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Install cable splices	0.54	0.07	-0.09	0.00	0.46	0.41	0.00	0.00	0.00	0.00	0.00	0.00
Install duct package	0.60	-0.06	-0.34	0.00	0.34	0.30	0.00	0.00	0.00	0.00	0.00	0.00
Install Transmission line foundations	0.55	-0.06	-0.36	0.00	0.32	0.28	0.00	0.00	0.00	0.00	0.00	0.00
Install Vaults	0.63	0.02	-0.29	0.00	0.41	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Material delivery	0.71	0.34	0.01	0.00	0.66	0.63	0.00	0.00	0.00	0.00	0.00	0.00
Pull cable	0.62	0.06	-0.15	0.00	0.51	0.47	0.00	0.00	0.00	0.00	0.00	0.00
Right-of-way restoration and cleanup	0.61	0.05	-0.32	0.00	0.42	0.38	0.00	0.00	0.00	0.00	0.00	0.00
SDG&E Site preparation	0.58	0.04	-0.33	0.00	0.39	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Set SVC Substation Foundations	0.58	0.01	-0.27	0.00	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00
Structure Erection	0.63	0.10	-0.28	0.00	0.45	0.41	0.00	0.00	0.00	0.00	0.00	0.00
Substation construction	0.62	0.06	-0.29	0.00	0.42	0.38	0.00	0.00	0.00	0.00	0.00	0.00
SVC Site Grading	0.61	0.24	0.10	0.00	0.57	0.54	0.00	0.00	0.00	0.00	0.00	0.00
Test cable splices	0.62	0.17	0.06	0.00	0.58	0.54	0.00	0.00	0.00	0.00	0.00	0.00
Transformer & SVC Delivery	0.56	0.22	-0.02	0.00	0.57	0.54	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	0.66	0.15	-0.12	0.00	0.53	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Wire Stringing	0.57	-0.02	-0.33	0.00	0.37	0.32	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Bore/Drill Rigs	Diesel	Tier 2	3	3	No Change	0.00
Cranes	Diesel	Tier 2	10	10	No Change	0.00
Dumpers/Tenders	Diesel	Tier 2	12	12	No Change	0.00
Excavators	Diesel	Tier 2	4	4	No Change	0.00
Forklifts	Diesel	Tier 2	1	1	No Change	0.00
Generator Sets	Diesel	Tier 2	6	6	No Change	0.00
Graders	Diesel	Tier 2	2	2	No Change	0.00
Off-Highway Trucks	Diesel	Tier 2	31	31	No Change	0.00
Other General Industrial Equipment	Diesel	Tier 2	4	4	No Change	0.00
Other Material Handling Equipment	Diesel	Tier 2	1	1	No Change	0.00
Rollers	Diesel	Tier 2	2	2	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 2	1	1	No Change	0.00
Rubber Tired Loaders	Diesel	Tier 2	1	1	No Change	0.00
Scrapers	Diesel	Tier 2	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 2	8	8	No Change	0.00
Trenchers	Diesel	Tier 2	1	1	No Change	0.00
Welders	Diesel	Tier 2	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Bore/Drill Rigs	1.37600E-002	2.06630E-001	8.16700E-002	3.50000E-004	6.05000E-003	5.57000E-003	0.00000E+000	3.28782E+001	3.28782E+001	9.94000E-003	0.00000E+000	3.30868E+001
Cranes	1.31410E-001	1.55783E+000	5.48070E-001	1.06000E-003	7.04000E-002	6.47700E-002	0.00000E+000	9.91834E+001	9.91834E+001	3.00300E-002	0.00000E+000	9.98142E+001
Dumpers/Tenders	1.28600E-002	8.15700E-002	4.36400E-002	1.30000E-004	3.26000E-003	3.26000E-003	0.00000E+000	9.60562E+000	9.60562E+000	1.05000E-003	0.00000E+000	9.62762E+000
Excavators	3.10600E-002	3.51480E-001	2.80080E-001	4.30000E-004	1.72900E-002	1.59100E-002	0.00000E+000	4.05795E+001	4.05795E+001	1.23000E-002	0.00000E+000	4.08379E+001
Forklifts	7.09000E-003	6.10600E-002	3.98000E-002	5.00000E-005	5.10000E-003	4.69000E-003	0.00000E+000	4.53420E+000	4.53420E+000	1.37000E-003	0.00000E+000	4.56298E+000
Generator Sets	1.03400E-001	7.93000E-001	6.42510E-001	1.11000E-003	5.46800E-002	5.46800E-002	0.00000E+000	9.58027E+001	9.58027E+001	8.34000E-003	0.00000E+000	9.59778E+001
Graders	3.56500E-002	3.61960E-001	1.76890E-001	2.30000E-004	2.03300E-002	1.87100E-002	0.00000E+000	2.11485E+001	2.11485E+001	6.43000E-003	0.00000E+000	2.12836E+001
Off-Highway Trucks	8.13220E-001	9.29982E+000	4.36554E+000	1.16800E-002	3.48910E-001	3.21000E-001	0.00000E+000	1.09394E+003	1.09394E+003	3.31870E-001	0.00000E+000	1.10091E+003
Other General Industrial Equipment	1.39900E-002	1.21260E-001	8.47400E-002	1.00000E-004	9.97000E-003	9.17000E-003	0.00000E+000	9.53872E+000	9.53872E+000	2.92000E-003	0.00000E+000	9.60010E+000
Other Material Handling Equipment	1.60900E-002	1.69200E-001	1.26340E-001	1.80000E-004	8.97000E-003	8.25000E-003	0.00000E+000	1.70479E+001	1.70479E+001	5.22000E-003	0.00000E+000	1.71576E+001
Rollers	6.32000E-003	5.83600E-002	3.77500E-002	5.00000E-005	4.30000E-003	3.95000E-003	0.00000E+000	4.63477E+000	4.63477E+000	1.40000E-003	0.00000E+000	4.66413E+000
Rubber Tired Dozers	2.09000E-002	2.34070E-001	1.76930E-001	1.50000E-004	1.08900E-002	1.00200E-002	0.00000E+000	1.41366E+001	1.41366E+001	4.26000E-003	0.00000E+000	1.42261E+001
Rubber Tired Loaders	8.38000E-003	1.09060E-001	3.09600E-002	1.00000E-004	3.72000E-003	3.42000E-003	0.00000E+000	9.74208E+000	9.74208E+000	2.94000E-003	0.00000E+000	9.80379E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/ Backhoes	5.61700E-002	5.37330E-001	4.02350E-001	5.20000E-004	4.12100E-002	3.79100E-002	0.00000E+000	4.88913E+001	4.88913E+001	1.47900E-002	0.00000E+000	4.92019E+001
Trenchers	3.50900E-002	3.07380E-001	1.77610E-001	2.20000E-004	2.41100E-002	2.21800E-002	0.00000E+000	2.06001E+001	2.06001E+001	6.21000E-003	0.00000E+000	2.07306E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Bore/Drill Rigs	8.68000E-003	3.00090E-001	1.88010E-001	3.50000E-004	6.36000E-003	6.36000E-003	0.00000E+000	3.28781E+001	3.28781E+001	9.94000E-003	0.00000E+000	3.30868E+001
Cranes	2.59700E-002	8.98110E-001	5.62670E-001	1.06000E-003	1.90400E-002	1.90400E-002	0.00000E+000	9.91833E+001	9.91833E+001	3.00300E-002	0.00000E+000	9.98140E+001
Dumpers/Tenders	0.00000E+000	0.00000E+000	0.00000E+000	1.30000E-004	0.00000E+000	0.00000E+000	0.00000E+000	9.60561E+000	9.60561E+000	1.05000E-003	0.00000E+000	9.62761E+000
Excavators	1.68600E-002	3.70120E-001	3.28410E-001	4.30000E-004	1.13600E-002	1.13600E-002	0.00000E+000	4.05795E+001	4.05795E+001	1.23000E-002	0.00000E+000	4.08378E+001
Forklifts	2.28000E-003	4.70700E-002	3.66600E-002	5.00000E-005	1.90000E-003	1.90000E-003	0.00000E+000	4.53419E+000	4.53419E+000	1.37000E-003	0.00000E+000	4.56298E+000
Generator Sets	4.27400E-002	8.82670E-001	6.87550E-001	1.11000E-003	3.56800E-002	3.56800E-002	0.00000E+000	9.58026E+001	9.58026E+001	8.34000E-003	0.00000E+000	9.59777E+001
Graders	8.67000E-003	1.90200E-001	1.68760E-001	2.30000E-004	5.84000E-003	5.84000E-003	0.00000E+000	2.11485E+001	2.11485E+001	6.43000E-003	0.00000E+000	2.12836E+001
Off-Highway Trucks	2.85550E-001	9.01854E+000	6.18686E+000	1.16800E-002	2.09400E-001	2.09400E-001	0.00000E+000	1.09394E+003	1.09394E+003	3.31870E-001	0.00000E+000	1.10091E+003
Other General Industrial Equipment	4.87000E-003	1.00670E-001	7.84200E-002	1.00000E-004	4.07000E-003	4.07000E-003	0.00000E+000	9.53871E+000	9.53871E+000	2.92000E-003	0.00000E+000	9.60009E+000
Other Material Handling Equipment	7.16000E-003	1.57210E-001	1.39490E-001	1.80000E-004	4.83000E-003	4.83000E-003	0.00000E+000	1.70479E+001	1.70479E+001	5.22000E-003	0.00000E+000	1.71576E+001
Rollers	2.31000E-003	4.77500E-002	3.72000E-002	5.00000E-005	1.93000E-003	1.93000E-003	0.00000E+000	4.63477E+000	4.63477E+000	1.40000E-003	0.00000E+000	4.66412E+000
Rubber Tired Dozers	3.64000E-003	1.25980E-001	7.89300E-002	1.50000E-004	2.67000E-003	2.67000E-003	0.00000E+000	1.41366E+001	1.41366E+001	4.26000E-003	0.00000E+000	1.42261E+001
Rubber Tired Loaders	2.56000E-003	8.84900E-002	5.54400E-002	1.00000E-004	1.88000E-003	1.88000E-003	0.00000E+000	9.74207E+000	9.74207E+000	2.94000E-003	0.00000E+000	9.80378E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	2.43100E-002	5.02120E-001	3.91120E-001	5.20000E-004	2.03000E-002	2.03000E-002	0.00000E+000	4.88912E+001	4.88912E+001	1.47900E-002	0.00000E+000	4.92018E+001
Trenchers	1.02400E-002	2.11530E-001	1.64770E-001	2.20000E-004	8.55000E-003	8.55000E-003	0.00000E+000	2.06001E+001	2.06001E+001	6.21000E-003	0.00000E+000	2.07305E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Bore/Drill Rigs	3.69186E-001	-4.52306E-001	-1.30207E+000	0.00000E+000	-5.12397E-002	-1.41831E-001	0.00000E+000	1.21661E-006	1.21661E-006	0.00000E+000	0.00000E+000	1.20894E-006
Cranes	8.02374E-001	4.23487E-001	-2.66389E-002	0.00000E+000	7.29545E-001	7.06037E-001	0.00000E+000	1.20988E-006	1.20988E-006	0.00000E+000	0.00000E+000	1.20223E-006
Dumpers/Tenders	1.00000E+000	1.00000E+000	1.00000E+000	0.00000E+000	1.00000E+000	1.00000E+000	0.00000E+000	1.04106E-006	1.04106E-006	0.00000E+000	0.00000E+000	1.03868E-006
Excavators	4.57180E-001	-5.30329E-002	-1.72558E-001	0.00000E+000	3.42973E-001	2.85984E-001	0.00000E+000	1.23215E-006	1.23215E-006	0.00000E+000	0.00000E+000	9.79483E-007
Forklifts	6.78420E-001	2.29119E-001	7.88945E-002	0.00000E+000	6.27451E-001	5.94883E-001	0.00000E+000	2.20546E-006	2.20546E-006	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	5.86654E-001	-1.13077E-001	-7.01001E-002	0.00000E+000	3.47476E-001	3.47476E-001	0.00000E+000	1.14819E-006	1.14819E-006	0.00000E+000	0.00000E+000	1.14610E-006
Graders	7.56802E-001	4.74528E-001	4.59608E-002	0.00000E+000	7.12740E-001	6.87867E-001	0.00000E+000	9.45692E-007	9.45692E-007	0.00000E+000	0.00000E+000	1.40953E-006
Off-Highway Trucks	6.48865E-001	3.02457E-002	-4.17204E-001	0.00000E+000	3.99845E-001	3.47664E-001	0.00000E+000	1.18836E-006	1.18836E-006	0.00000E+000	0.00000E+000	1.18992E-006
Other General Industrial Equipment	6.51894E-001	1.69800E-001	7.45811E-002	0.00000E+000	5.91775E-001	5.56161E-001	0.00000E+000	1.04836E-006	1.04836E-006	0.00000E+000	0.00000E+000	1.04166E-006
Other Material Handling Equipment	5.55003E-001	7.08629E-002	-1.04084E-001	0.00000E+000	4.61538E-001	4.14545E-001	0.00000E+000	1.17316E-006	1.17316E-006	0.00000E+000	0.00000E+000	1.16566E-006
Rollers	6.34494E-001	1.81803E-001	1.45695E-002	0.00000E+000	5.51163E-001	5.11392E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.14402E-006
Rubber Tired Dozers	8.25837E-001	4.61785E-001	5.53891E-001	0.00000E+000	7.54821E-001	7.33533E-001	0.00000E+000	7.07385E-007	7.07385E-007	0.00000E+000	0.00000E+000	1.40586E-006
Rubber Tired Loaders	6.94511E-001	1.88612E-001	-7.90698E-001	0.00000E+000	4.94624E-001	4.50292E-001	0.00000E+000	1.02647E-006	1.02647E-006	0.00000E+000	0.00000E+000	1.02001E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	5.67207E-001	6.55277E-002	2.79110E-002	0.00000E+000	5.07401E-001	4.64521E-001	0.00000E+000	1.02268E-006	1.02268E-006	0.00000E+000	0.00000E+000	1.21947E-006
Trenchers	7.08179E-001	3.11829E-001	7.22932E-002	0.00000E+000	6.45375E-001	6.14518E-001	0.00000E+000	9.70870E-007	9.70870E-007	0.00000E+000	0.00000E+000	1.44714E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		

No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Field Survey	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Field Survey	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Install cable splices	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Install cable splices	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Install duct package	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Install duct package	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Install Transmission line foundations	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Install Transmission line foundations	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Install Vaults	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Install Vaults	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Material delivery	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Material delivery	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Pull cable	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Pull cable	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Right-of-way restoration and cleanup	Fugitive Dust	0.01	0.00	0.00	0.00	0.61	0.61
Right-of-way restoration and cleanup	Roads	0.01	0.00	0.01	0.00	0.00	0.00

SDG&E Site preparation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
SDG&E Site preparation	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Set SVC Substation Foundations	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Set SVC Substation Foundations	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Structure Erection	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Structure Erection	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Substation construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Substation construction	Roads	0.05	0.01	0.05	0.01	0.00	0.00
SVC Site Grading	Fugitive Dust	0.11	0.06	0.04	0.02	0.61	0.61
SVC Site Grading	Roads	0.04	0.01	0.04	0.01	0.00	0.00
Test cable splices	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Test cable splices	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Transformer & SVC Delivery	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Transformer & SVC Delivery	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Wire Stringing	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Wire Stringing	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			

No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
Yes	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	50.00
No	Use Low VOC Paint (Non-residential Interior)	50.00
No	Use Low VOC Paint (Non-residential Exterior)	50.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00

DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Item	Pounds of SF_6	Allowable Manufacturer Leakage Limit (%/Year)	Anticipated SF_6 Emission Rate (Pounds/Year)	Anticipated SF_6 Emission Rate (MT/Year)	SF_6 GWP	MTCO2eq /Year
230 kV 50a 3-Cycle Breaker	162	0.005	0.81	0.00036693	22,800	8.366004

MT: Metric Tons
CO2eq: Carbon Dioxide Emission Equivalent
GWP: Global Warming Potential
1: EPA *Overview Of Greenhouse Gases* http://epa.gov/climatechange/ghgemissions/gases/fgases.html
Example Equation:
Pounds of SF6 x Allowable Manufacturer Leakage Limit %/Year = Anticipated SF6 Emission Rate In Pounds/Year
Anticipated SF6 Emission Rate In Pounds/Year x 0.00045359237 MT/Lb. = Anticipated SF6 Emission Rate In MT/Year
MTCO2eq /Year = Anticipated SF6 Emission Rate In MT/Year x SF6 GWP

Table 4.3-12. Construction-Related Daily Maximum Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Pounds/Day)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions	24.11	271.64	137.72	0.36	17.25	11.16
Mitigated Emissions	8.13	223.17	155.99	0.32	8.9	6.33
SDAPCD Thresholds	75	250	550	250	100	55
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2 and are presented for maximum emitting day per pollutant. The reductions for construction emission mitigations are based on mitigation included in the CalEEMod computer model. See Appendix X for detailed report.

Table 4.3-13. Construction-Related Annual Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Tons/Year)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions	1.39	15.45	8.27	0.02	0.99	0.72
Mitigated Emissions	0.48	12.73	9.14	0.02	0.58	0.4
SDAPCD Thresholds	13.7	40	100	40	15	10
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2 and are presented for maximum emitting year per pollutant. The reductions for construction emission mitigations are based on mitigation included in the CalEEMod computer model. See Appendix X for detailed report.

Table 4.3-14. Operation- and Maintenance-Related Daily Maximum Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Pounds/Day)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions	2.85	1.01	3.55	0.01	0.59	0.18
Mitigated Emissions	2.85	1.01	3.55	0.01	0.59	0.18
SDAPCD Thresholds	75	250	550	250	100	55
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2. See Appendix X for detailed report.

Table 4.3-15. Operation- and Maintenance-Related Annual Emissions Resulting from the Proposed Project

Emissions Source	Pollutant (Tons/Year)					
	VOCs	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions	0.52	0.18	0.63	0.001	0.1	0.03
Mitigated Emissions	0.52	0.18	0.63	0.001	0.1	0.03
SDAPCD Thresholds	13.7	40	100	40	15	10
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions were calculated using CalEEMod version 2013.2.2. See Appendix X for detailed report.

Table 4.3-16. Total Estimated Greenhouse Gas Construction Emissions

Emissions Source	Total ($MTCO_2eq$/Year)
Unmitigated Emissions	2138
Mitigated Emissions	1924
Greenhouse Gas Threshold ($MTCO_2eq$/Year)[1]	10,000
Is Threshold Exceeded?	No
Mitigated Emissions, amortized over 30 years	**64.13**

Note: Emissions were calculated using CalEEMod version 2013.2.2 and are presented for maximum emitting year. See Appendix X for detailed report.

[1] GHG emissions threshold is based on the County of San Diego Land Use and Environment Group Nov. 2013.

$MTCO_2eq$/Year = Metric Tons CO_2 Equivalent per Year

Table 4.3-17. Total Estimated Greenhouse Gas Operation & Maintenance Emissions

Emissions Source	Total ($MTCO_2eq$/Year)
Mobile Source	117
Circuit Breaker	8.2
Energy Use	322
Unmitigated Total	447.2
Mitigated Total	447.2
Greenhouse Gas Threshold ($MTCO_2eq$/Yr)[1]	10,000
Is Threshold Exceeded?	No

Note: Emissions were calculated using CalEEMod version 2013.2.2. See Appendix X for detailed report.

[1] GHG emissions threshold is based on The County of San Diego Land Use and Environment Group Nov. 2013.

$MTCO_2eq$/Year = Metric Tons CO_2 Equivalent per Year

Appendix D:

Biological Resources Technical Report

SUNCREST DYNAMIC REACTIVE POWER SUPPORT PROJECT BIOLOGICAL RESOURCES TECHNICAL REPORT

August 2015

SUBMITTED TO

NextEra Energy Transmission, West LLC
700 Universe Boulevard
Juno Beach, Florida 33408

SUBMITTED BY

SWCA Environmental Consultants
60 Stone Pine Road, Suite 201
Half Moon Bay, California 94019

Suncrest Dynamic Reactive Power Support Project
Biological Resources Technical Report
San Diego County, California

Prepared for

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Attn: Andy Flajole

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SWCA Project No. 32001

August 5, 2015

EXECUTIVE SUMMARY

NextEra Energy Transmission West, LLC. (NEET West) retained SWCA Environmental Consultants (SWCA) to conduct a biological resources study in support of the proposed Suncrest Dynamic Reactive Power (Static Var Compensator or SVC) Support Project (Proposed Project). To document the biological resources at the Proposed Project, SWCA conducted a literature review of existing biological information and field surveys, both of which are described in this biological resources technical report.

The Proposed Project is located in an unincorporated area of San Diego County, California, approximately 29 miles east of San Diego and 3.36 miles southeast of the community of Alpine. The Proposed Project consists of the SVC location, underground electrical transmission line, riser pole, vault structures, and an overhead transmission line connecting the transmission line to the Suncrest Substation. Construction of the SVC will occur on an approximately 6-acre privately owned parcel comprising the SVC facility, stormwater drainage and conveyance system, and associated site improvements. Once complete, the SVC will be contained within a fenced area of up to approximately 112,000 square feet (2.58 acres). The approximately 1-mile 230 kilovolt (kV) single-circuit underground transmission line will be located on approximately 1.4 acres of private and San Diego Gas and Electric land under Bell Bluff Truck Trail. At the terminus of the underground transmission line, a riser pole will connect an approximately 300-foot-long overhead span into the existing Suncrest Substation's 230 kV bus.

This report is intended to identify biological resources within the Proposed Project and analyze impacts to biological resources that may occur as a result of the implementation of the Proposed Project. Biological resources considered for this report include sensitive and common plants and animals, habitats and sensitive natural communities, wildlife movement corridors, and water features subject to state or federal jurisdiction. Methodologies used to assess the biological resources known to, or known to potentially occur at the Proposed Project, assessments of potential impacts to these resources based on the project design, and avoidance, minimization, and mitigation measures to reduce these potential impacts are outlined in this report. With the implementation of the mitigation measures described herein, it is anticipated that impacts to biological resources would be less than significant as defined in the California Environmental Quality Act.

No species listed pursuant to the federal Endangered Species Act or California Endangered Species Act were identified as present or likely to occur at the Proposed Project based on the literature review or field studies. Sensitive biological resources identified in and around the Proposed Project include: 1) jurisdictional waters; 2) felt-leaved monardella, a rare plant; 3) nesting birds, including a previously occupied golden eagle nesting territory; 4) red-diamond rattlesnake; 5) coast horned lizard; and 6) San Diego desert woodrat.

The Proposed Project has been designed to avoid impacts to jurisdictional waters, and to any populations of felt-leaved monardella to the maximum extent practicable. Up to 0.3 acre of Engelmann Oak/Coast Live Oak/Poison Oak/Grass Association, a sensitive natural community, may be impacted; however, this area has been subject to repeated disturbance dating back more than 20+ years which has diminished its habitat value. Applicant-proposed measures are recommended to avoid and minimize impacts to mobile wildlife. Due to the relative scarcity of occurrences of sensitive biological resources at the Proposed Project, the limited number of special-status species that could occur, and the small footprint of the project in relation to local and global ranges and populations of these species, impacts to biological resources are anticipated to be less than significant. Implementation of applicant-proposed measures will further minimize impacts to biological resources.

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1 INTRODUCTION

NextEra Energy Transmission West, LLC (NEET West) proposes to construct the Suncrest Dynamic Reactive Power (Static Var Compensator or SVC) Support Project (Proposed Project) in San Diego County, California, to support the existing San Diego Gas and Electric (SDG&E) Suncrest Substation. This biological resources technical report was prepared to document the existing biological resources in the Proposed Project, and to analyze impacts to biological resources that may occur as a result of the implementation of the Proposed Project. Biological resources considered include sensitive and common plants and animals, habitats and sensitive natural communities, wildlife movement corridors, and water features subject to State or federal jurisdiction. This report describes the methodologies used to assess the biological resources known to occur and potentially occurring at the Proposed Project, assesses potential impacts to these resources based on the project design, and presents avoidance and minimization measures to further reduce these potential impacts.

1.1 Project Location

The Proposed Project is located in unincorporated San Diego County, on private land adjacent to the Cleveland National Forest, west of Japatul Valley Road and south of Interstate 8 (Figure 1). Nearby unincorporated communities include Descanso, approximately 3.78 miles to the northeast, and downtown Alpine, approximately 5.75 miles to the west. The city of El Cajon is approximately 13.36 miles west of the Proposed Project. The SVC facility will be constructed on part of a parcel that is privately owned, and immediately east of and adjacent to the Cleveland National Forest. The Proposed Project will cross privately owned parcels, including two owned by SDG&E. The Proposed Project components and locations under consideration for development are shown in Figure 2, Proposed Project Location Map.

1.2 Project Description

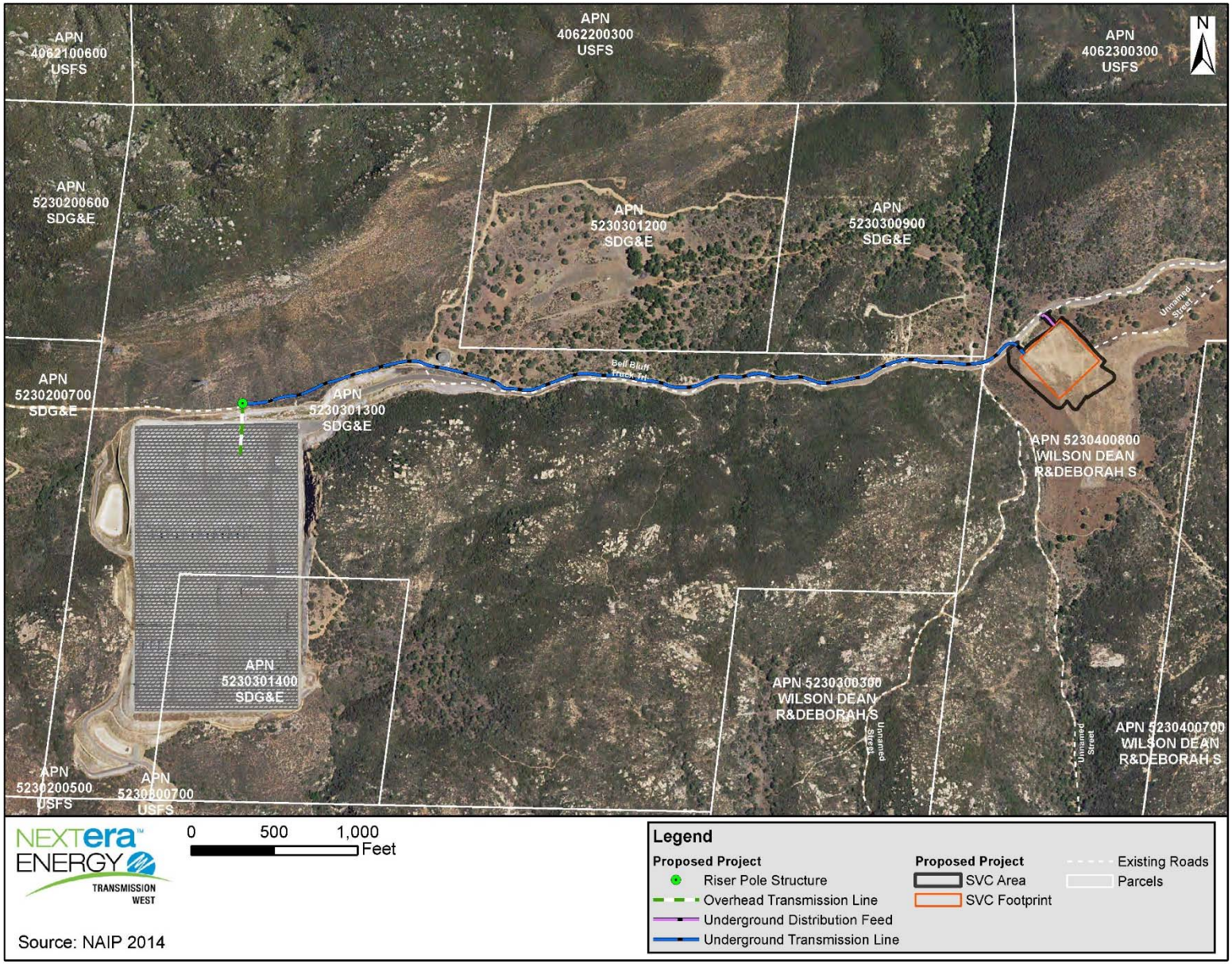
The Proposed Project has two primary components, the Dynamic Reactive Power Support Facility (SVC), and a 230 kilovolt (kV) single-circuit underground transmission line connecting the SVC to the existing Suncrest Substation, which is owned and operated by SDG&E. The Suncrest Substation was constructed in 2012, and is located at the western terminus of the proposed transmission line, approximately 1 mile west of the proposed SVC. An approximately 300-foot-long overhead span will connect into the existing Suncrest Substation's 230 kV bus. Once interconnected to the Suncrest Substation, the SVC will provide continuous reactive power response, improving the reliability of the transmission grid and increasing the amount of renewable power delivered to the San Diego Area.

In addition to the two primary components, the Proposed Project will also include:

- Construction of two new access driveways to facilitate construction, operation, and maintenance of the SVC;
- Installation of fiber optic cable within the same underground duct bank as the 230 kV cable to provide communications for line relaying, supervisory control and data acquisition (SCADA), and other devices as required;
- Installation of approximately five splice vaults to facilitate installation of the new underground cable and operation and maintenance of the underground transmission line; and,
- Installation of a 12 kV underground electrical distribution feed to the SVC.

Figure 1. General Vicinity Map

Figure 2. Proposed Project Location Map



The proposed SVC will be constructed immediately south of Bell Bluff Truck Trail (an existing paved private road), in an area that was previously used as a laydown area for the Sunrise Powerlink Transmission Project (Sunrise Powerlink). The proposed underground transmission line will exit the SVC on the north side and then turn westward along the north side of Bell Bluff Truck Trail for approximately 1 mile to a point where the transmission line will transition to a riser pole structure. The riser pole structure will serve as the change of ownership pole between NEET West and SDG&E. SDG&E will then string the conductor overhead with a single, approximately 300-foot-long overhead span to enter the Suncrest Substation and make the interconnection.

With the exception of the riser pole structure and some temporary work areas (to facilitate installation of the vault structures), the majority of the proposed underground transmission line will be located within the paved roadbed of Bell Bluff Truck Trail. Duct bank installation and equipment and material staging will be limited to either the north or south side of the road centerline, depending on the location of other utilities in the roadway, to maintain an unobstructed single lane of travel on the 30-foot-wide road section so as not to impede access to Suncrest Substation. A laydown area to the west of the riser pole, for a length of approximately 150 feet along Bell Bluff Trail, is also included in the project footprint. Approximately five splice vaults will be installed underground along the transmission line alignment approximately every 900 feet to facilitate installation of the underground cable and operation and maintenance of the transmission line following construction. The number of vaults may be reduced based on the final design specifications of the underground transmission line. Access to the proposed SVC area will be immediately off of Bell Bluff Truck Trail via two new approximately 20-foot-wide by 95-foot-long access drives. The roadway aprons of these access drives will be paved while the remainder of the access drives will be graveled.

Construction of the SVC (e.g., limit of grading and associated site improvements based on current information) will occupy a total area of approximately 6 acres. The SVC will be contained within a fenced area of up to approximately 2.58 acres. During construction, a 2.56-acre staging area will be used to support construction activities and restored once the construction is complete. Total land requirements for the underground transmission line and riser pole total 3.62 acres; including 3.13 acres of temporary disturbance and 0.49 acres of permanent disturbance.

2 REGULATORY BACKGROUND

2.1 Federal

2.1.1 Federal Endangered Species Act

The Proposed Project does not have a federal nexus and, therefore, reference to the Endangered Species Act (ESA) and other federal laws is provided here for informational purposes only.

The U.S. Congress passed the Endangered Species Act (ESA) in 1973 to protect endangered species and species threatened with extinction (federally listed species). The ESA operates in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Section 9 of the ESA prohibits the "take" of endangered or threatened wildlife species. The legal definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 United States Code [U.S.C.] 1532(19)). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (Code of Federal Regulations [CFR] Title 50, Section 17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR 17.3). Actions that result in take can result in civil or criminal penalties.

In addition to listing species and distinct population segments, the ESA defines critical habitat as habitat deemed essential to the survival of a federally listed species. Under Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat. Critical habitat requirements do not apply to activities on private land that do not involve a federal nexus.

Actions that result in take of listed species typically require authorization form the USFWS under either Section 7 or Section 10 of the ESA. The Proposed Project is not expected to result in any impacts to ESA-listed species or critical habitat.

2.1.2 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), first enacted in 1918, prohibits any person, unless permitted by regulations, to:

> *"…pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention … for the protection of migratory birds ... or any part, nest, or egg of any such bird."* (16 U.S.C. 703)

The list of migratory birds includes nearly all bird species native to the United States. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under MBTA to directly kill, or destroy a nest of, nearly any native bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA. Removal of unoccupied nests, and bird mortality resulting indirectly from disturbance activities, are not considered violations of the MBTA.

2.1.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668–668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles (*Haliaeetus leucocephalus*), including their parts, nests, or eggs. In 1962, Congress amended the act to also cover golden eagles (*Aquila chrysaetos*).

The act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle . . . [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

On November 10, 2009, the USFWS implemented new rules under the existing Bald and Golden Eagle Act, requiring all activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity to receive permits from the USFWS.

Under USFWS rules (16 U.S.C. 22.3; 72 Federal Register 31,132, June 5, 2007), "disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition

also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

2.1.4 Clean Water Act

The Proposed Project will not result in impacts to "waters of the United States" and, therefore, reference to the Clean Water Act (CWA) is provided here for informational purposes only. The Clean Water Act (CWA) (33 U.S.C. 1251 et seq.) is the primary federal legislation that addresses water quality, pollution, and protection of the chemical, physical, and biological integrity of most waters in the United States. The CWA chiefly addresses the quality of surface waters, while groundwater contamination is addressed by other legislation, including the Resource Conservation and Recovery Act (RCRA).

On June 29, 2015, the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) published Federal Register Volume 79, Number 76 (April 21, 2014), a final rule (Clean Water Rule) defining the scope of waters protected under the Clean Water Act (CWA), in light of the U.S. Supreme Court cases in U.S. v. Riverside Bayview, Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC), and Rapanos. The new rule will enhance protection for the nation's public health and aquatic resources, and increase CWA program predictability and consistency by increasing clarity as to the scope of "waters of the United States" protected under the CWA. The final rule becomes effective as of August 28, 2015, and the USACE and the EPA will make similar changes in the CWA Rule at 33 CFR 328.3 and 40 CFR 110.0, 112.2, 116.3, 117.1, 122.2, 232.2, 300.5, part 300 App. E, 302.3, and 401.11.

In this final rule, the agencies clarify the definition of "waters of the United States" to include eight categories of jurisdictional waters. The first three types of jurisdictional waters—traditional navigable waters, interstate waters, and the territorial seas—are jurisdictional by rule in all cases. The fourth type, impoundments of jurisdictional waters, is also jurisdictional by rule. The next two types of waters, "tributaries" and "adjacent" waters, are jurisdictional by rule, as defined, because the science confirms that they have a significant nexus to traditional navigable waters, interstate waters, or territorial seas. For waters that are jurisdictional by rule, no additional analysis is required.

The final two types of jurisdictional waters are those waters found after a case-specific analysis to have a significant nexus to traditional navigable waters, interstate waters, or the territorial seas, either alone or in combination with similarly situated waters in the region. Justice Kennedy acknowledged the agencies could establish more specific regulations or establish a significant nexus on a case-by-case basis, Rapanos at 782, and for these waters the agencies will continue to assess significant nexus on a case-specific basis.

2.1.4.1 CLEAN WATER ACT SECTION 303 AND 304

Pursuant to Section 303 of the CWA, states are required to adopt water quality standards applicable to all Waters of the U.S. (33 U.S.C. 1313). When adopting water quality standards, the states are required to consider the designated uses of the waters involved and the associated water quality criteria based upon those uses. Such standards are established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and their use and value for navigation. Standards are also required to protect the public health or welfare, and enhance the quality of water. Preferably, adopted water quality standards consist of specific numerical criteria; however, non-numeric criteria (e.g., narrative criteria, species depended criteria, ecological criteria) based on bioassessment or monitoring may be utilized where numeric criteria are not available.

Under CWA Section 303(d) states, territories, and authorized tribes are required to develop lists of "impaired waters" identifying those waters where pollution controls are not sufficient to meet designated water quality standards resulting in the impairment of beneficial uses. In making such designations it is required that the jurisdiction establish a priority ranking system accounting for the severity of the pollution. This prioritization system is used in the development of Total Maximum Daily Loads (TMDLs) for these waters to address water quality issues and the restoration of beneficial uses.

Section CWA 304(a) requires that EPA develop criteria for water quality that reflects the latest scientific knowledge based on data and scientific judgments on pollutant concentrations and environmental or human health effects. Criteria are grouped into six categories: aquatic life, biological, nutrients, human health, microbial (pathogen), and recreational.

Implementation of Section 303 of the CWA (i.e., adoption of water quality standards, identification of beneficial uses, and identification of impaired waters) in California is performed by the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The Proposed Project is within the jurisdiction of the San Diego RWQCB (SDRWQCB).

2.1.4.2 CLEAN WATER ACT SECTION 401

Section 401 of the CWA provides states and authorized tribes the opportunity to protect water quality by requiring that any applicant for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the state in which the discharge originates (33 U.S.C. 1341). This authority ensures that federally permitted activities comply with the CWA and State water quality laws. Section 401 is implemented through a review process that is conducted by the RWQCB, or in the case of when multiple jurisdictions have authority from the SWRCB. The Proposed Project is within the jurisdiction of the SDRWQCB.

2.1.4.3 CLEAN WATER ACT SECTION 402

The National Pollutant Discharge Elimination System (NPDES) program, established in 1972 as part of the Federal Water Pollution Control Act, controls water pollution through regulation of point source pollutants discharging to waters of the United States (33 U.S.C. 1342). Under the NPDES program all facilities discharging pollutants from any point source into waters of the United States are required to obtain a NPDES permit. Though broadly defined, pollutants typically include any type of industrial, municipal, and agricultural waste and for regulatory purposes have been grouped into three categories: conventional (Section 304(a)(4) of the CWA), toxic (Section 307(a)(1) of the CWA), and non-conventional (pollutants not otherwise defined including many nutrient or water quality parameters). The primary focus of the federal NPDES permitting program has historically been municipal and non-municipal (industrial) discharges.

In 1987, with the issuance of the 1987 Water Quality Act, Section 402 of the CWA was amended, requiring regulation of additional stormwater dischargers (NPDES Storm Water Program). Phase I of the NPDES Storm Water Program addresses five categories of dischargers (Phase I Facilities) including certain industrial activities, municipal separate storm drain systems (MS4s), and facilities considered to be significant contributors of pollutants. The Phase I industrial stormwater program regulations include provisions requiring construction sites disturbing greater than 5 acres to obtain NPDES permits. Phase II regulations of the NPDES Storm Water Program, issued in 1999, address additional dischargers not covered by Phase 1 regulations. The Phase II regulations expand permitting requirements to small MS4s, construction sites of 1 to 5 acres, and certain previously exempt industrial facilities.

The EPA is the primary authority to implement NPDES although the CWA authorizes states to implement the system in lieu of the EPA. The CWA is implemented on a state and local level in California primarily by the SWRCB and nine RWQCBs, collectively. Whereas the federal NPDES program mostly deals with point source control, current focus and regulation is shifting to non-point source pollution control under the authority of the RWQCBs.

On August 19, 1999, the SWRCB reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ) later amending it to apply to sites as small as 1 acre. On September 2, 2009, the SWRCB adopted Order No. 2009-0009-DWQ which reissued Water Quality Order 99-08-DWQ. Order No. 2009-0009-DWQ has subsequently been amended by Order No. 2010-0014-DWQ and most recently by Order No. 2012-0006-DWQ on July 17, 2012 (Construction General Permit).

The Construction General Permit authorizes discharges of stormwater and regulates discharges of pollutants in stormwater associated with construction activities from construction sites that disturb 1 or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface where the rainfall erosivity waiver does not apply. The Construction General Permit requires proposed dischargers to file a public Notice of Intent (NOI) prior to beginning regulated activities. Applicability of the Construction General Permit is contingent on meeting all order conditions and requirements including the implementation of a Storm Water Pollution Prevention Plan (SWPPP). In accordance with Order No. 2010-0014-DWQ, the SWPPP must be prepared and certified by a Qualified SWPPP Developer and include information to conclude:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled;
- Where not otherwise required to be under a RWQCB permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology Economically Achievable (BAT)/Best Conventional Pollutant Control Technology (BCT) standard;
- Calculations and design details as well as BMP controls for site run-on are complete and correct; and,
- Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

2.1.4.4 CLEAN WATER ACT SECTION 404

Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the USACE. The term "waters of the United States" as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands (Wetlands are defined by the federal government [33 CFR 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.);

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of waters identified in paragraphs (1) through (4);

6. Territorial seas; and,

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA (33 CFR 328.3[a][8] added 58 CFR 45035, August 25, 1993).

The EPA also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions.

2.1.5 Executive Order 11990 Protection of Wetlands

Executive Order Number 11990 was issued in May 1977 as a furtherance of NEPA, providing protection of wetlands. Pursuant to the Executive Order, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands.

2.2 State

2.2.1 California Endangered Species Act

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

2.2.2 California Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists protected amphibians and reptiles, and Section 3515 prohibits take of fully protected fish species. Eggs and nests of fully protected birds are under Section 3511.

Migratory nongame birds are protected under Section 3800, and mammals are protected under Section 4700. Except for take related to scientific research, all take of fully protected species is prohibited.

2.2.3 Nesting Birds and Raptors

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 provides protection for all birds of prey, including their eggs and nests.

2.2.4 Migratory Bird Protection

Take or possession any migratory non-game bird as designated in the MBTA is prohibited by Section 3513 of the Fish and Game Code.

2.2.5 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code Section 1900-1913) directed the California Department of Fish and Game (now known as CDFW) to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protected endangered and rare plants from take. The NPPA thus includes measures to preserve, protect, and enhance rare and endangered native plants.

CESA has largely superseded NPPA for all plants designated as endangered by the NPPA. The NPPA nevertheless provides limitations on take of rare and endangered species as follows: "...no person will import into this state, or take, possess, or sell within this State" any rare or endangered native plant, except in compliance with provisions of the CESA. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

2.2.6 Inventory of Rare and Endangered Plants

Operating under a Memorandum of Understanding with the CDFW, the California Native Plant Society (CNPS) maintains an inventory of plants believed or known to be rare in the State of California. This list includes species not protected under federal or state endangered species legislation (CNPS 2015). Plants in the inventory are assigned a California Rare Plant Ranking (CRPR). The major categories of plants under the CNPS scheme are:

- List 1A – Plants presumed extinct.
- List 1B – Plants rare, threatened, or endangered in California and elsewhere.
- List 2 – Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3 – A review list of plants for which the CNPS requires more information.
- List 4 – A watch list of plants of limited distribution.

Plants on CNPS List 1 or 2 generally meet the CEQA Section 15380 definitions of rare or endangered. These plants also all meet the definitions of CESA, and are eligible for state listing.

2.2.7 California Desert Native Plants Act

The California Desert Native Plants Act (CDNPA) protects non-listed California desert native plants from unlawful harvesting on public and private lands in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties (California Food and Agriculture Code, Sections 80001-80006,

Division 23). A number of desert plants are protected under this act, including all species in the agave and cactus families. Harvest, transport, sale, or possession of specific native desert plants is prohibited unless a person has a valid permit, or wood receipt, and the required tags and seals.

This provision excludes any plant that is declared to be a rare, endangered, or threatened species by federal or state law or regulations, including, but not limited to, the California Food and Agriculture Code. The fee for the permit to remove any of these plants will not be less than $1 per plant, except for Joshua trees (*Yucca brevifolia*), which will not be less than $2 per plant.

The CDNPA was taken into consideration in this evaluation due to the presence of yuccas, which are in the agave family, at the Proposed Project and to provide guidance to NEET West with regard to the removal of yuccas during implementation of the Proposed Project.

2.2.8 Porter-Cologne Water Quality Control Act

The Proposed Project will not result in impacts to "waters of State" and, therefore, reference to the Porter-Cologne Water Quality Control Act is provided here for informational purposes only. The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides guidance for the protection of water quality and beneficial uses of water throughout the state and, along with the CWA, provides the overarching legislation governing the SWRCB and RWQCBs. Waters of the State are defined as any surface water or groundwater, including saline waters, which are within the boundaries of the state (California Codes: PRC Section 71200). This differs from the CWA definition of waters of the United States by its inclusion of groundwater and waters outside the ordinary high water mark (OHWM) in its jurisdiction.

The Act requires that each regional board adopt a water quality control plan (basin plan) for their region. Pursuant to Porter-Cologne, these basin plans become part of the California Water Plan, when such plans have been reported to the Legislature (Section 13141, California Water Code). The Proposed Project is located within the jurisdiction of the SDRWQCB (Region 9) and is, therefore, subject to the SDRWQCB's Basin Plan.

In 1972, amendments to the Porter-Cologne Act gave California the authority and ability to operate the federal NPDES permits program. Before a permit may be issued, Section 401 of the CWA requires that the local RWQCB, or in the case of when multiple jurisdictions have authority the SWRCB, certify that the discharge will comply with applicable water quality standards. In addition, under Porter-Cologne, the RWQCB or SWRCB may also issue waste discharge requirements, that set conditions on the discharge of a waste. These requirements must be consistent with the water quality control plan for the body of water that receives the waste discharge, as well as protect the beneficial uses of those receiving waters.

The SWRCB and RWQCBs also implement Section 402 of the CWA, which allows the State to issue a single discharge permit for stormwater runoff for the purposes of both State and federal law, as well as Section 303(d) of the CWA pursuant to the authority of the Porter-Cologne Act.

2.2.9 California Fish and Game Code (Sections 1601-1607)

The Proposed Project will not result in alteration or substantial disturbance of any lake or streambed and, therefore, reference to the California Fish and Game Code, Sections 1601-1607) is provided here for informational purposes only. These code sections prohibit alteration of any lake or streambed under CDFW jurisdiction, including intermittent and seasonal channels and many artificial channels, without execution of a Lake and Streambed Alteration Agreement through the CDFW. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the project.

Sections 1601 through 1607 of the California Fish and Game Code require that "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" be subject to a Lake and Streambed Alteration Agreement with CDFW. CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the project.

2.3 Local

Because the California Public Utilities Commission (CPUC) regulates and authorizes the construction of investor-owned public utility facilities, the CPUC has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities), Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to biological resources. Although the County of San Diego (County) and other local polices are provided below, they are provided for disclosure purposes only.

2.3.1 San Diego County General Plan

The San Diego County General Plan includes a Conservation and Open Space Element which addresses habitats and species diversity within the county, as well as wildlife corridors and habitat linkages. To that end, the General Plan includes the following goals, and policies within those goals, that are applicable to biological resources.

2.3.1.1 GOAL COS-1: INTER-CONNECTED PRESERVE SYSTEM

- **COS-1.1, Coordinated Preserve System:** Identify and develop a coordinated biological preserve system that includes Pre-Approved Mitigation Areas, Biological Resource Core Areas, wildlife corridors, and linkages to allow wildlife to travel throughout their habitat ranges.

- **COS-1.2, Minimize Impacts:** Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.

- **COS-1.3, Management:** Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

- **COS-1.4, Collaboration with Other Jurisdictions:** Collaborate with other jurisdictions and trustee agencies to achieve well-defined common resource preservation and management goals.

- **COS-1.5, Regional Funding:** Collaborate with other jurisdictions and federal, state, and local agencies to identify regional, long-term funding mechanisms that achieve common resource management goals.

- **COS-1.6, Assemblage of Preserve Systems:** Support the proactive assemblage of biological preserve systems to protect biological resources and to facilitate development through mitigation banking opportunities.

- **COS-1.7, Preserve System Funding:** Provide adequate funding for assemblage, management, maintenance, and monitoring through coordination with other jurisdictions and agencies.

- **COS-1.8, Multiple-Resource Preservation Areas:** Support the acquisition of large tracts of land that have multiple resource preservation benefits, such as biology, hydrology, cultural, aesthetics, and community character. Establish funding mechanisms to serve as an alternative when mitigation requirements would not result in the acquisition of large tracts of land.

- **COS-1.9, Invasive Species:** Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.

- **COS-1.10, Public Involvement:** Ensure an open, transparent, and inclusive decision-making process by involving the public throughout the course of planning and implementation of habitat conservation plans and resource management plans.

- **COS-1.11, Volunteer Preserve Monitor:** Encourage the formation of volunteer preserve managers that are incorporated into each community planning group to supplement professional enforcement staff.

2.3.1.2 GOAL COS-2: SUSTAINABILITY OF THE NATURAL ENVIRONMENT

- **COS-2.1, Protection, Restoration, and Enhancement:** Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.

- **COS-2.2, Habitat Protection through Site Design:** Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.

2.3.1.3 GOAL COS-3: PROTECTION AND ENHANCEMENT OF WETLANDS

- **COS-3.1, Wetland Protection:** Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.

- **COS-3.2, Minimize Impacts of Development:** Require development projects to:

    1) Mitigate any unavoidable losses of wetlands, including its habitat functions and values; and,

    2) Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydromodification, land and vegetation clearing, and the introduction of invasive species.

2.3.2 San Diego County Multiple Species Conservation Program

Approved in 1997, the San Diego Multiple Species Conservation Program (MSCP) is an agreement between the County, USFWS, and CDFW. The MSCP preserves a network of habitat and open space throughout

San Diego County and covers locally sensitive plant and animal species in each subarea as identified in the applicable list of covered species. The MSCP has established a Mitigation Banking Policy, a Biological Mitigation Ordinance (BMO), and Design Criteria for Linkages and Corridors. Compliance with the BMO allows the County to issue Incidental Take Permits for projects that impact sensitive habitats. Projects that are exempt from the BMO include activities that are exempt from CEQA and other categories.

As of May 2015, the MSCP has been implemented for southwestern San Diego County. The area east of the community Alpine, including the Proposed Project location, has not been incorporated into the MSCP at this time, although preliminary planning documents have been drafted. While this program is currently not applicable to the Proposed Project, provisions regarding MSCP-covered species have been evaluated for consistency.

3 METHODS

SWCA Environmental Consultants (SWCA) conducted a biological resources study using a combination of literature review and field surveys to document the biological resources at the Proposed Project.

3.1 Literature and Records Review

SWCA biologists reviewed available regional and local natural resources information including published and unpublished documents, publicly available data sets, and herbarium records. Database searches included the nine U.S. Geological Survey (USGS) 7.5-minute quadrangles at and surrounding the Proposed Project: El Cajon Mountain, Tule Springs, Cuyamaca Peak, Alpine, Viejas Mountain, Descanso, Dulzura, Barrett Lake, and Morena Reservoir. Site-specific information reviewed included, but was not limited to, the following sources:

- CDFW California Natural Diversity Database (CNDDB) (CDFW 2015a).
- CNPS, Rare Plant Program. 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Available at: http://www.rareplants.cnps.org.
- eBird. 2012. eBird: An online database of bird distribution and abundance [web application]. As updated 2015. eBird, Ithaca, New York. Available at: http://www.ebird.org.
- Soil Survey Staff, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/.
- Chambers Group, Inc. 2009. *Final Sunrise Powerlink Project 2009 California Gnatcatcher Report*.
- Chambers Group, Inc. 2011. *Final Sunrise Powerlink Project 2010 California Gnatcatcher Report*.
- Chambers Group, Inc. September 2010. *Quino Checkerspot Butterfly (*Euphydryas editha quino*) Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project San Diego County, California*.
- RECON Environmental, Inc. 2009. *Riparian Bird Survey Report for the SDG&E Sunrise Powerlink Project*.
- RECON Environmental, Inc. 2010. *2010 Arroyo Toad Survey Report for the SDG&E Sunrise Powerlink Project*.

- RECON Environmental, Inc. 2010. *2010 Rare Plant Survey Report for the SDG&E Sunrise Powerlink Project*.
- RECON Environmental, Inc. 2010. *Rare Plant and Invasive Weed Report for Alpine Construction Yard 18 and Alpine Regional Field Offices Yard 18A in Alpine, California, for the proposed Environmentally Superior Southern Route (ESSR) of the San Diego Gas & Electric (SDG&E) Sunrise Powerlink Project*.
- 2010 Report on Acoustic Bat Surveys Conducted Along the Sunrise Powerlink in San Diego and Imperial Counties, California.
- September 2010 Amendment to *Report on Bat Surveys Conducted Along the San Diego Gas & Electric Sunrise Powerlink Transmission Line, San Diego and Imperial counties, California 2009*.
- SJM Biological Consultants, Inc. and Chambers Group, Inc. 2010. *Summary of Field Searches for the Federally Endangered Stephens' Kangaroo Rat (*Dipodomys stephensi*) In and Near U.S. Forest Service Lands Along the Proposed Southern Route of the SDG&E Sunrise Powerlink Project in San Diego County, California*.
- SJM Biological Consultants, Inc. and Chambers Group, Inc. 2010. *Summary of Field Searches for the Federally Endangered Stephens' Kangaroo Rat (*Dipodomys stephensi*) Along and Adjacent to the Proposed Southern Route of the SDG&E Sunrise Powerlink Project, San Diego County, California*.
- Wildlife Research Institute, Inc. 2010. *Final Report Golden Eagle Surveys Surrounding Sunrise Powerlink Project Area in San Diego and Imperial Counties, California*.
- USFWS Critical Habitat Portal, Available at: http://criticalhabitat.fws.gov/.
- National Wetland Inventory (NWI), Geographic Information Systems (GIS) Layers Available at: http://atlas.ca.gov/.
- USGS 7.5-minute series topographic quadrangle maps.
- Aerial imagery of the Proposed Project.

Biological resources geospatial data were collected from a variety of sources to develop a project-specific GIS database. This was the first analysis level and it provided reviewers with essential sensitive species location data, preliminary habitat information, potential drainages, and other jurisdictional waters, and designated critical habitat for federally listed species. The data were compiled in ArcGIS Desktop 10 and were subsequently uploaded to a Trimble® handheld global positioning system (GPS) unit for field verification.

Many biological surveys were conducted at and around the Proposed Project as part of the studies completed for SDG&E's Sunrise Powerlink. Almost all of the Proposed Project lies within the construction footprint of the Sunrise Powerlink. Components of the Sunrise Powerlink that overlap with the Proposed Project are 1) the Suncrest Substation; 2) the Wilson Laydown Area, which served as a materials and equipment stockpiling and organizational area; and 3) Bell Bluff Truck Trail, which was paved and widened. The results of many of the surveys conducted for Sunrise Powerlink were reviewed during consideration of the biological resources at the Proposed Project.

3.2 Sensitive Biological Resources

For the purposes of this study, sensitive plants and animals were defined to include species, subspecies, varieties, and populations recognized by CDFW or USFWS, and which have been classified into one or more of the following categories:

- Species, subspecies, and populations listed or proposed for listing as threatened or endangered pursuant to the federal ESA, and species that are candidates for such listing.
- Species and subspecies listed or proposed for listing by the State of California as threatened or endangered pursuant to the CESA.
- Plants included in the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2015b).
- Plants assigned California Rare Plant Ranks (CRPRs) 1 or 2 by CNPS.
- Animals listed on the California Special Animals List as Species of Special Concern, Fully Protected, or Watchlist, and for invertebrates, all species regardless of the reason for inclusion.

In addition, natural communities recognized by the CDFW as being of special concern were considered, along with riparian habitats and water bodies under the jurisdiction of the CDFW, USACE, and/or RWQCB.

Throughout this document, species, subspecies, varieties, and populations are broadly referred to throughout this document as "species," a term which is used here to indicate whichever pertinent taxonomic levels are recognized by the state and federal authorities with jurisdiction over plants and animals.

Species occurrences from the CDFW CNDDB RareFind5 (CDFW 2015a) and the CNPS Online Inventory of Rare and Endangered Plants (CNPS 2015) were queried for project relevant sensitive species data. Records of sensitive plants, animals, and natural communities from the nine USGS topographic 7.5-minute quadrangles including and adjacent to the Proposed Project were queried from both the CNDDB and CNPS databases. The results of the records search was used as the basis of the list of species considered for having the potential to occur at the Proposed Project, as informed by the professional judgment of SWCA biologists. This list was then reviewed to determine whether habitat for the species occurs at the Proposed Project, and to identify each species' likelihood of occurrence.

3.3 Field Surveys

SWCA biologists Michael Cady, Andrea Haller, Harrison Kirner, Ricardo Montijo, Pauline Roberts, and Rico Ramirez conducted the field surveys. An initial site reconnaissance was conducted on May 2, 2014, by Mr. Cady and Mr. Montijo. Additional field studies to document existing plant, wildlife, and wetlands were performed by the biologists on February 24 and 25, March 25 and 26, May 1 and 13, and June 25, 2015. SWCA biologists spent approximately 120 hours conducting the field surveys. The surveys included plant and wildlife inventories, vegetation mapping, and a delineation of waters, wetlands, and riparian areas potentially subject to the jurisdiction of the USACE, CDFW, and/or RWQCB. Surveyors noted and recorded all wildlife species encountered directly through direct observation, sign (scat, remains, or tracks), and for birds, by their species-specific vocalizations. The use of binoculars also facilitated wildlife identification. Similarly, surveyors recorded plant species encountered in the field, although, in some instances, plants were collected and subsequently identified using dichotomous keys.

3.4 Vegetation, Cover Types, and Jurisdictional Waters

Mapping and location data were collected using ESRI ArcPad 8.0 software installed on Trimble® GPS units with sub-meter accuracy. The software allowed biologists to superimpose the Proposed Project alignment on aerial imagery and create vegetation polygons in the field. Vegetation types were mapped in the vicinity of the Proposed Project based on the combined aerial maps as adjusted by the biologists who conducted field surveys. Then, using the field-verified vegetation maps, the vegetation alliances were extrapolated to the larger vicinity of the Proposed Project based on comparison with aerial and infrared (Normalized Difference Vegetation Index [NDVI]) imagery. Vegetation alliances were mapped based on *A Manual of California Vegetation* (Sawyer, Keeler-Wolf and Evens 2009), as further modified for the County of San Diego (Evens and San 2005; AECOM et al. 2011). It is important to note that vegetation types usually intergrade from one to another without abrupt edges. Mapping vegetation communities in the field relies on the biologist's professional experience to identify the boundaries. The minimum mapping unit used in creating these maps was 0.1 acre.

Potential jurisdictional waters were preliminarily mapped in-house using available data from NWI and USGS topographic maps and aerial photographs. Reconnaissance-level field verification was conducted in the spring of 2015 to refine the maps, and to determine what features met the criteria for jurisdiction by the USACE, CDFW, and/or RWQCB. A formal jurisdictional delineation report has not been prepared because the Proposed Project has been designed to avoid impacts to all jurisdictional features that were identified. Currently, the Proposed Project is designed to avoid impacts to drainages by utilizing horizontal drilling under the culverts for installation of the underground transmission line. However, if subsequent technical reports (i.e., geotechnical reports) indicate that culverts will need to be impacted, then a CDFW streambed alteration agreement may be needed, as well as additional protection measures. At this time, no protection measures for temporary and permanent impacts of culverts is necessary. Based on the current design, the connectivity of the waters conveyed by the culverts will remain unchanged during implementation of the Proposed Project.

3.5 Nomenclature Conventions

Vegetation alliance nomenclature follows *A Manual of California Vegetation* (Sawyer, Keeler-Wolf and Evens 2009), as further modified for San Diego County (Evens and San 2005; AECOM et al. 2011). Taxonomic conventions follow *The Jepson Manual: Higher Plants of California* (Baldwin et al. 2012) for plants, the American Ornithologists' Union (AOU) *Checklist of North and Middle American Birds* (AOU 2015) for avifauna, a *Complete List of Amphibian, Reptile, Bird and Mammal Species in California* (CDFG 2008) for other vertebrate wildlife, and the CDFW Special Animals List for invertebrates.

4 EXISTING CONDITIONS

The Proposed Project is located approximately 30 miles from the Pacific Ocean, and situated in the Laguna Mountains of the Peninsular Ranges. Topography in the vicinity of the Proposed Project is undulating, with steep hills interspersed by narrow valleys and deep canyons with steeply incised drainage corridors. Elevations in the vicinity of the Proposed Project range between approximately 3,000 and 3,200 feet above mean sea level.

San Diego County has a Mediterranean climate with warm to hot, dry summers, and mild to cool, wet winters. The coastal climate is generally mild with average temperatures of 65 degrees Fahrenheit (°F). Inland temperatures are typically cooler with an average temperature of 57°F in the Laguna Mountain Area. Mean monthly temperatures in the vicinity of the Proposed Project range from a low of 54°F in December to a high of 76°F in August. Precipitation in the region also varies spatially and temporally, with increasing precipitation typically occurring from the coast landward toward the western rim of the Peninsular Range. Average annual rainfall in the vicinity of the Proposed Project is 14.7 inches with approximately 90% of

the rain falling between November and April. Average monthly rainfall drops substantially during summer months with less than 0.7 inches per month between May and October. Temperature and precipitation data is based on mean monthly data from the NOAA Alpine, California climate station (GHCND:USC00040136) located approximately 6.7 miles west of the Proposed Project for the period between 1953-2014 (NOAA 2015).

4.1 Soils

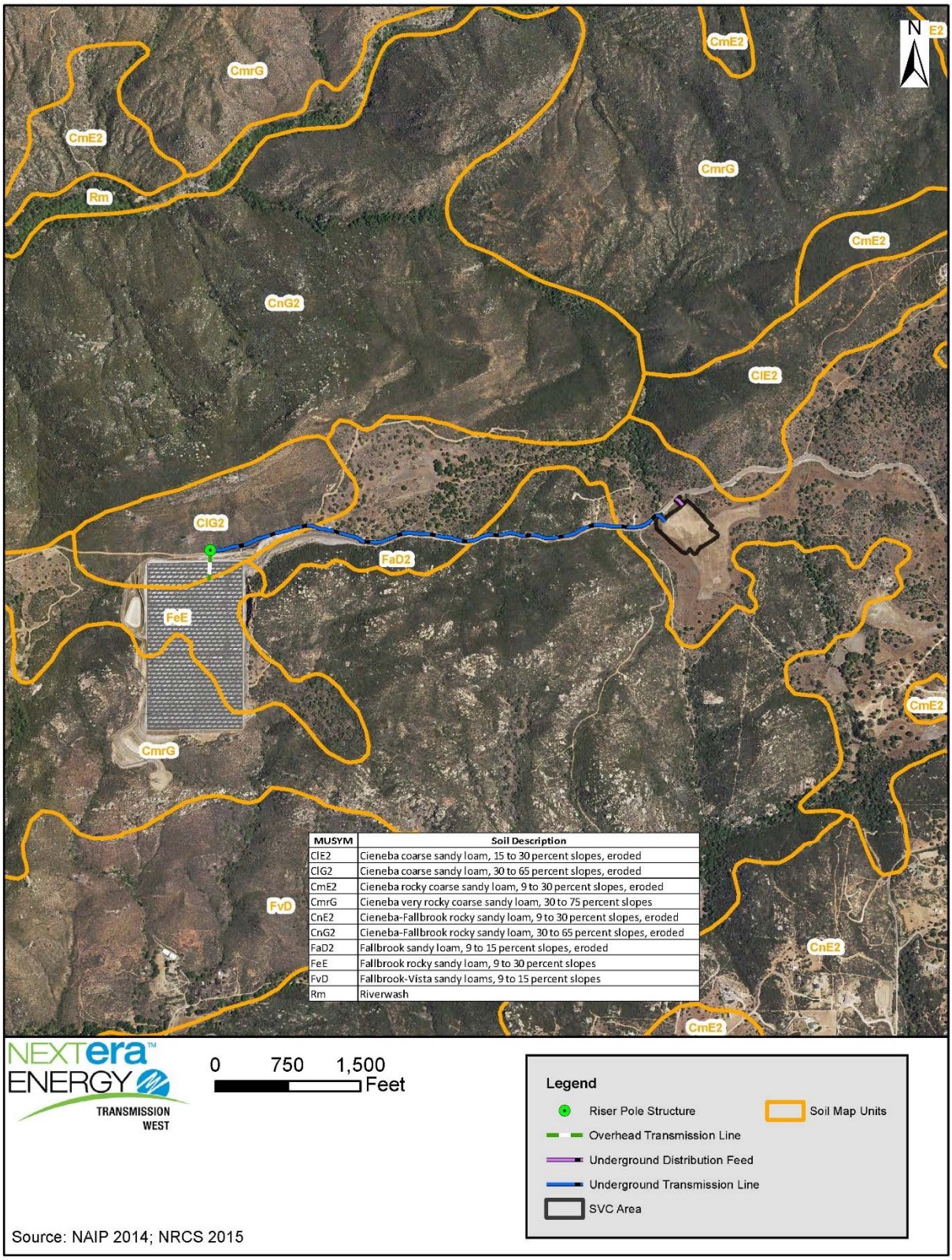
Soil types in the Proposed Project include primarily sandy loams (Figure 3):

- Cieneba coarse sandy loam, 15 to 30 percent slopes, eroded
- Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded
- Fallbrook sandy loam, 9 to 15 percent slopes, eroded
- Fallbrook rocky sandy loam, 9 to 30 percent slopes

Cieneba soils are shallow to very shallow (depth to paralithic contact is 4 to 6 inches), excessively drained soils that formed from weathered granitic rock. They are found on hills and mountains at elevations from approximately 500 to 4,000 feet, on slopes ranging from 9 to 85 percent. Cieneba soils have runoff that ranges from low to high, and have moderately rapid soil permeability. Vegetation communities on these soils are typically chaparral and chamise, also sparse pine or oak woodlands. Cieneba soils are not classified as hydric by the NRCS.

Fallbrook soils are deep (depth to paralithic contact is 40 to 60 inches), well-drained soils that formed from weathered granitic rocks. They are found on rolling hills at elevations of 200 to 3,500 feet, on slopes ranging from 5 to 75 percent. Rock outcrops are common in some areas. Fallbrook soils have medium to very rapid runoff, and moderately slow permeability. Vegetation communities on these soils are mainly annual grasses and forbs; chaparrals, chamise, California buckwheat, and other shrubs are common in the overstory. Many areas with Fallbrook soils are used for grazing and irrigated agriculture. Fallbrook soils are not classified as hydric by the NRCS.

Figure 3. Soil Units Map



MUSYM	Soil Description
ClE2	Cieneba coarse sandy loam, 15 to 30 percent slopes, eroded
ClG2	Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded
CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
CnE2	Cieneba-Fallbrook rocky sandy loam, 9 to 30 percent slopes, eroded
CnG2	Cieneba-Fallbrook rocky sandy loam, 30 to 65 percent slopes, eroded
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
FeE	Fallbrook rocky sandy loam, 9 to 30 percent slopes
FvD	Fallbrook-Vista sandy loams, 9 to 15 percent slopes
Rm	Riverwash

4.2 Habitats and Natural Communities

4.2.1 Wildlife Corridors

Broad continuous expanses of vegetation facilitate free dispersal of species between local areas and at larger scales between regions. Natural processes, such as wildlife movement and plant dispersal, have formed and dynamically reshaped global floras and faunas for as long as species have been able to disperse. Certain species extinctions have been the result of geographic and other forms of isolation. Prior to accelerated human population growth and expansion, these processes generally happened over millennia or longer. In many instances, population shifts, isolation, and extinction resulted in speciation (evolution of new species). Expanding human populations into previously undisturbed areas are fragmenting continuous expanses of vegetation and associated habitat at increasing rates. Habitat fragmentation is widely regarded as a major threat to wildlife population viability and plant community integrity (Rolstad 1991; Wiens 1995). Isolated populations are then more vulnerable to local extinction because of stochastic events and gene flow problems, such as bottlenecks and inbreeding depression. These effects are often dramatic in urbanized and urbanizing areas, prompting conservation biologists to develop strategies for maintaining habitat connectivity to allow free movement of populations between otherwise isolated habitat patches.

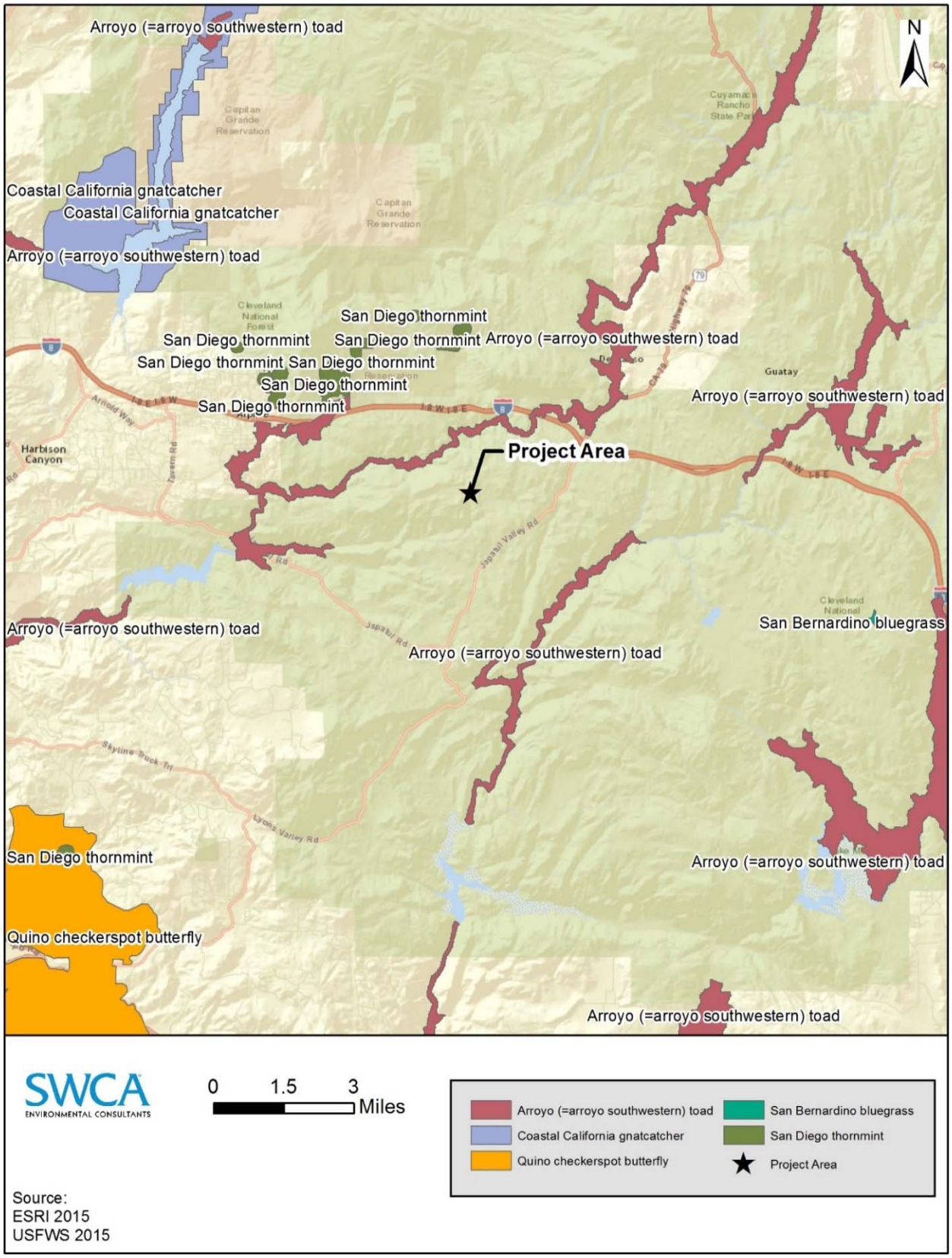
The Proposed Project is located in the Laguna Mountains of the Peninsular Ranges, which is primarily open space with small, widely-spaced residential areas. Although no specific wildlife corridors have been mapped in the immediate vicinity of the Proposed Project, natural open space and low-density development in the survey area is contiguous with off-site habitats to the north and south, providing free movement for wildlife in the area. Open space adjacent to the Proposed Project provides opportunities for movement of mammals with large home ranges, such as mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), and mountain lion (*Puma concolor*). The Peninsular Ranges serve on a large scale as a connection between the Transverse Ranges to the north and the Baja Peninsula to the south, and thus the region serves as an important wildlife connectivity area, although no corridors have been mapped within more than 15 miles of the Proposed Project (Spencer et al. 2010; South Coast Wildlands 2008). The Proposed Project does not include any major streams, rivers, or canyons that would serve as a conduit for wildlife traveling long distances, and therefore concentrations of wildlife movement are not expected within the Proposed Project.

4.2.2 Critical Habitat

There is no federally designated critical habitat for ESA-listed species within or immediately adjacent to the Proposed Project. The nearest critical habitat, which is designated for arroyo toad (*Anaxyrus californicus*), is located 0.5 mile north of the Proposed Project along Sweetwater River.

Within 10 miles of the Proposed Project, there is federally designated critical habitat for a total of five species: San Diego thornmint (*Acanthomintha ilicifolia*), arroyo toad, Quino checkerspot butterfly (*Euphydryas editha quino*), coastal California gnatcatcher (*Polioptila californica californica*), and Laguna Mountain skipper (*Pyrgus ruralis lagunae*) (Figure 4).

Figure 4. Federally Designated Critical Habitat near the Proposed Project



4.2.3 Vegetation and Cover Types

The footprint of the Proposed Project and the surrounding habitats consist of undeveloped chaparral scrub and oak woodlands, with pockets of disturbance dominated by non-native grasses and forbs. Table 1 provides acreages of land cover and vegetation types in the study area, while the sections that follow provide descriptions of these classifications. Figure 5 illustrates the vegetation types traversed by the project. Of the vegetation types present, only one (Engelmann Oak-Coast Live Oak/Poison Oak/Grass Association) is considered a sensitive natural community by CDFW.

A substantial portion of the Proposed Project area immediately south of Bell Bluff Truck Trail (where the SVC facility would be sited) has been subject to repeated human-caused disturbance since at least 1994, based on examination of aerial photographs. Specifically, this area has been disked several times and appears to have been used for grazing. These types of disturbances limit the growth of trees and long-lived woody shrubs, and generally favor fast-growing species and grasses. Portions of the *Quercus engelmannii-Q. agrifolia*/*Toxicodendron diversilobum* Association, the *Eriogonum fasciculatum* Association, the Non-native grasslands, and the Ruderal cover type, are included in these disturbed areas.

In addition to the long-standing disturbance, a subsection of this same area was heavily disturbed in 2012 to support the construction of Sunrise Powerlink. The site was stripped of vegetation and topsoil, and then graded, and the site is now an active restoration project. Portions of the *Eriogonum fasciculatum* Association and the Non-native grasslands are included in this recently disturbed area. More recently, a 1.7 acre area on the northwest side of the SVC was recently bladed by the property owner and has been mapped as a ruderal cover type.

4.2.3.1 ENGELMANN OAK-COAST LIVE OAK/POISON OAK/GRASS ASSOCIATION (*QUERCUS ENGELMANNII – Q. AGRIFOLIA*/*TOXICODENDRON DIVERSILOBUM* ASSOCIATION)

Stands of Engelmann oak (*Quercus engelmannii*) and coast live oak (*Q. agrifolia*) occupy the north central and eastern portions of the study area, particularly along streams or in moist declivities. Engelmann and coast live oak woodlands are generally a late successional or climax community in terms of ecological succession. If disturbance is frequent, this plant community is generally excluded. Engelmann and coast live oak trees occur as co-dominants forming a sometimes closed tree canopy with poison oak (*Toxicodendron diversilobum*) in the shrub canopy, and grasses and other herbs forming the herbaceous understory. Common grasses in this association include the non-native slender wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), cheatgrass (*B. tectorum*), red brome (*B. madritensis* ssp. *rubens*), and ripgut brome (*B. diandrus*); native grasses include purple needlegrass (*Stipa pulchra*) and muhly grasses (*Muhlenbergia* spp.). Subdominant shrubs very by location, and often include coastal sage scrub species such as black sage (*Salvia mellifera*), white sage (*S. apiana*), California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), and bush monkey flower (*Mimulus aurantiacus*).

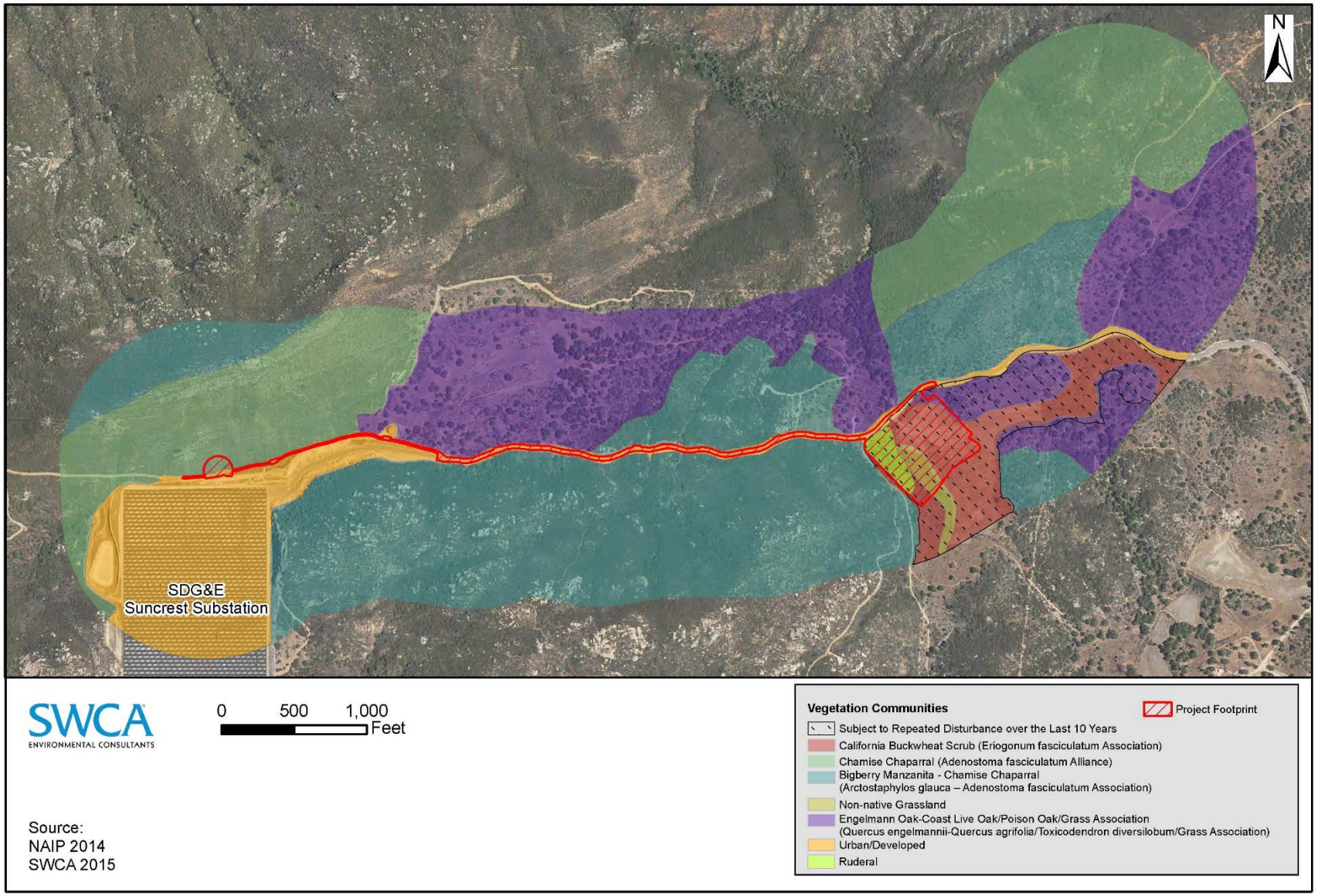
This association is considered a sensitive plant community. However, the portions of this plant community located immediately south of Bell Bluff Truck Trail (where the SVC facility would be sited) have been subject to repeated disturbance since at least 1994. The understory of the woodland at the eastern edge of the SVC facility location is not fully developed and not typical of this association; it more closely matches the neighboring California Buckwheat Association.

Table 1. Land Cover/Vegetation Types in the Project Area (Acres)*

Project Components	Land Cover / Vegetation Types**						
	Engelmann Oak-Coast Live Oak/ Poison Oak/ Grass Association (*Quercus engelmannii-Quercus agrifolia/ Toxicodendron diversilobum*/ Grass Association)* **	**Chamise Chaparral (*Adenostoma fasciculatum* Alliance)**	**California Buckwheat Scrub *** (*Eriogonum fasciculatum* Association)**	**Bigberry Manzanita – Chamise Chaparral Association (*Arctostaphylos glauca* – *Adenostoma fasciculatum* Association)**	**Non-native Grassland*** **	**Ruderal*** **	**Urban Developed*** **
SVC Facility and Access Driveways	0.3	--	4.5	--	1.1	1.7	0.1
Underground Transmission Line and Vaults	< 0.1	< 0.1	< 0.1	--	--	--	3.1
Riser Pole Area and Tie-in	--	0.4	--	--	--	--	0.1

*Acreage includes both temporary and permanent impacts
** Vegetation types follow the California Manual of Vegetation (Sawyer, Keeler-Wolf and Evens 2009) as modified for San Diego County (Evens and San 2005, AECOM et al. 2011)
*** These land cover and vegetation types within the Proposed Project have been subject to repeated disturbance over the past two decades.

Figure 5. Vegetation Communities and Cover Types at the Proposed Project



4.2.3.2 CHAMISE CHAPARRAL (*ADENOSTOMA FASCICULATUM* ALLIANCE)

The *Adenostoma fasciculatum* Alliance (chamise chaparral) occurs in the northwestern and northeastern study area limits within the footprint of the Proposed Project. Chamise chaparral is dominated by sometimes monotypic (single species) stands of the dominant species chamise (*Adenostoma fasciculatum*). This is the dominant dark green scrub of dry slopes, where soils occur over bedrock, forming a dense canopy layer up to 12 feet tall. Generally devoid of an herbaceous layer, other shrubs that typically grow in this alliance include manzanitas (*Arctostaphylos* spp.), chaparral yucca (*Hesperoyucca whipplei*), white sage, laurel sumac, black sage, Mexican elderberry (*Sambucus nigra* ssp. *caerulea*), California buckwheat (*Eriogonum fasciculatum*), and deerweed (*Acmispon glaber*). This association is not a sensitive natural community.

4.2.3.3 CALIFORNIA BUCKWHEAT SCRUB (*ERIOGONUM FASCICULATUM* ASSOCIATION)

There is a stand of California buckwheat south of Bell Bluff Truck Trail that consists of a mix of occasionally disturbed and highly disturbed/planted scrub species heavily dominated by California buckwheat (*Eriogonum fasciculatum*). The planted species are for restoration of a laydown yard used during construction of the SDG&E Sunrise Powerlink. The planting area is located within the Proposed Project. California buckwheat always accounts for at least 50 percent of the absolute shrub cover in this association, but other perennial species such as California sagebrush, deerweed, black sage, and white sage also typically occur, with location vacations in shrub species composition.

The highly disturbed area of California buckwheat scrub that was used as a laydown yard is currently actively managed as part of the restoration to exclude non-native species, such as slender wild oats, soft chess, cheatgrass, red brome, ripgut brome, short-pod mustard, and black mustard (*Brassica nigra*). It does not meet the definition of a Diegan or Riversidean coastal sage scrub (which are sensitive communities) due to the almost complete absence of California sagebrush (*Artemisia californica*). The *Eriogonum fasciculatum* Association has a state sensitivity ranking of S4 on a scale of 1 to 6, with communities ranked 1, 2, and 3 considered sensitive. Therefore, this association is not considered a sensitive natural community.

4.2.3.4 BIGBERRY MANZANITA – CHAMISE CHAPARRAL (*ARCTOSTAPHYLOS GLAUCA – ADENOSTOMA FASCICULATUM* ASSOCIATION)

On granitic slopes within the study area, chamise sometimes associates with bigberry manzanita (*Arctostaphylos glandulosa*) to form dense, closed canopy, scrub. Scrub oak (*Quercus berberidifolia*), chaparral yucca, and ceanothus species (*Ceanothus* spp.) also grow as subdominant shrubs in this association. Herbaceous layers are uncommon in chamise-dominated scrub, except following fires. The association is not within the Proposed Project footprint, but it is included here because it is immediately adjacent. This association is not a sensitive natural community.

4.2.3.5 NON-NATIVE GRASSLAND

Non-native Grasslands are annual grasslands once dominated by a host of native species, that now form continuous herbaceous layers dominated by non-native grasses and herbs including, slender wild oats, soft chess, cheatgrass, red brome, ripgut brome, red-stemmed filaree (*Erodium cicutarium*), and short-pod mustard (*Hirschfeldia incana*). Native species may include western ragweed (*Ambrosia psilostachya*), lupines (*Lupinus* spp.), doveweed (*Croton setigerus*), and Parish's bluecurls (*Trichostema parishii*).

Within the study area, Non-native Grassland occurs in small patches where past disturbance created favorable conditions for the associated invasive non-native and tolerant native species; a large patch of Non-native Grassland occurs in the laydown yard used during construction of the SDG&E Sunrise Powerlink, where the SVC facility would be located. This area is being actively managed to promote native vegetation growth. This association is not a sensitive natural community.

4.2.3.6 RUDERAL

Ruderal areas are highly disturbed areas, usually defined as occurring along road edges. Ruderal areas are typically dominated by species that have high rates of seed dispersal, fast growth, and are able to quickly colonize disturbed areas. These areas are usually dominated by non-native species, but a few native species also can survive and thrive. In the vicinity of the Proposed Project, non-native grasses would typically quickly colonize ruderal areas. Bare earth and ruderal land occurs on the northwest side of the SVC site where vegetation has been cleared and the area graded by the property owner for the installation of a temporary water tank.

4.2.3.7 URBAN DEVELOPED

The Urban Developed category is reserved for portions of the study area no longer covered by vegetation. It includes roads, permanent facilities, and other sites paved or built upon that exclude plants. This cover type occurs along the paved road (Bell Bluff Truck Trail) between the SVC facility and the SDG&E Suncrest Substation.

4.3 Drainages and Water Features

The Proposed Project is located within the San Diego Bay watershed. Within this watershed, the Sweetwater River is the central drainage feature. The river flows from east to west through the Sweetwater and Loveland Reservoirs before discharging into San Diego Bay approximately 38 miles west of the Proposed Project.

Localized drainages in the immediate vicinity of the Proposed Project flow toward several high-gradient ephemeral drainages along valley or canyon bottomlands that eventually flow to the Sweetwater River. Due to the Proposed Project's siting along a ridgeline, waters from the area drain both northward and southward from the Proposed Project. Surface waters flowing northward join unnamed streams that eventually flow into the Sweetwater River. Surface waters flowing southward flow into Taylor Creek and several unnamed drainages to the south, all of which eventually flow into the Sweetwater River.

4.3.1 Jurisdictional Waters

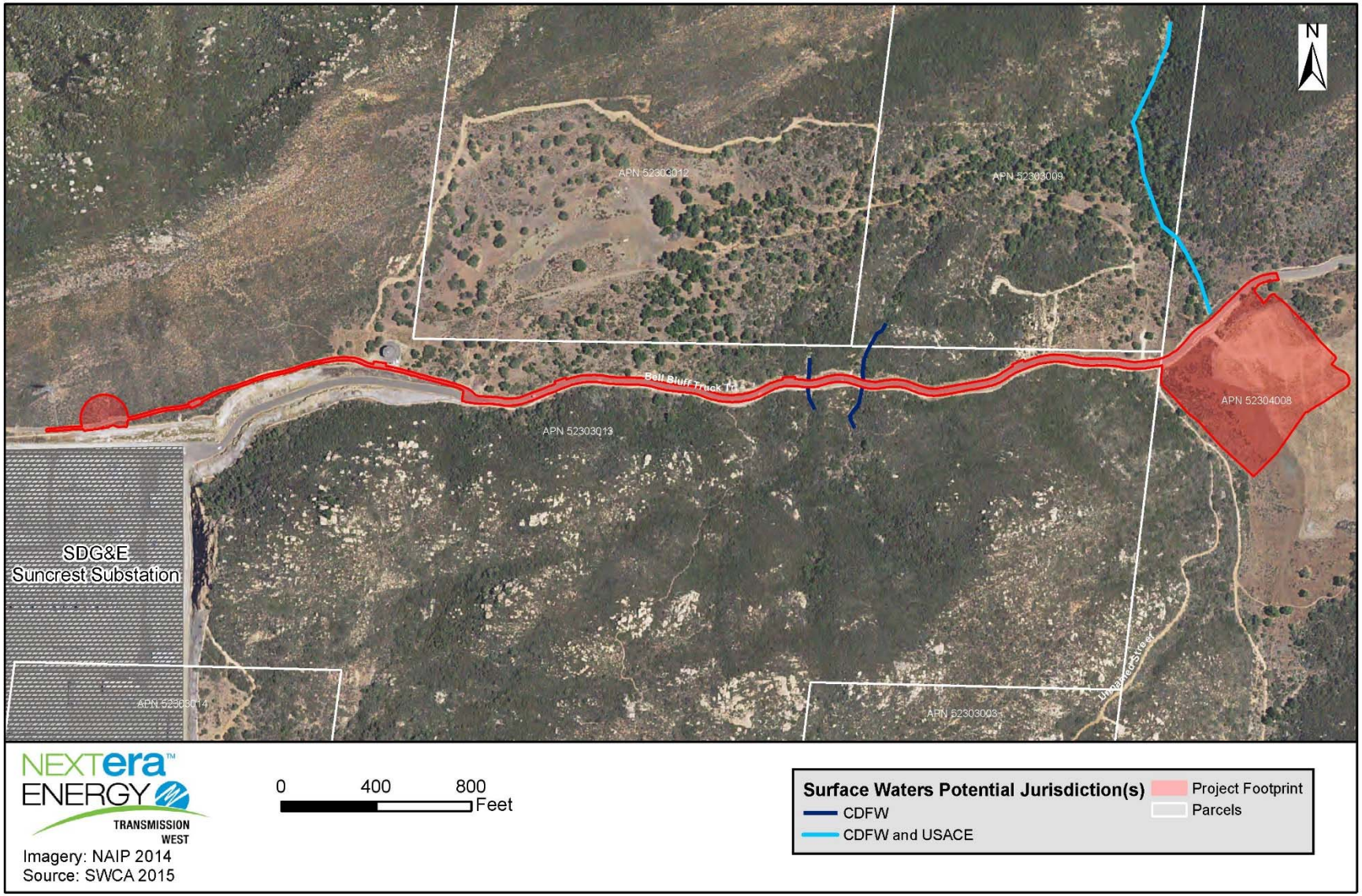
In the vicinity of the Proposed Project, three natural drainages, as well as manmade ditches and culverts were identified during reconnaissance-level field assessments (Figure 6). A formal jurisdictional delineation report has not been prepared because the Proposed Project has been designed to avoid impacts to all potentially jurisdictional water features; therefore, no impacts would result from the Proposed Project and no permitting for jurisdictional waters is required.

4.3.1.1 USACE JURISDICTIONAL WATERS

One unnamed ephemeral drainage, which flows north from Bell Bluff Truck Trail, may be subject to USACE jurisdiction (Figure 6). This seasonal stream flows north, then west, and eventually into the Sweetwater River. An OHWM is apparent. The Proposed Project would avoid this feature. Other natural drainage features observed in the vicinity of the Proposed Project either: a) did not exhibit an OHWM, or b) did not have an apparent connection to downstream waters of the United States, and are therefore are not generally considered jurisdictional by the USACE.

Field verifications were conducted in the spring of 2015 to refine the water feature maps, and to determine if any features met the criteria for jurisdiction by the USACE, CDFW, and/or RWQCB. Potential wetlands were investigated based on aerial imagery and literature research. Based on the soils and vegetation observed during field verifications, no wetlands are present within the Proposed Project.

Figure 6. Potentially Jurisdictional Waters near the Proposed Project



The manmade ditches are located along the Bell Bluff Truck Trail and Avenida de los Arboles, and serve to convey runoff from along the roads. They are all concrete lined, and are wholly excavated in uplands. Because of these characteristics, they are not considered waters of the United States by the USACE.

4.3.1.2 CDFW JURISDICTIONAL WATERS AND RIPARIAN HABITATS

Along with the unnamed stream north of the Proposed Project that may be subject to the jurisdiction of the USACE, the two other natural drainages on either side of the paved Bell Bluff Truck Trail, under which the transmission line will be placed, are likely subject to CDFW jurisdiction, along with the riparian-influenced habitats along these drainages. Excavation for the underground transmission line will occur under these culverts and no impacts to natural bed, bank, or riparian vegetation will occur. The culverts will be shored and left undisturbed if possible. If culverts need to be temporarily removed (e.g., in the event blasting was required at the culvert location), work will not occur within 48 hours of a forecasted rain event of 0.5 inches or greater and temporary piping will be onsite to maintain any unexpected water flow. Based on the current design, the connectivity of the waters conveyed by the culverts will remain unchanged during implementation of the Proposed Project.

4.4 Common and Special-status Species

4.4.1 Common Wildlife

Biologists conducting surveys at the Proposed Project recorded all vertebrate wildlife encountered, and did not observe any sensitive animals. A complete list of species observed is located in Appendix B, Faunal Compendium.

Reptiles observed at the Proposed Project included side-blotched lizard (*Uta stansburiana*) and southwestern speckled rattlesnake (*Crotalus mitchellii pyrrhus*).

More than 20 species of birds were recorded, none of which were sensitive. These included year-round residents such as common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), California thrasher (*Toxostoma redivivum*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), oak titmouse (*Baelophus inornatus*), wrentit (*Chamaea fasciata*), and western scrub-jay (*Aphelocoma californica*). Neotropical migrants that breed in summer at the Proposed Project include ash-throated flycatcher (*Myiarchus cinerascens*), black-headed grosbeak (*Pheucticus melanocephalus*), house wren (*Troglodytes aedon*), lesser goldfinch (*Spinus psaltria*), Anna's hummingbird (*Calypte anna*), and western kingbird (*Tyrannus verticalis*). Migrating species could include a wide array of species for short- and long-distance migratory travel such as raptors and passerines.

Common mammal species observed, detected through sign (burrows, dens, tracks, or scat) or observed directly include coyote (*Canis latrans*), mule deer, and California ground squirrel (*Spermophilus beecheyi*).

4.4.2 Sensitive Species

SWCA biologists reviewed the species with recorded occurrences in the records search area, and evaluated their potential for occurrence at the Proposed Project.

4.4.2.1 SPECIAL-STATUS PLANTS

No special-status plants were detected during biological surveys conducted in 2014 or 2015 (Appendix A, Floral Compendium). Of 91 special-status plants with occurrence records within the nine USGS 7.5-minute topographic quadrangles at and surrounding the Proposed Project, 19 have overlapping ranges with and suitable habitat at the Proposed Project (Table 2, Figure 7).

Table 2. Sensitive Plant Species Potential for Occurrence at the Proposed Project

Common Name *Scientific Name*	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
San Diego thorn-mint *Acanthomintha ilicifolia*	FT / SE / 1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Endemic to active vertisol clay soils of mesas & valleys. Usually on clay lenses within grassland or chaparral communities. ~30–3150 feet. Annual herb.	None
San Diego ambrosia *Ambrosia pumila*	FE /--/1B.1	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. ~65–1,360 feet. Perennial herb.	None
singlewhorl burrobush *Ambrosia monogyra*	--/--/ 2B.2	Chaparral, Sonoran desert scrub. Sandy soils. ~30–1640 feet. Shrub or small tree.	None
Otay manzanita *Arctostaphylos otayensis*	--/--/ 1B.2	Chaparral, cismontane woodland. Metavolcanic soils with other chaparral associates. ~902–5,580 feet. Erect shrub to small tree.	None
San Diego sagewort *Artemisia palmeri*	--/--/ 4.2	Coastal scrub, chaparral, riparian forest, riparian woodland, riparian scrub. In drainages and riparian areas in sandy soil within chaparral and other habitats. ~50–3,000 feet. Biennial to perennial herb.	None
Dean's milk-vetch *Astragalus deanei*	--/--/ 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian forest. Open, brushy south-facing slopes in Diegan coastal sage, sometimes on recently burned-over hillsides. ~245–2,280 feet. Perennial herb.	None
Jacumba milk-vetch *Astragalus douglasii* var. *perstrictus*	--/--/ 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, pinyon and juniper woodland, riparian scrub. Stony hillsides and gravelly or sandy flats in open oak woodland. ~2,950–4,500 feet. Perennial herb.	Moderate potential
San Diego milk-vetch *Astragalus oocarpus*	--/--/ 1B.2	Chaparral, cismontane woodland. Openings in chaparral or on gravelly flats and slopes in thin oak woodland. ~1,000–5,000 feet. Perennial herb.	High potential
South coast saltscale *Atriplex pacifica*	--/--/ 1B.2	Coastal scrub, coastal bluff scrub, playas, chenopod scrub. Alkali soils. ~3–1,640 feet. Mat like annual.	None
California ayenia *Ayenia compacta*	--/--/2.3	Mojavean desert scrub and Sonoran desert scrub. Perennial herb to subshrub.	None
Encinitas baccharis *Baccharis vanessae*	FT / SE / 1B.1	Chaparral. On sandstone soils in steep, open, rocky areas with chaparral associates. ~195–2,360 feet. Shrub.	None

Common Name *Scientific Name*	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
San Diego goldenstar *Bloomeria clevelandii*	--/--/ 1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Mesa grasslands, scrub edges; clay soils. Often on mounds between vernal pools in fine, sandy loam. ~165–1,525 feet. Perennial herb from corm.	None
Hirshberg's rockcress *Boechera hirshbergiae*	--/--/ 1B.2	Pebble (or pavement) plains. ~4,600–4,640 feet. Perennial herb.	None
Orcutt's brodiaea *Brodiaea orcuttii*	--/--/ 1B.1	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows and seeps. Mesic, clay habitats; sometimes serpentine; usually in vernal pools and small drainages. ~100–5,560 feet. Perennial herb from corm.	None
Round-leaved filaree *California macrophylla*	--/--/ 1B.1	Cismontane woodland, valley and foothill grassland. Clay soils. ~50–3,930 feet. Annual, biennial herb.	None
Dunn's mariposa-lily *Calochortus dunnii*	--/ SR / 1B.2	Closed-cone coniferous forest, chaparral, valley and foothill grassland. On gabbro or metavolcanic soils; also known from sandstone; often associated with chaparral. ~600–6,000 feet. Perennial herb from membranous bulb	None
San Luis Obispo sedge *Carex obispoensis*	--/--/ 1B.2	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland. Usually in transition zone on sand, clay, or serpentine; in seeps. ~33–2,690 feet. Perennial herb	None
Payson's jewelflower *Caulanthus simulans*	--/--/ 4.2	Chaparral, coastal scrub. Frequently in burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes. Sandy, granitic soils. ~295–7,220 feet. Annual herb.	None
Lakeside ceanothus *Ceanothus cyaneus*	--/--/ 1B.2	Closed-cone coniferous forest, chaparral. ~770–2,470 feet. Shrub, ascending to erect.	None
Otay Mountain ceanothus *Ceanothus otayensis*	--/--/ 1B.2	Chaparral. Metavolcanic or gabbroic soils. ~1,965–3,610 feet. Shrub, erect.	None
Wart-stemmed ceanothus *Ceanothus verrucosus*	--/--/ 2.2	Chaparral. ~3–1,250 feet. Shrub.	None
Parish's chaenactis *Chaenactis parishii*	--/--/ 1B.3	Chaparral. Rocky sites. ~4,265–8,202 feet. Subshrub.	None
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	--/--/ 1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. ~100–5,020 feet. Annual to perennial herb.	Low potential
Delicate clarkia *Clarkia delicata*	--/--/ 1B.2	Cismontane woodland, chaparral. Often on gabbro soils. ~770–3,280 feet. Annual herb.	Low potential

Common Name ***Scientific Name***	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
San Miguel savory *Clinopodium chandleri*	--/--/ 1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic or metavolcanic substrate. ~390–3,300 feet. Shrub.	None
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	--/--/ 1B.2	Chaparral, cismontane woodland. Often in mixed chaparral in California, sometimes post-burn. ~100–2,600 feet. Shrub to small tree.	None
Snake cholla *Cylindropuntia californica* var. *californica*	--/--/ 1B.1	Chaparral, coastal scrub. ~100–500 feet. Shrub, fleshy.	None
Otay tarplant *Deinandra conjugens*	FT / SE / 1B.1	Coastal scrub, valley and foothill grassland. Coastal plains, mesas, and river bottoms; often in open, disturbed areas; clay soils. ~80–1,000 feet. Annual herb.	None
Tecate tarplant *Deinandra floribunda*	--/--/ 1B.2	Chaparral, coastal scrub. Often in little drainages or disturbed areas. ~230–4,000 feet. Annual herb.	Moderate potential
Cuyamaca larkspur *Delphinium hesperium* ssp. *cuyamacae*	--/ SR / 1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools. On dried edge of grassy meadows, also described as in mesic sites. ~4,000–5,350 feet. Perennial herb.	None
Cuyamaca Lake downingia *Downingia concolor* var. *brevior*	--/ SE / 1B.1	Meadows (mesic), vernal pools. In vernal seeps, lakes and pools, and on mudflats, with Orthocarpus, Limnanthes, Collinsia. ~4,600–4,950 feet. Annual herb.	None
Variegated dudleya *Dudleya variegata*	--/--/ 1B.2	Chaparral, coastal scrub, cismontane woodland, valley and foothill grassland. In rocky or clay soils; sometimes associated with vernal pool margins. ~10–1,900 feet. Perennial herb, fleshy.	None
Laguna Mountains goldenbush *Ericameria cuneata* var. *macrocephala*	--/--/ 1B.3	Chaparral. Endemic to the Laguna Mountains. Among boulders; in crevices in granitic outcrops and in rocky soil. ~3,920–6,070 feet. Subshrub to shrub.	None
Palmer's goldenbush *Ericameria palmeri* var. *palmeri*	--/--/ 1B.1	Coastal scrub, chaparral. On granitic soils, on steep hillsides. Mesic sites. ~100–2,000 feet. Stout shrub.	None
Vanishing wild buckwheat *Eriogonum evanidum*	--/--/ 1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland. Sandy sites. ~3,610–7,300 feet. Annual herb.	None
Abrams' spurge *Euphorbia abramsiana*	--/--/ 2B.2	Mojavean desert scrub, Sonoran desert scrub. Sandy sites. ~-16–3,000 feet. Annual herb.	None

Common Name ***Scientific Name***	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
San Diego barrel cactus *Ferocactus viridescens*	--/--/ 2B.1	Chaparral, Diegan coastal scrub, valley and foothill grassland. Often on exposed, level or south-sloping areas; often in coastal scrub near crest of slopes. ~10–1,500 feet. Perennial herb, fleshy.	None
Chaparral ash *Fraxinus parryi*	--/--/ 2B.2	Chaparral. Open mixed chaparral and in the chaparral-sage scrub interface in California. ~700–2,035 feet. Shrub to tree.	None
Mexican flannelbush F*remontodendron mexicanum*	FE / SR / 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland. Usually scattered along the borders of creeks or in dry canyons; found on gabbro, serpentine, or metavolcanics. ~33–2,350 feet. Shrub to small tree.	None
Sticky geraea *Geraea viscida*	--/--/ 2B.3	Chaparral. Loamy coarse sand to gravelly sand soils; often in post burned areas and in bulldozed areas. ~1,475–5,580 feet. Annual, perennial herb.	None
Mission Canyon bluecup *Githopsis diffusa* ssp. *filicaulis*	--/--/ 3.1	Chaparral. Probably in open, grassy places and mesic, disturbed areas; much overlooked. ~1,475–2,300 feet. Annual herb.	None
San Diego gumplant *Grindelia hallii*	--/--/ 1B.2	Meadows, valley and foothill grassland, chaparral, lower montane coniferous forest. Frequently occurs in low moist areas in meadows; associated genera commonly include Wyethia, Ranunculus, and Sidalcea. ~610–5,725 feet. Perennial herb	Moderate potential
Palmer's grapplinghook *Harpagonella palmeri*	--/--/ 4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. ~65–3,135 feet. Annual herb.	None
Tecate cypress *Hesperocyparis forbesii*	--/--/ 1B.1	Closed-cone coniferous forest, chaparral. Primarily on north-facing slopes; groves often associated with chaparral. On clay or gabbro. ~260–4,930 feet. Shrub to tree.	None
Cuyamaca cypress *Hesperocyparis stephensonii*	--/--/ 1B.1	Closed-cone coniferous forest, chaparral, chaparral, cismontane woodland, riparian forest. Restricted to the southwest slopes of Cuyamaca Peak, on gabbroic rock. ~3,400–5,600 feet. Tree.	None
Laguna Mountains alumroot *Heuchera brevistaminea*	--/--/ 1B.3	Broadleaved upland forest, chaparral, cismontane woodland, riparian forest. Steep, rocky slopes. ~4,500–6,560 feet. Perennial herb.	None
San Diego County alumroot *Heuchera rubescens* var. *versicolor*	--/--/ 3.3	Chaparral, lower montane coniferous forest. Rocky outcrops. ~5,000–13,125 feet. Perennial herb from caudex or rhizome.	None

Common Name *Scientific Name*	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
Ramona horkelia *Horkelia truncata*	--/--/ 1B.3	Chaparral, cismontane woodland. Habitats in California include: mixed chaparral, vernal streams, and disturbed areas near roads. Clay soil; at least sometimes on gabbro. ~1,320–4,300 feet. Perennial herb.	None
San Diego hulsea *Hulsea californica*	--/--/ 1B.3	Lower montane coniferous forest, upper montane coniferous forest, and chaparral. Coarse to fine sandy loam in disturbed chaparral openings at high elevations. ~3,000–9,565 feet. Perennial herb	None
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	--/--/ 1B.2	Coastal scrub, chaparral. Sandy soils; often in disturbed sites. ~33–445 feet. Subshrub.	None
San Diego marsh-elder *Iva hayesiana*	--/--/ 2B.2	Marshes and swamps, playas. River washes. ~33–1,640 feet. Perennial herb to subshrub	None
Santa Lucia dwarf rush *Juncus luciensis*	--/--/ 1B.2	Vernal pools, meadows, lower montane coniferous forest, chaparral, and Great Basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. ~985–6,700 feet. Annual herb.	None
Gander's pitcher sage *Lepechinia ganderi*	--/--/ 1B.3	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland. Usually found in chaparral or coastal scrub; sometimes in Tecate cypress woodland. Gabbro or metavolcanic substrate. ~1,000–3,300 feet. Perennial herb.	None
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	--/--/ 4.3	Chaparral, coastal scrub. Dry soils, shrubland. ~3–2,900 feet. Annual herb.	None
Short-sepaled lewisia *Lewisia brachycalyx*	--/--/ 2B.2	Lower montane coniferous forest, meadows. Dry to moist meadows in rich loam. ~4,595–7,545 feet. Perennial herb	None
Lemon lily *Lilium parryi*	--/--/ 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows & seeps. ~4,000–9,000 feet. Perennial herb from membranous bulb.	None
Parish's meadowfoam *Limnanthes alba* ssp. *parishii*	--/ SE / 1B.2	Meadows and seeps, vernal pools. Vernally moist areas and temporary seeps of highland meadows and plateaus; often bordering lakes and streams. ~1,970–5,775 feet. Annual herb.	None
Desert beauty *Linanthus bellus*	--/--/ 2B.1	Chaparral. Dry slopes and flats; open sandy spots in chaparral, mostly in loamy coarse sandy dg soil types. ~3,280–4,600 feet. Annual herb.	None

Common Name ***Scientific Name***	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
Orcutt's linanthus *Linanthus orcuttii*	--/--/ 1B.3	Chaparral, lower montane coniferous forest. Sometimes in disturbed areas; often in gravelly clearings. ~3,480–6,560 feet. Annual herb.	None
Felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	--/--/ 1B.2	Chaparral, cismontane woodland. Occurs in understory in mixed chaparral, chamise chaparral, and southern oak woodland; sandy soil. ~985–5,170 feet. Subshrub.	High potential
San Felipe monardella *Monardella nana* ssp. *leptosiphon*	--/--/ 1B.2	Chaparral, lower montane coniferous forest. Sometimes in openings and fuel breaks or in the understory of forest or chaparral. ~3,940–6,100 feet. Subshrub.	None
Hall's monardella *Monardella macrantha* ssp. *hallii*	--/--/ 1B.3	Broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. ~2,400–7,200 feet. Subshrub.	Moderate potential
little mousetail *Myosurus minimus* ssp. *apus*	--/--/ 3.1	Vernal pools, valley and foothill grassland. This subspecies has taxonomic problems; distinguishing between this and M. sessilis is difficult. Alkaline soils. ~65–2,100 feet. Annual herb.	None
Baja navarretia *Navarretia peninsularis*	--/--/ 1B.2	Lower montane coniferous forest, chaparral. Wet areas in open forest. ~4,920–7,960 feet. Annual herb	None
Chaparral nolina *Nolina cismontana*	--/--/ 1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. ~460–4,185 feet. Perennial herb to shrub.	Low potential
Dehesa nolina *Nolina interrata*	--/ SE / 1B.1	Chaparral. Typically on rocky hillsides or ravines on ultramafic soils (gabbro or metavolcanic). ~590–2,805 feet. Perennial herb to shrub.	None
Gander's ragwort *Packera ganderi*	--/ SR / 1B.2	Chaparral. Recently burned sites and gabbro outcrops. ~1,312–3,940 feet. Perennial herb.	None
San Bernardino blue grass *Poa atropurpurea*	FE /--/ 1B.2	Meadows and seeps. Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. ~4,465–8,055 feet. Perennial herb from rhizomes.	None
Nuttall's scrub oak *Quercus dumosa*	--/--/ 1B.1	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. ~50–1,312 feet. Shrub.	None
Moreno currant *Ribes canthariforme*	--/--/ 1B.3	Chaparral, riparian scrub. Among boulders in oak-manzanita thickets; shaded or partially shaded sites. ~1,115–3,940 feet. Shrub.	High potential adjacent to the Proposed Project
Cuyamaca raspberry *Rubus glaucifolius* var. *ganderi*	--/--/ 3.1	Lower montane coniferous forest. Open, moist forest; gabbro soils. ~3,940–5,495 feet. Shrub.	None

Common Name ***Scientific Name***	**Status Federal / State / CRPR**	**Habitat Associations**	**Likelihood to Occur in Proposed Project**
Munz's sage *Salvia munzii*	--/--/ 2B.2	Coastal scrub, chaparral. Rolling hills and slopes, in rocky soil. ~377–3,495 feet. Shrub.	Moderate potential
Southern mountains skullcap *Scutellaria bolanderi austromontana*	--/--/ 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. ~1,395–6,562 feet. Perennial herb or shrub	None
Desert spike-moss *Selaginella eremophila*	--/--/ 2B.2	Sonoran desert scrub, chaparral. Shaded sites, gravelly soils; crevices or among rocks. 656–2,953 feet. Fern, mat like.	None
Cove's cassia *Senna covesii*	--/--/ 2B.2	Sonoran desert scrub. Dry, sandy desert washes, slopes. 1,000–3,510 feet. Subshrub.	None
Hammitt's clay-cress *Sibaropsis hammittii*	--/--/ 1B.2	Valley and foothill grassland, chaparral. Mesic microsites in open areas on clay soils in Stipa grassland. Often surrounded by Adenostoma chaparral. 2,362–3,494 feet. Annual herb.	None
Salt Spring checkerbloom *Sidalcea neomexicana*	--/--/ 2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. ~0–5,020 feet. Perennial herb.	None
Prairie wedge grass *Sphenopholis obtusata*	--/--/ 2B.2	Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. ~985–6,562 feet. Perennial herb.	None
Purple stemodia *Stemodia durantifolia*	--/--/ 2B.1	Sonoran desert scrub. Sandy soils; mesic sites. ~590–985 feet. Perennial herb.	None
Laguna Mountains jewelflower *Streptanthus bernardinus*	--/--/ 4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or road cuts. ~4,593–8,202 feet. Perennial herb.	None
Southern jewelflower *Streptanthus campestris*	--/--/ 1B.3	Chaparral, lower montane coniferous forest, pinyon-juniper woodland. Open, rocky areas. ~2,953–7,546 feet. Perennial herb.	None
San Bernardino aster *Symphyotrichum defoliatum*	--/--/ 1B.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. ~7–6,693 feet. Perennial herb.	None
Parry's tetracoccus *Tetracoccus dioicus*	--/--/ 1B.2	Chaparral, coastal scrub. Stony, decomposed gabbro soil. ~541–3,280 feet. Shrub.	Moderate potential

Common Name *Scientific Name*	Status Federal / State / CRPR	Habitat Associations	Likelihood to Occur in Proposed Project
Velvety false lupine *Thermopsis californica* var. *semota*	--/--/ 1B.2	Lower montane coniferous forest, meadows and seeps, cismontane woodland, valley and foothill grassland. Pine forests and meadow edges, on rocky slopes and outcrops, and along roadsides. ~3,280–6,135 feet. Perennial herb from rhizome.	None

Status Codes:
-- = No status
Federal: FE = Federal Endangered; FT = Federal Threatened;
State: SE = State Endangered; ST = State Threatened; SC = State Candidate; SR = State Rare
California Rare Plant Ranks:
1B = Rare, Threatened or Endangered in California and elsewhere
2 = Rare, Threatened or Endangered in California, but more common elsewhere
3 = Plants about which we need more information – a review list
4 = Plants of limited distribution - a watch list
.1 = seriously threatened in California
.2 = fairly threatened in California
.3 = not very threatened in California

Jacumba Milk-Vetch

Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*) occurs in chaparral, cismontane woodland, valley and foothill grassland, pinyon and juniper woodland, and riparian scrub. It is often associated with stony hillsides and gravelly or sandy flats in open oak woodland from approximately 2,950–4,170 feet. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat for this species, and the species has moderate potential to occur.

San Diego Milk-Vetch

San Diego milk-vetch (*Astragalus oocarpus*) occurs in chaparral and cismontane woodland. It is often associated with openings in chaparral or on gravelly flats and slopes in thin oak woodland from approximately 1,000–5,000 feet. Rare plants surveys have not detected this species. There is suitable habitat for this species at the Proposed Project, and this species has a high potential to occur.

Long-Spined Spineflower

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) occurs in chaparral, coastal scrub, meadows/seeps, valley and foothill grassland, and vernal pools. It is often associated with clay soil from approximately 100–5,020 feet. Rare plants surveys have not detected this species. There is marginally suitable habitat for this species at the Proposed Project and the species has low potential to occur.

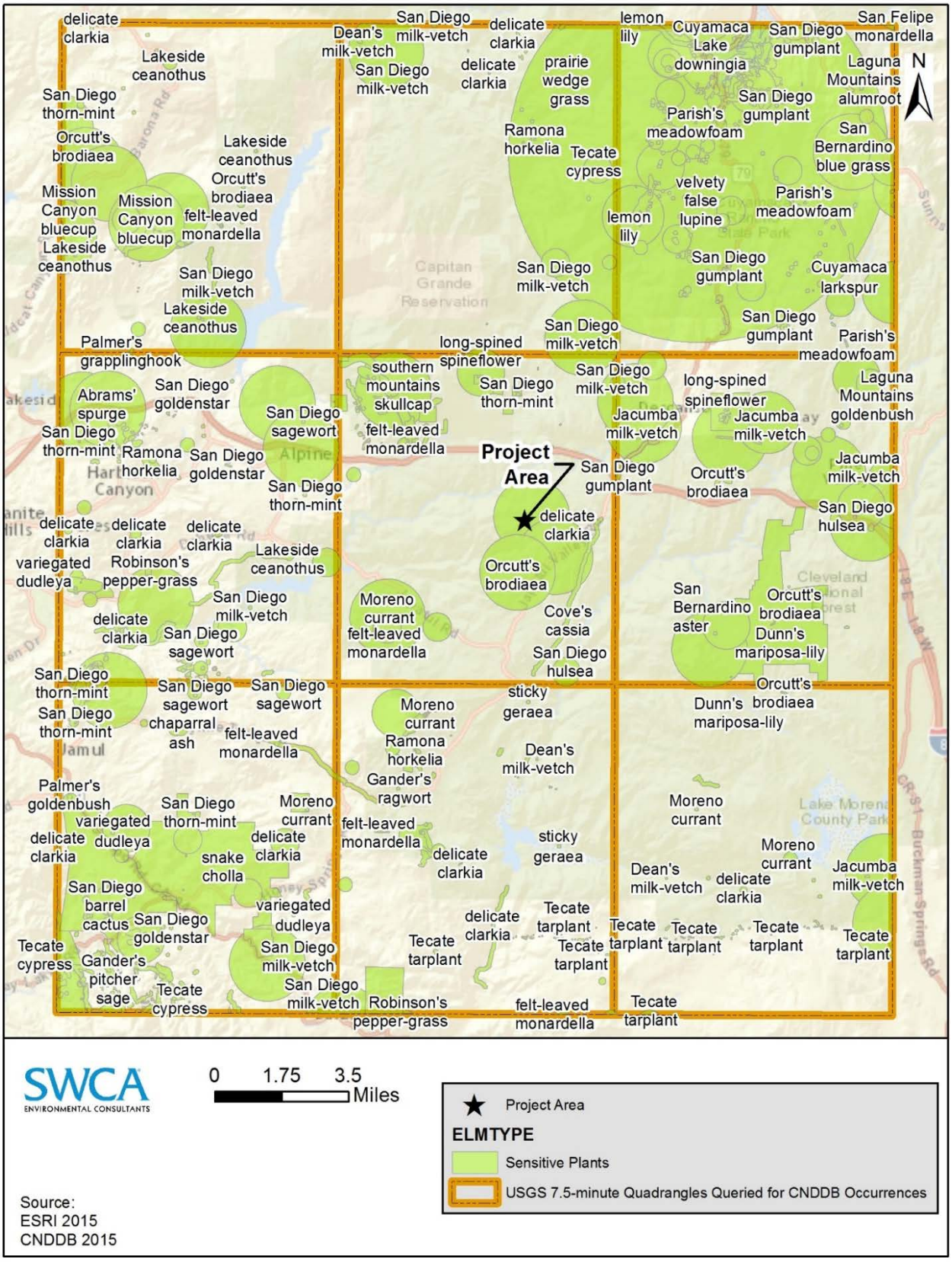
Delicate Clarkia

Delicate clarkia (*Clarkia delicata*) occurs in cismontane woodland and chaparral. It is often associated with gabbro soil from approximately 770–3,280 feet. Rare plants surveys have not detected this species. Although Figure 7 shows a potential for delicate clarkia habitat, surveys indicate that there is marginally suitable habitat for this species at the Proposed Project; therefore, the species has low potential to occur.

Tecate Tarplant

Tecate tarplant (*Deinandra floribunda*) occurs in chaparral and coastal scrub from approximately 230–4,000 feet. Although rare plants surveys have not detected this species, there is suitable habitat for this species at the Proposed Project, and the species has moderate potential to occur.

Figure 7. CNDDB Records of Sensitive Plants in the Proposed Project Vicinity



San Diego Gumplant

San Diego gumplant (*Grindelia hallii*) occurs in chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland from approximately 600–5,725 feet. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat present. This species has moderate potential to occur at the Proposed Project.

Felt-leaved Monardella

Felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*) occurs in chaparral and cismontane woodland. It is often associated with sandy soil in the understory of mixed chaparral, chamise chaparral, and southern oak woodland from approximately 985–5,167 feet. Rare plant surveys conducted in 2010 detected this species at the Proposed Project prior to the construction of the Sunrise Powerlink transmission line and Suncrest Substation (Recon Environmental, Inc. 2010b). Rare plant surveys conducted on June 25, 2015, detected a single population of approximately 25 felt-leaved monardella plants adjacent to Bell Bluff Truck Trail in an area outside of the Proposed Project footprint. Figure 8 shows the locations of the historical and observed monardella plants. There is suitable habitat for this species at the Proposed Project, and this species has been determined to be present adjacent to the Proposed Project.

Hall's Monardella

Hall's monardella (*Monardella macrantha* ssp. *hallii*) occurs in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from approximately 2,400–7,200 feet. Although rare plants surveys have not detected this species, there is suitable habitat for this species at the Proposed Project, and the species has moderate potential to occur.

Chaparral Nolina

Chaparral nolina (*Nolina cismontana*) occurs in chaparral and coastal scrub. It is often associated with sandstone and shale substrates and gabbro soil from approximately 460–4,200 feet. Rare plants surveys have not detected this species. There is marginally suitable habitat for this species at the Proposed Project, and the species has low potential to occur.

Moreno Currant

Moreno currant (*Ribes canthariforme*) occurs in chaparral and riparian scrub. It is often found among boulders in oak-manzanita thickets or in shaded or partially shaded sites from approximately 1,100–4,000 feet. Rare plants surveys have not detected this species. There is suitable habitat for this species adjacent to the Proposed Project, and this species has a high potential to occur on the north-facing slopes along Bell Bluff Truck Trail.

Munz's Sage

Munz's sage (*Salvia munzii*) occurs in chaparral and coastal scrub from approximately 370–3,500 feet. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat. This species has moderate potential to occur.

Parry's Tetracoccus

Parry's tetracoccus (*Tetracoccus dioicus*) occurs in chaparral and coastal scrub from approximately 540–3,280 feet. Although rare plants surveys have not detected this species at the Proposed Project, there is suitable habitat. This species has moderate potential to occur at the Proposed Project.

Figure 8. Felt-leaved Monardella Populations in the Proposed Project Vicinity

4.4.2.2 SPECIAL-STATUS ANIMALS

Based on the literature and database search, a total of 35 special-status animals were determined to have recorded occurrences in the area around the Proposed Project, specifically within one or more of the nine USGS 7.5-minute topographic quadrangles surrounding the Proposed Project (Figure 9). These included five invertebrates, three amphibians, eight reptiles, nine birds, and 10 mammals. Each of these species was evaluated for its potential to occur at the Proposed Project (Table 3).

Table 3. Sensitive Wildlife Species Potential for Occurrence at the Proposed Project

Common Name *Scientific Name*	Status Federal/State	Habitat Associations	Likelihood of Occurrence
Invertebrates			
Quino checkerspot butterfly *Euphydras editha quino*	FE/--	Chaparral, coastal scrub. Dependent on high densities of food plants, including selected *Plantago* spp., *Castilleja exserta*, *Cordylanthus rigidus*, *Antirrhinum coulterianum*, and *Collinsia concolor*. Occurs in sunny openings.	None. Concentrations of food plants are lacking; surveys in 2010 were negative (Chambers Group, Inc. 2010).
Thorne's hairstreak *Caliphrys thornei*	--/--	Only occurs in association with tecate cypress (*Cupressus forbesii*).	None. No tecate cypress are present.
Harmonious halictid bee *Halictus harmonius*	--/--	Known only from the foothills of the San Bernardino Mts., possibly also the San Jacinto Mts.	None
Hermes copper butterfly *Lycaena hermes*	FC/--	Chaparral, coastal scrub. Dependent on spiny redberry (*Rhamnus crocea*), which is common in cismontane California coastal sage scrub and chaparral vegetation communities.	Moderate potential
Peak shoulderband *Helminthoglypta milleri*	--/--	This species is known only from the type locality at Cuyamaca Peak in San Diego County, which was located in chaparral habitat.	None
Amphibians			
Arroyo toad *Anaxyrus californicus*	FE/CSC	Inhabits washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks, cottonwoods. Extremely specialized habitat needs, including exposed sandy streamsides with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding. Sea level to 3,000 ft. (900 m.)	None
Western spadefoot *Spea hammondii*	--/CSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools, and wetlands. Requires vernal pools for breeding.	None

Common Name ***Scientific Name***	**Status Federal/State**	**Habitat Associations**	**Likelihood of Occurrence**
Coast range newt *Taricha torosa*	--/CSC	Occurs in coastal drainages from Mendocino County to San Diego County. Requires still or slow-moving water for breeding.	None
Reptiles			
Orange-throated whiptail *Aspidocelis hyperythrya*	--/CSC	Occurs in chaparral, cismontane woodland, and coastal scrub habitats. Generally prefers washes and sandy areas.	Moderate potential
Red-diamond rattlesnake *Crotalus ruber*	--/CSC	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	High potential
Coast horned lizard *Phrynosoma blainvillii*	--/CSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial and abundant supply of ants and other insects. Found at elevations from sea level to 8,000 ft.	High potential
Western pond turtle *Emys marmorata*	--/CSC	Flowing waters with basking sites, generally with aquatic vegetation.	None
California mountain kingsnake (San Diego population) *Lampropeltis zonata* (*pulchra*)	--/CSC	Chaparral, cismontane woodland, meadows and seeps, riparian forest, riparian woodland, upper montane coniferous forest, wetlands. Restricted to the San Gabriel and San Jacinto Mts.	None
Coronado Island skink *Plestiodon skiltonianus interparietalis*	--/CSC	Grassland, chaparral, pinyon-juniper & juniper sage woodland, pine-oak & pine forests in Coast Ranges of Southern California. Prefers early successional stages or open areas. Found in rocky areas close to streams and on dry hillsides. From sea level up to around 8,300 ft.	Moderate potential
Coast patch-nosed snake *Salvadora hexalepis virgultea*	--/CSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites. Occurs at elevations from below sea level to around 7,000 ft.	Moderate potential
Two-striped garter snake *Thamnophis hammondii*	--/CSC	Marsh and swamp, riparian scrub, riparian woodland, wetlands.	None
Birds			
Tricolored blackbird *Agelaius tricolor*	--/CE	Nests in dense vegetation near water, typically marshes, agricultural fields (e.g., rice, alfalfa), and riparian woodlands.	None

Common Name ***Scientific Name***	**Status Federal/State**	**Habitat Associations**	**Likelihood of Occurrence**
Golden eagle *Aquila chrysaetos*	BGEPA/FP	Grasslands, deserts, savannas, and early successional stages of forest and shrub habitats. Broad expanses of open country are required for foraging while nesting is primarily restricted to rugged mountainous areas with large trees or on cliffs.	Moderate potential for foraging; Low potential for breeding
Swainson's hawk *Buteo swainsoni*	--/CE	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or rows of trees.	Low potential during migration, none during breeding
Southwestern willow flycatcher *Empidonax traillii extimus*	FE/CE	Riparian woodlands with dense vegetation.	None
Coastal California gnatcatcher *Polioptila californica*	FT/--	Coastal sage scrub below 2,500 feet.	None
Least Bell's vireo *Vireo bellii pusillus*	FE/CE	Lowland riparian woodlands with dense vegetation.	None
Mammals			
Pallid bat *Antrozous pallidus*	--/CSC	Chaparral, coastal scrub, desert wash, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland	Low potential for foraging; Not Expected for roosting
Dulzura pocket mouse *Chaetodipus californicus femoralis*	--/CSC	Variety of habitats including coastal scrub, chaparral & grassland in San Diego Co. Tends to occur in grass-chaparral edges.	Moderate potential
Northwestern San Diego pocket mouse *Chaetodipus fallax*	--/CSC	Chaparral, coastal scrub, grasslands, sagebrush, and other habitats in western San Diego County, from sea level to 6,000 feet. Typically in areas with rocks or coarse gravel.	Low potential
Townsend's big-eared bat *Corynorhinus townsendii*	--/SC and CSC	Broadleaved upland forest, chaparral, chenopod scrub, Joshua tree woodland, lower montane coniferous forest, meadow and seep, Mojavean desert scrub, riparian forest, riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, upper montane coniferous forest, valley and foothill grassland	Low potential for foraging; Not Expected for roosting
Western mastiff bat *Eumops perotis californicus*	--/CSC	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland	Low potential for foraging; Not Expected for roosting
Western red bat *Lasiurus blossevillii*	--/CSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodlands. Strongly associated with riparian areas.	Low potential for foraging; Not Expected for roosting

Common Name *Scientific Name*	Status Federal/State	Habitat Associations	Likelihood of Occurrence
California leaf-nosed bat *Macrotus californicus*	--/CSC	Desert riparian scrub, Sonoran desert scrub. Day roosts in deep caves or tunnels, occasionally in buildings or bridges, where humidity is at least 50 percent. In California, occurs at elevations up to 600 feet.	None
San Diego desert woodrat *Neotoma lepida intermedia*	--/CSC	Coastal scrub with moderate to dense canopies.	High potential
Pocketed free-tailed bat *Nyctinomops femorosaccus*	--/CSC	Joshua tree woodland, pinyon and juniper woodlands, riparian scrub, Sonoran desert scrub	Low potential for foraging; Not Expected for roosting
American badger *Taxidea taxus*	--/CSC	Occurs at low density in many natural and agricultural habitats where soils are friable for digging; in forested areas requires openings or meadows.	Low potential

Status Codes:
-- = No status
Federal: FE = Federal Endangered; FT = Federal Threatened; MBTA = Protected by Migratory Bird Treaty Act; BGEPA = Bald and Golden Eagle Protection Act.
State: SE = State Endangered; ST = State Threatened; SC = State Candidate; CSC = California Species of Special Concern; FP = Fully Protected.

Based on an assessment of the habitat requirements of the sensitive species with recorded occurrences in the larger vicinity, a total of 17 sensitive animals were determined to have the potential to be present at the Proposed Project. These included one invertebrate, five reptiles, two birds, and nine mammals. Each of these species is discussed individually below.

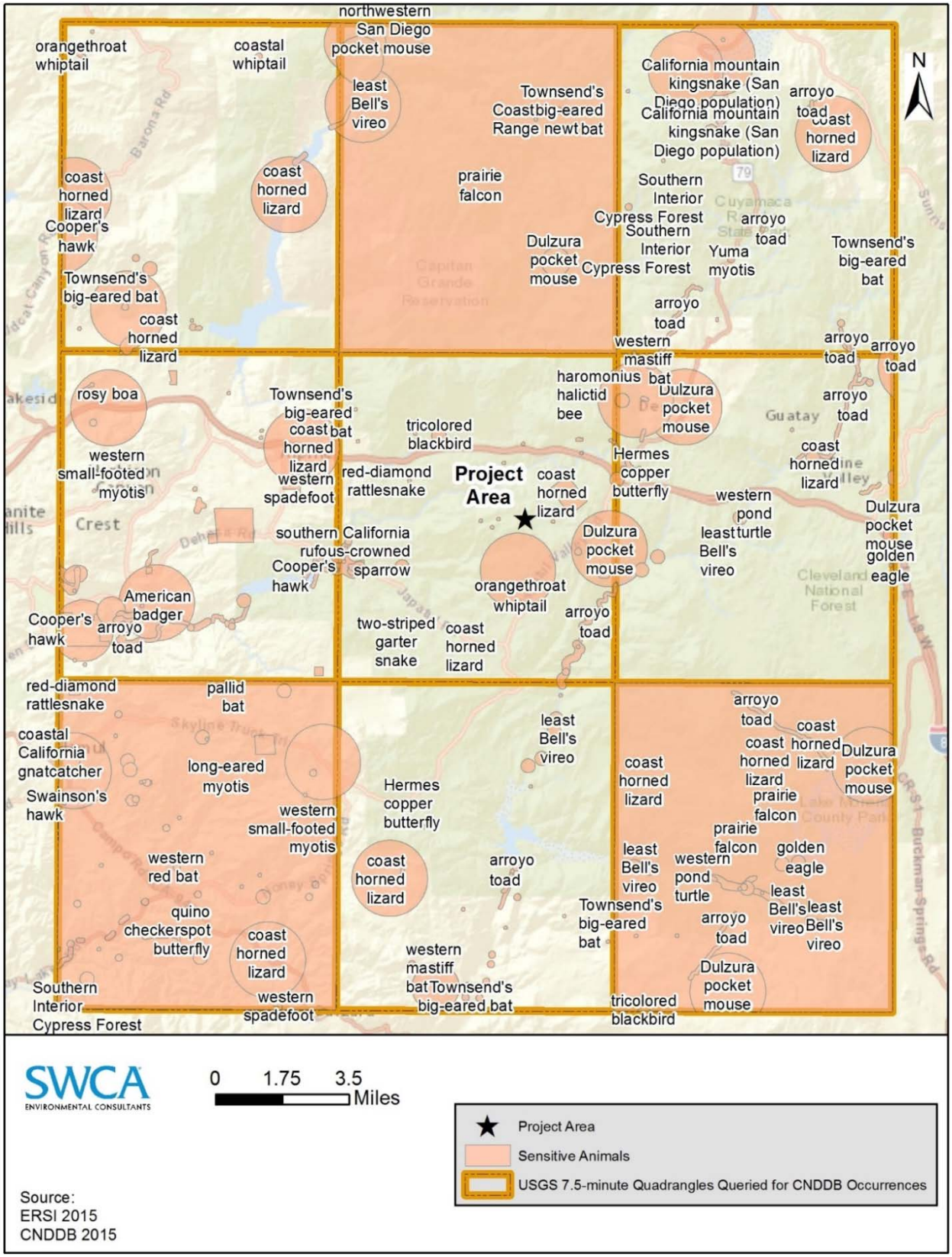
No special-status wildlife species were positively identified during biological surveys conducted in 2014 or 2015. However, there are CNDDB records of red-diamond rattlesnake (*Crotalus ruber*) at the Proposed Project. In addition, woodrat houses were observed approximately 820 feet north of Bell Bluff Truck Trail (well outside the area that may be directly impacted by the Proposed Project), which could belong to either the special-status San Diego desert woodrat (*Neotoma lepida intermedia*) or the dusky-footed woodrat (*Neotoma fuscipes*), which does not have any special status; these are discussed below.

Invertebrates

Hermes Copper Butterfly

Hermes copper butterfly (*Lycaena hermes*) occurs in chaparral and coastal scrub. Larvae are dependent on spiny redberry (*Rhamnus crocea*), a plant species common in cismontane California coastal sage scrub and chaparral vegetation communities, and which is present at the Proposed Project. The historical range of Hermes copper butterfly is limited to San Diego County, California, south to Santo Tomas, in Baja California Norte, Mexico. Today, the butterfly is known to occur primarily in the southwest portion of San Diego County. The CNDDB includes records of reports adults and juveniles within two miles of the Proposed Project from 2008. Although biological surveys have not detected this species, the Proposed Project provides suitable habitat for this species, and the species has moderate potential to occur at the Proposed Project.

Figure 9. CNDDB Records of Sensitive Animals in the Proposed Project Vicinity



Reptiles and Amphibians

Orange-throated Whiptail

The orange-throated whiptail (*Aspidocelis hyperythra*) occurs in coastal scrub, chamise chaparral, mixed chaparral, and valley-foothill hardwood habitats, usually where there is sandy soil, at elevations up to 3,400 feet. This species' U.S. range includes western San Diego and Riverside Counties, and southern Orange County. Most of the range is in Mexico, extending along the entire Baja California peninsula. The orange-throated whiptail is very active, preying on a wide range of invertebrates, especially termites. The Proposed Project provides suitable habitat for this species, although it has not been observed to date. This species has moderate potential to occur at the Proposed Project.

Red-diamond Rattlesnake

The red-diamond rattlesnake (*Crotalus ruber*) inhabits open scrub, chaparral, woodland, and grassland vegetation types. This species ranges from approximately Orange and San Bernardino Counties south to Baja California, Mexico, at elevations from sea level to about 5,000 feet. Multiple CNDDB records of red-diamond rattlesnake indicate this species is present in the vicinity of the Proposed Project. The project site provides potentially suitable habitat for the red-diamond snake and this species has a high potential to occur.

Coast Horned Lizard

The coast (San Diego) horned lizard (*Phrynosoma blainvillii*) occurs in open or sparse scrub and chaparral communities and prefers loose soils for burrowing at elevations from sea level to approximately 8,000 feet. It forages mainly on native ant species, and has declined, at least in part, because of introduction of non-native ants, competition from which has resulted in declines in native ant populations. Collecting, development, and off-road vehicle use have also contributed to this species' decline. Multiple CNDDB records of coast horned lizard are present for the past 2 decades with the most recent observation being closest to the Proposed Project, approximately 1.5 miles to the north. Suitable habitat occurs at the Proposed Project, and this species has a high potential to occur.

Coronado Island Skink

The Coronado Island skink (*Plestiodon skiltonianus interparietalis*) inhabits grassland, chaparral, pinyon-juniper and juniper sage woodland, pine-oak, and pine forests in the Coast Ranges of Southern California. This species prefers early successional stages or open areas. It is commonly found in rocky areas close to streams and on dry hillsides from sea level up to approximately 8,300 feet. A single CNDDB record from 1995-1999 data describes an occurrence of this species 3 miles south of the Proposed Project. The Proposed Project provides potentially suitable habitat for the Coronado Island skink and it has a moderate potential to occur at the Proposed Project.

Coast Patch-Nosed Snake

The coast patch-nosed snake (*Salvadora hexalepis virgultea*) inhabits open sandy areas and rocky outcrops in scrub, chaparral, grassland, and woodland vegetation types from sea level to about 7,000 feet. This species ranges along the coast of California from San Luis Obispo County south into Baja California, Mexico. A single CNDDB record from 1996 describes an occurrence of this species 4 miles west of the Proposed Project at Loveland Reservoir. The Proposed Project provides a limited amount of potentially suitable habitat for the coast patch-nosed snake and it has a moderate potential to occur at the Proposed Project.

Birds

Golden Eagle

Golden eagles (*Aquila chrysaetos*) occur throughout California in a variety of habitats including grasslands, open scrublands, and woodlands. This species typically nests on cliff faces or in large trees or tall artificial structures such as electrical transmission towers. High-quality nest sites with appropriate temperature regimes and winds to provide lift are often a limited resource. Golden eagles are highly site faithful, and typically maintain one or more nests within a territory, often switching between nests from year to year. Active and inactive nests can persist for many years, even decades. Golden eagles typically prey on small to mid-sized mammals, birds, and reptiles. eBird records have documented this species in the area since 1982 and as recently as March 2015 approximately 4 miles northeast of Suncrest Substation. Suitable foraging habitat exists for this species throughout the undeveloped areas at the Proposed Project. No nesting habitat occurs within the Proposed Project. Focused surveys conducted in 2010 and 2011 identified occupied golden eagle nests located approximately 5 miles and approximately 15 miles from the Proposed Project (Wildlife Research Institute 2010, 2011). Another territory has been previously recorded with breeding activity within 1 mile of the Proposed Project, but the nests at the site are believed to have been destroyed at least 8 years ago in wildfires; no nests have been detected in recent surveys of the area despite focused effort (Wildlife Research Institute 2010, 2011).

If golden eagles were to construct a new nest at Bell Bluff, the most suitable sites would be ledges on north-facing rocky outcrops or cliffs. The most likely nest sites have been identified based on inspection of aerial imagery and topographic maps; all are more than 4,000 feet from the Proposed Project (Figure 10). Given that the Suncrest Substation was constructed in 2011 and 2012, vehicle traffic and human activity at the substation and along Bell Bluff Truck Trail are now increased due to security and maintenance needs associated with the substation. Therefore, any golden eagle nests constructed since the last survey would presumably be associated with golden eagles that are acclimated to the current level of normal activity in the area.

This species has a moderate potential to occur for foraging, and has a low potential to occur for nesting.

Swainson's hawk

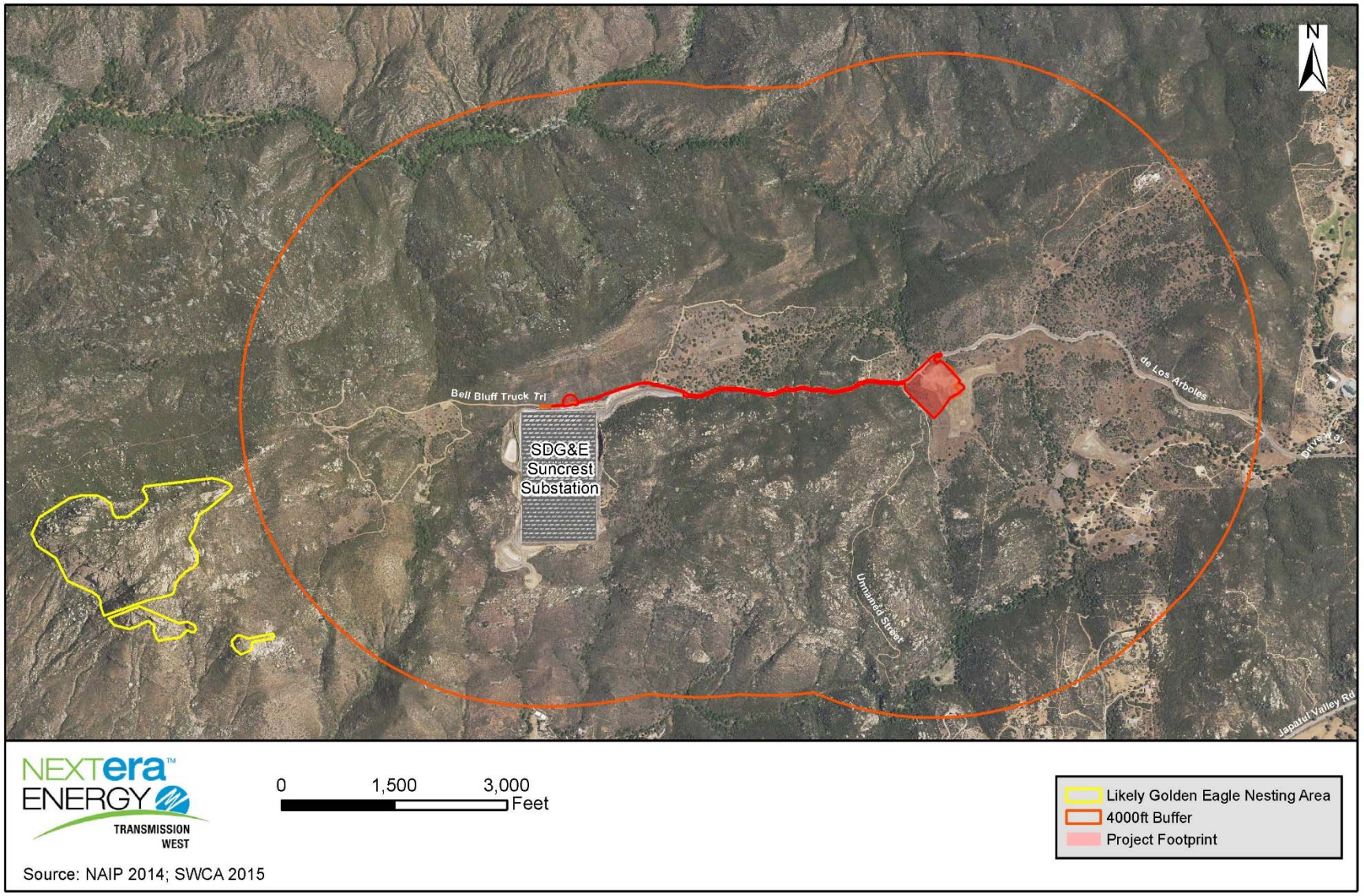
Swainson's hawk (*Buteo swainsoni*) breeds in a wide range of open habitats with low vegetation throughout the western U.S., including grasslands, riparian areas, savannahs, and agricultural and ranch lands. In California, Swainson's hawks breed primarily in the Central Valley, from Kern County northward, and no breeding has been recorded in San Diego County. Swainson's hawks migrate to South America for the winter season, and therefore migrants may occur transiently in many habitats in the western U.S. The Proposed Project is outside this species' nesting range, and it is not expected to occur. However, migratory individuals could occur at any location, and therefore there is low potential for migrating Swainson's hawks to occur at the Proposed Project.

Mammals

Pallid Bat

The pallid bat (*Antrozous pallidus*), a California Species of Special Concern (CSC), most commonly occurs in mixed oak and grassland habitats. This large bat roosts in rock crevices and in cavities of trees, especially oaks. This species occurs throughout California except for the high Sierra Nevada from Shasta to Kern Counties and in the northwestern portion of the state (Zeiner et al. 1990). Pallid bat is very sensitive to disturbance at its roosting sites. A single CDNNB record reports this species 2 miles northeast of the Proposed Project. The Proposed Project provides potentially suitable foraging habitat but no suitable roosting habitat for the pallid bat. Therefore, it may occur only on the project site for foraging but is not expected to roost at the Proposed Project.

Figure 10. Potential Golden Eagle Nesting Habitat



Dulzura Pocket Mouse

Dulzura pocket mouse (*Chaetodipus californicus femoralis*), a CSC, occurs in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County. This species is commonly attracted to grass-chaparral edges. During focused trapping surveys for Stephens' kangaroo rat (*Dipodomys stephensi*), Dulzura kangaroo rat was captured as close as 12 miles south of the Proposed Project (SJM 2010a, 2010b). The Proposed Project provides potentially suitable habitat for Dulzura kangaroo rat, and this species has a moderate potential to occur at the Proposed Project.

Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), a CSC, inhabits a variety of habitats with sandy areas with herbaceous vegetation and moderate canopy cover, at elevations up to 6,000 feet. Vegetation communities occupied include coastal scrub, chamise chaparral, mixed chaparral, sagebrush, pinyon-juniper woodlands, annual grasslands, and several desert habitat types. In San Diego County, this species is typically found in arid coastal and desert border areas. There is suitable habitat at the Proposed Project for the northwestern San Diego pocket mouse, and the species has a low potential to occur.

Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*), a CSC and candidate for CESA listing, occurs in a variety of habitats throughout California, but it is most commonly associated with desert scrub, mixed conifer forest, and pinyon-juniper or pine forest habitat. Townsend's big-eared bats hibernate throughout their range during winter months when cold temperatures prevail. Records of the species exist from throughout the state, but specific details on its distribution are poorly understood. Suitable foraging but no suitable roosting habitat for this species occurs throughout the Proposed Project. This species has a low potential to occur at the Proposed Project for foraging and is not expected for roosting.

Western Mastiff Bat

Western mastiff bat (*Eumops perotis californicus*), a CSC, is found in many open semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, desert scrub, and urban. The western mastiff bat is a very wide-ranging and high-flying insectivore that typically forages in open areas with high cliffs. This species roosts in small colonies in crevices on cliff faces. It occurs in the southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, and from the coast eastward to the Colorado Desert. Western mastiff bat has been detected as close as 10 miles south of the Proposed Project in Hauser Canyon (MSCP). The Proposed Project site provides potentially suitable foraging habitat, but no suitable roosting habitat for the western mastiff bat. The western mastiff bat has low potential to forage but is not expected to roost at the Proposed Project.

Western Red Bat

The western red bat (*Lasiurus blossevillii*), a CSC, occurs throughout most of the non-desert areas of California. It breeds primarily in association with riparian areas, especially in the Central Valley. This species roosts in trees, usually near suitable open foraging areas. The oak woodlands at the Proposed Project are suitable roosting and foraging habitat for this species, although the potential for occurrence is considered low due to the lack of riparian habitats.

San Diego Desert Woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia*), a CSC, occurs throughout coastal and desert areas of southern California. This species occurs in woodlands, chaparral, sagebrush, and desert habitats at elevations up to 8,500 feet. Houses are usually built against a rock crevice, at the base of a large plant, or in the lower branches of trees. The range of the dusky-footed woodrat, which is not a special-status species, also overlaps with the Proposed Project. Three woodrat houses, constructed of twigs and sticks, were observed in the oak woodlands approximately 820 feet north of Bell Bluff Truck Trail in May 2015. Both

species build these houses, and the species present therefore could not be identified with certainty. The Proposed Project provides suitable habitat for both woodrat species, and there is high potential for occurrence of the San Diego desert woodrat.

Pocketed Free-Tailed Bat

Pocketed free-tailed bat (*Nyctinomops femorosaccus*) occurs primarily in pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases. It primarily roosts in crevices in rugged cliffs, slopes, and tall rocky outcrops. This species is known to occur in areas with ponds, streams, or arid deserts that provide suitable foraging habitats for this species. This bat occurs in the southwestern U.S. to south-central Mexico. Pocketed free-tailed bat has been detected as close as 10 miles south of the Proposed Project in Hauser Canyon (MSCP). The project site provides limited potentially suitable foraging habitat, but no suitable roosting habitat for this species; therefore, pocketed free-tailed bat has low potential to occur for foraging but is not expected to roost at the Proposed Project.

American Badger

American badger (*Taxidea taxus*), a CDFW species of special concern, is found in open woodlands, desert scrub, grasslands, and open communities generally. Agricultural fields are also suitable, if there is a small mammal prey base. Badgers require friable soils for digging out their small mammal prey, and for constructing dens. This species is widespread but uncommon throughout North America. There is limited suitable habitat at the Proposed Project for American badger, and this species' potential for occurrence is low.

5 APPLICANT-PROPOSED MEASURES AND POTENTIAL IMPACTS

5.1 Significance Criteria

Appendix G of the State CEQA Guidelines provides thresholds to evaluate whether impacts are considered significant. Based upon these guidelines, impacts to biological resources would be considered significant if the project:

- Has 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;
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or USFWS;
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites; or
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

An evaluation of whether an impact to biological resources would be significant must consider both the resource itself and how that resource fits into a regional or local context. Significant impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with federal, state, or local resource conservation plans, goals, or regulations. The evaluation of impacts considers direct impacts, indirect impacts, and cumulative impacts, as well as temporary and permanent impacts.

5.2 Recommended Applicant-Proposed Measures

The following recommended applicant-proposed measures (APMs) will meet existing regulations and/or requirements or standard practices to avoid, minimize, or reduce potential less than significant impacts on biological resources (Table 4).

Table 4. Recommended Applicant Proposed Measures

APM No.	Description
	BIOLOGICAL RESOURCES
APM-BIO-0	**Worker Environmental Awareness Program.** Prior to construction, all NEET, contractor, and subcontractor Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the biological mitigation measures and to comply with the applicable environmental laws and regulations including appropriate wildlife avoidance and impact minimization procedures, the importance of these resources and the purpose and necessity of protecting them, and methods for protecting sensitive biological resources.
APM-BIO-1	**Biological Monitor.** A qualified biologist or environmental inspector who is familiar with the biological resources and issues at the Proposed Project will conduct monitoring during all construction-related ground disturbing activities that may impact sensitive biological resources, including but not necessarily limited to: initial clearing and vegetation removal; perimeter fence installation and excavation; and movement of construction equipment and other activities outside of fenced/paved areas within wildlife habitat. The biological monitor/environmental inspector will flag or otherwise clearly mark environmentally sensitive areas (ESAs) with appropriate buffers, within which construction is not allowed. The monitor/inspector will have the authority to stop work activities upon the discovery of sensitive biological resources, and allow construction to proceed after the identification and implementation of steps required to avoid or minimize impacts to sensitive resources.
APM-BIO-2	**Vehicle Use of Existing Roads.** Except when not feasible due to physical or safety constraints, all Project vehicle movement will be restricted to existing roads as a part of the project. When it is not feasible to keep vehicles on existing access roads or avoid construction of access driveways during the nesting, breeding, or migration season, the Project Sponsor will perform a site survey, or more as appropriate, in the area where the work is to occur. This survey will be performed to determine presence or absence of special-status nesting birds, or other special-status species in the work area Parking or driving on unpaved areas underneath oak trees will not be allowed in order to protect root structures. In addition, a 15-mile-per-hour speed limit will be observed on dirt access roads to reduce dust and allow reptiles and small mammals to disperse.
APM-BIO-3	**Debris and Litter Removal.** Littering will not be allowed in the project area. Project personnel will deposit all debris and litter into covered garbage containers which will be disposed of when full. Garbage containers will not be allowed to overflow and lids will be secured to prevent wildlife from removing garbage from containers. No food or waste will be left on the ground in the project area, and no biodegradable or non-biodegradable debris will remain in the right-of-way following completion of construction.

Table 4. Recommended Applicant Proposed Measures

APM No.	Description
APM-BIO-4	**Delineating Sensitive Plant Populations.** The Proposed Project does not directly impact any sensitive plant populations, although felt-leaved monardella has been observed immediately adjacent to the Proposed Project. To ensure proper protection of these plants on or near the project alignment, a qualified botanist will flag plant populations to be protected and avoided prior to project implementation. The flagging will remain in place until work has ceased and the potential for impacts to the populations has abated. Flagging and demarcation will be updated as necessary. The botanist will also map populations using GPS/GNSS to update project designs for avoidance in the field. If any sensitive plants are encountered during construction, buffers will be established for avoidance. A minimum of 50 feet buffer from an identified special status plant species will be established unless consultation with a qualified biologist determines a reduced buffer would suffice to avoid impacts to the species. If plants cannot be avoided, seed will be collected and used during revegetation efforts following construction.
APM-BIO-5	**Vegetation Trimming and Removal.** Vegetation trimming and removal will not be conducted during the bird breeding season (February through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the onsite biological resource monitor will ensure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, tree removal/trimming or brush clearing work would be avoided within a buffer determined by the onsite biologist. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance-level survey, soil in the vegetation trimming or removal area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present. Whenever feasible, trees in ESAs, such as areas of riparian or native scrub vegetation, will be scheduled for trimming during non-sensitive (i.e., outside breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, the Project Sponsor will perform a site survey, or more as appropriate, to determine presence or absence of nesting bird species in riparian or native scrub vegetation. Only the minimum amount of vegetation necessary for the construction of structures and facilities will be removed. **Nesting Bird Buffers and Management Plan.** If active nests of non-special status species birds or common raptors are found, a suitable buffer shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g. the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of a qualified biologist. If bird nesting is initiated during active construction, the birds will be assumed acclimated to the disturbance and no buffer will be applied; however, direct impacts to active nests will be avoided. Prior to construction, the Project Sponsor shall prepare a Nesting Bird Management Plan. The plan shall include at a minimum: the types of birds that may occur in the Project area; the proposed management strategy for nesting birds; the proposed buffer distances for nesting birds; monitoring, field survey requirements and reporting standards; and nest deterrence strategies.
APM-BIO-6	**Harming or Feeding Wildlife.** No wildlife, including rattlesnakes, will be harmed except to protect life and limb. Firearms and pets will be prohibited in all Project areas. In addition, feeding of wildlife will not be allowed. This includes keeping trash bins covered and secured at all times until the trash bins are removed from the Project site.
APM-BIO-7	**Inspect Excavations for Trapped Wildlife.** All steep-walled trenches or excavations used during construction will be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in a trench or excavation, the onsite biological resource monitor will be contacted immediately to remove them if they cannot escape unimpeded. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency may be employed to remove the wildlife and transport them safely to other suitable habitats.

Table 4. Recommended Applicant Proposed Measures

APM No.	Description
	Steep-walled trenches and excavations will be fenced and/or covered at the end of each workday to the extent practicable, to prevent wildlife from becoming entrapped and for safety purposes. Alternatively, escape ramps will be installed in trenches or excavation to allow wildlife to exit on their own volition.
APM-BIO-8	**Emergency Repairs.** Emergency repairs may be required during the construction and maintenance of the project to address situations (e.g., slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs, APMs will be followed to the fullest extent practicable.
APM-BIO-9	**Structures Constructed to Minimize Impacts to Raptors.** Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc. 1981) to minimize impacts to raptors. The Project Sponsor will construct all aboveground power transmission lines to the Avian Power Line Interaction Committee (APLIC) Guidelines recommendations: Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, and Reducing Avian Collisions with Power Lines: State of the Art in 2012.
APM-BIO-10	**Restoration and Revegetation.** NEET West will develop a Restoration and Revegetation Plan to guide restoration activities on the Proposed Project that promotes locally appropriate native plant growth and eliminates non-native and invasive species. The Restoration Plan will identify measures and success criteria specific to each impacted plant community at the Project. The total area to be planted, and species composition, will be tailored for each impacted plant community based on existing standards and precedents. The Restoration Plan will identify success criteria for each habitat type and develop monitoring measures to ensure that success criteria will be met. Disturbed soils will be revegetated with an appropriate weed-free, native seed mix. All areas designated for temporary impacts will be revegetated with a seed blend that includes native grasses, forbs, and shrub species characteristic of the plant community receiving the temporary impact. Revegetation activities will be undertaken as soon as construction activities have been completed to minimize colonization by non-native weedy species and to ensure compliance with the Proposed Project's SWPPP. Herbicides, if required, will be applied using hand-held applicators for spot-treatment and will not be used within 100 feet of drainages or sensitive plant populations.
APM-BIO-11	**Night Lighting.** The Project Sponsor will minimize construction night lighting on adjacent habitats. Exterior lighting within the project area adjacent to habitat will be the lowest illumination allowed for human safety and security, selectively placed, shielded, and directed downward to the maximum extent practicable. Vehicle traffic associated with project activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species moving about.
APM-BIO-12	**Implementation of Best Management Practices.** The plans and specifications for the project will require the construction contractor to comply with the project's SWPPP and reduce the transport of fugitive dust particles related to construction activities through the use of soil stabilization, watering, or implementation of comparable measures. In addition, construction materials and stockpiled soils will be covered or treated in accordance with the SWPPP to ensure that they do not become a source of fugitive dust or sediment. Fugitive dust management areas, including stockpiled soils, will be inspected weekly by the on-site biologist to ensure that they are adequately managed to prevent the generation of fugitive dust. Erosion controls that comply with county, state, and federal standards will be applied, including the implementation of best management practices. Practices such as installation of silt fences, straw wattles, and check dams will be implemented near disturbed areas to minimize and control erosion and sedimentation. Erosion management areas will be inspected and maintained regularly in accordance with the project's SWPPP. To minimize potential impacts to the environment from accidental fuel spills, the plans and specifications for the project will specify that all refueling occur in a designated fueling area that includes a temporary berm to limit the spread of any spill; drip pans will be used during refueling

Table 4. Recommended Applicant Proposed Measures

APM No.	Description
	to contain accidental releases, and drip pans will be used under the fuel pump and valve mechanisms of any bulk fueling vehicles parked at the construction site; spills will be immediately addressed per the appropriate spill management plan, and soil cleanup and soil removal initiated if needed.
APM-BIO-13	**Preconstruction Sweeps for Biological Resources.** Prior to initial vegetation clearance, grubbing, and ground-disturbing activities, a qualified biologist will conduct preconstruction sweeps of the project site for special-status wildlife and plants. During these surveys, the biologist will: a) Ensure that potential habitats become inaccessible to wildlife (e.g., burrows are removed that would otherwise provide temporary refuge); and, b) In the event of an unanticipated discovery of a special-status ground-dwelling animal, a biologist holding the appropriate state and/or federal permits will recover and relocate the animal to adjacent suitable habitat within the project site at least 200 feet from the limits of grading. c) In the event of the discovery of a previously unknown special-status plant, the area will be marked as an ESA, and avoided to the maximum extent practicable. If avoidance is not possible, the Project Sponsor will consult with USFWS and/or CDFW as appropriate given the species' status.
APM-BIO-14	**Nesting Bird Surveys.** If construction is scheduled to commence during the non-nesting season (September 1 to January 31), no preconstruction surveys or additional measures with regard to nesting birds and other raptors are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site, and within a 150-foot buffer if access allows, for project activities that are initiated during the breeding season (February 1 to August 31). The survey for special-status raptors shall focus on potential nest sites on-site and within a 500-foot buffer around the site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. Active nests will be avoided and monitored, and the qualified biologists will have authority to stop-work should it be determined that a nest is being impacted by project activity.
APM-BIO-15	**Dead or Injured Special-Status Wildlife**. If any dead or injured special-status wildlife and birds protected by the MBTA that are discovered at the Proposed Project during construction, the Project Sponsor will stop work in the immediate vicinity. The Project Sponsor will notify the CPUC, the on-call biologist, and the appropriate resource agency (USFWS and/or CDFW) before construction is allowed to resume.

5.3 Potential Impacts

Potential project impacts on biological resources were evaluated against the CEQA significance criteria and are discussed in further detail in the following paragraphs. Table 1 outlines the impacted acreages of vegetation communities anticipated by the implementation of the Proposed Project.

The impact analysis includes both temporary and permanent impacts associated with Proposed Project construction. Permanent impacts associated with Proposed Project construction will include the following components:

- A new 300-megavar (Mvar) SVC facility and two new access driveways (20 feet by 95 feet), which will disturb approximately 6 acres;

- An underground 230 kV single-circuit electric transmission line which will be constructed under the existing Bell Bluff Truck Trail roadway (approximately 1 mile);
- A riser pole with an overhead interconnection transmission span between the underground transmission line and the Suncrest Substation (approximately 300 feet); and,
- Up to five underground splice vaults located within the curb line of Bell Bluff Truck Trail. Each vault will be approximately 30 feet long by 7 feet wide by 8 feet deep.

Temporary and short-term impacts associated with project construction will include the following components:

- Temporary work areas needed to facilitate installation of the underground transmission line and underground splice vaults; and,
- The construction footprint surrounding the permanent fenced SVC facility and staging area.

5.3.1 Impacts to Sensitive Species

5.3.1.1 SENSITIVE PLANTS

Three special-status plants have high potential to occur in the Proposed Project: San Diego milk-vetch (CRPR 1B.2), felt-leaved monardella (CRPR 1B.2), and Moreno current (CRPR 1B.3). Six special-status plants have moderate potential to occur in the Proposed Project: Jacumba milk-vetch (CRPR 1B.2), Tecate tarplant (CRPR 1B.2), San Diego gumplant (CRPR 1B.2), Hall's monardella (CRPR 1B.3), Munz's sage (CRPR 2B.2), and Parry's tetracoccus (CRPR 1B.2). Three special-status plant species have low potential to occur in the Proposed Project: long-spined spineflower (CRPR 1B.2), delicate clarkia (CRPR 1B.2), and chaparral nolina (CRPR 1B.2).

To date, no special-status plants have been observed within the Proposed Project during surveys conducted between February and June 2015. A CNPS listed 1B.2 plant population of felt-leaved monardella, a small herbaceous plant that blooms between June and August, has been previously recorded along Bell Bluff Truck Trail (adjacent to the Proposed Project). Additional surveys conducted in June 2015 observed a single population of approximately 25 felt-leaved monardella plants. However, due to access restrictions on SDG&E property, the botanists were unable to survey more than 10 feet from the Bell Bluff Truck Trail, and therefore unable to confirm the full extent of this particular population.

The underground transmission line will primarily be installed within the paved roadbed of Bell Bluff Truck Trail. Work areas outside the roadbed have been designed to avoid any populations of felt-leaved monardella to the maximum extent practicable. Therefore, no impacts to this or any other sensitive plants are anticipated.

If the design of the underground transmission line changes and the loss of a population/stand of felt-leaved monardella is unavoidable, seed will be collected for use during restoration of temporary impact areas. Restoration of this sensitive plant will occur within the Proposed Project if possible. Plant establishment may be feasible for felt-leaved monardella because monardellas are normally easily propagated from seeds and other perennial monardella species have been successfully restored when they are restored to their native parent soil and are carefully maintained in nurseries (Fiedler and Howald 1991; Schmidt 1980). To ensure successful propagation of the species, the following measures will be implemented:

- Seeds of the felt-leaved monardella will be collected from the project impact area during the appropriate developmental stage of the plants (June to August primarily) and broadcast in areas to be restored.

- Some of the seeds will be stored/germinated and grown for seed production in a nursery familiar with growing native plants, such as Rancho Santa Ana Botanical Garden.

- A Sensitive Plant Mitigation and Monitoring Plan will be developed to provide for the long-term protection of felt-leaved monardella populations established within the Proposed Project. The plan shall define procedures and provide guaranteed funding for seed collection, transplanting, and monitoring and achieving success criteria. Annual monitoring will occur for a minimum of 5 years.

- Contingency measures will be included in the plan to ensure plant establishment and success.

In addition, impacts to special-status plants newly discovered prior to or during construction will be avoided and minimized by the implementation of APM BIO-5. Plants can be damaged or destroyed as a result of vegetation removal or trimming activities before construction, by project vehicles traveling on access roads, by staging project vehicles and equipment in work areas and pull sites, and/or by drilling and pouring of foundations for new tubular steel poles. Such impacts will be reduced and avoided by the avoiding special-status plants, by identifying any during preconstruction sweeps and flagging and avoiding them (APM BIO-13), as overseen by the biological monitor during construction (APM BIO-1), and through worker education and training (APM BIO-0).

Special-status plants also can be indirectly affected by soil compaction and the spread of nonnative invasive species from project vehicle and equipment travel and staging. These impacts will be avoided and minimized through worker awareness of the plants' locations (APMs BIO-0, BIO-1, and BIO-13). In addition, impacts to root systems of oak trees will be avoided by prohibiting parking underneath such trees (APM BIO-2).

Applicant-proposed measures that benefit both common and special-status plants include minimization of impacts to vegetation (APM BIO-10) and revegetation of temporary impact areas (APM BIO-12).

5.3.1.2 SPECIAL-STATUS ANIMALS

No special-status wildlife was recorded at the Proposed Project as a result of the directed surveys conducted in 2015. However, several special-status animals do have some potential to occur, and the red-diamond rattlesnake, a CSC, has been recorded close to the Proposed Project and has a high potential to occur. Two additional species have a high potential to occur at the Proposed Project: coast horned lizard and San Diego desert woodrat; both are CSCs. Six special-status animals have a moderate potential to occur: Hermes copper butterfly (federal candidate for ESA listing), orange-throated whiptail (CSC), Coronado Island skink (CSC), Coast patch-nosed snake (CSC), golden eagle when foraging (protected by BGEPA and State Fully Protected), and the Dulzura pocket mouse (CSC). Species with a low potential to occur at the Proposed Project include Swainson's hawk (State Endangered), pallid bat (CSC), northwestern San Diego pocket mouse (CSC), Townsend's big-eared bat (State Candidate and CSC), western mastiff bat (CSC), western red bat (CSC), pocketed free-tailed bat (CSC), and American badger (CSC).

Due to the lack of observations of special-status animals at the Proposed Project during surveys conducted in 2015, the limited number of special-status species that could occur, and the small footprint of the project in relation to local and global ranges and populations of these species, impacts to special-status animals are anticipated to be less than significant.

Permanent effects to these species, except for the bats, could include mortality from construction traffic, vegetation removal/clearing, and soil grading and contouring. These will be avoided through awareness and avoidance of the locations of special-status animals, should they occur (APMs BIO-0, BIO-1, BIO-13, BIO-5, and BIO-15). Avoiding these locations (APMs BIO-1, BIO-13, BIO-5, and BIO-14) will avoid impacts. In addition, vegetation removal will be minimized to further reduce the potential for impacts (APM BIO-10).

Temporary impacts could include harm or injury during construction resulting from vehicles, litter, wildlife feeding, domestic pets, entrapment in excavations, all of which will be avoided (APMs BIO-0, BIO-1, BIO-2, BIO-7, BIO-8, and BIO-15). Temporary effects also include ground disturbance and night lighting which may affect the species' daily activity patterns, which will be minimized by APM BIO-11. Fugitive dust could impact habitat quality; this will be minimized by APM BIO-12. Vegetation removal could provide increased opportunity for predation of special-status insects and small mammals; this will be minimized by APM BIO-10. No permanent effects are anticipated for bat species. Temporary effects include night lighting and vegetation removal which might affect foraging opportunities, these will be minimized by APMs BIO-5 and BIO-11.

Dulzura pocket mouse (a CSC) has moderate potential to occur in the Proposed Project. Permanent effects include loss of habitat, which will reduced by minimization of disturbance areas (APMs BIO-3 and BIO-5), site restoration (APM BIO-10). The chances of mortality from construction activity will be minimized by APMs BIO-0, BIO-1, BIO-2, BIO-8, BIO-13, and BIO-15. The effects of night lighting, which could affect the species' daily activity patterns will be minimized by implementation of APM BIO-11.

5.3.1.3 COMMON BIRDS

The Proposed Project region is known to support a variety of State or federally protected bird species and suitable habitat for many birds protected under the MBTA and California Fish and Game Code Section 3503. Golden eagle (protected by the Bald and Golden Eagle Protection Act, and Fully Protected by the State) may forage in the area, but is not expected to breed in the vicinity of the Proposed Project. Swainson's hawk (State Endangered) has a low potential to occur occasionally during migration, but the Proposed Project is outside the species' breeding and wintering ranges. The Proposed Project is anticipated to have impacts to nesting and breeding birds that are less than significant.

Golden eagles are known to occur in the region and have been observed foraging near the Proposed Project. These birds can have extremely large home ranges (i.e., over 160 square miles) and would be expected to prey on many of the small mammal species that occur in the vicinity of the Proposed Project. SWCA biologists did not identify golden eagles in the vicinity of the Proposed Project during surveys. The Proposed Project site does not support suitable nesting habitat for this species. Potential foraging habitat occurs throughout the Proposed Project, although foraging opportunities are limited at the substation expansion site and pole replacement area due to the proximity of development and human activity.

The project has the potential to permanently impact these species through loss of habitat. Permanent impacts will be decreased by minimizing vegetation disturbance during construction (APMs BIO-3 and BIO-5), and restoration (APM BIO-10). In addition, permanent electrocution and collision hazards that can be posed by transmission infrastructure will be minimized through design elements (APM BIO-9).

Temporary direct impacts to nesting birds include ground-disturbing activities associated with construction of the Proposed Project, including the dynamic reactive power support facility, construction of the tie-line, improvements of the access road, and other areas from vehicle traffic, increased noise levels from heavy equipment, increased human presence, nest destruction or removal during vegetation removal or trimming, and exposure to fugitive dust. Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. Adult birds can leave the Proposed Project to avoid

direct harm, but active nests could be impacted. Impacts to nests will be avoided and minimized by APMs BIO-0, BIO-1, BIO-2, BIO-5, BIO-14, and BIO-15.

5.3.2 Impacts to Riparian Habitats and Sensitive Natural Communities

To minimize environmental impacts, the proposed SVC has been sited in an area that was previously used as a staging area during construction of Sunrise Powerlink. The staging area, also called the Wilson Laydown Area, was highly disturbed and completely graded at that time. In addition to the recent grading of the Wilson Laydown Area, all of the lands south of the Bell Bluff Truck Trail, including the Wilson Laydown Area, have been subject to repeated disturbance dating back to at least 1994, prior to Sunrise Powerlink. Figure 2 depicts the extent of disturbance from a review of historic aerial photography.

The proposed SVC will impact up to 0.3 acre of previously-disturbed Engelmann Oak-Coast Live Oak/Poison Oak/Grass Association that is adjacent to the WLA and immediately adjacent to, and south of, Bell Bluff Truck Trail which was widened and paved as part of Sunrise Powerlink. This association is classified as a sensitive natural community. However, as stated earlier, the area where impacts are planned has been subject to occasional disturbance (mowing and disking) since at least 1994 and the understory at this location is not fully developed and not typical of this associated, more closely matching the neighboring California Buckwheat Association. Additionally with regard to mitigation for impacts, the Sunrise Powerlink Final EIR/EIS states on page E.4.2-5:

"Impacts to non-native vegetation, developed areas, and disturbed habitat would be adverse but less than significant (Class III), and no mitigation is required." (CPUC 2008)

As a result of this area's repeated disturbance, impacts to this vegetation community within the northeast portion of the SVC site will be less than significant.

Two streams that are potentially subject to CDFW jurisdiction are present on either side of Bell Bluff Truck Trail with culverts located under the road where the transmission line will be installed. It is anticipated that the underground transmission line will be installed underneath these culverts, with the culverts left in place and shored. However, in the unlikely event that blasting is required at the culvert location, temporary culvert removal may occur. Based on preliminary geotechnical analysis, localized, low-energy blasting may be required for transmission line and splice vault excavations on less than 10% of the transmission line. If culverts need to be temporarily removed, work would not take place within 48 hours of a forecasted rain event of 0.5 inches or greater, temporary piping would be maintained onsite as a backup precaution to maintain any unexpected flows, and no work would take place in the potentially jurisdictional features on either side of the road. Based on the current design, the connectivity of the waters conveyed by the culverts will remain unchanged during implementation of the Proposed Project and impacts will be less than significant.

5.3.3 Impacts to Federal Wetlands and Waters

The Proposed Project has been designed to completely avoid impacts to waterways and wetlands. There is one ephemeral stream that is likely USACE jurisdictional on the north side of Bell Bluff Truck Trail (Feature 3); the Proposed Project would avoid this area completely. Therefore, there will be no impact.

5.3.4 Impacts to Wildlife Movements and Migratory Corridors

The Proposed Project is located adjacent to existing roads and structures and outside of any established migratory corridors. Terrestrial animals, such as mule deer and coyote, may use the Proposed Project for local migratory activity. Temporary disturbance of any local migratory activity may occur during project

construction as a result of increased vehicular traffic, noise, and human presence. Permanent disturbance of local migratory activity will be limited to occasional operation and maintenance of the Proposed Project. Maintenance of the SVC facility will not go beyond what is already occurring to operate and maintain the nearby existing SDG&E Suncrest Substation. Therefore, the project will not interfere substantially with the movement of any native resident wildlife species, nor impede the use of any wildlife nursery sites. The project will not include any in-water construction and, therefore, will not interfere with the movement of migratory fish. Therefore, impacts are anticipated to be less than significant.

5.3.5 Conflicts with Local Policies or Ordinances

The San Diego County General Plan provides several policies related to preservation of habitat and resource protection. Applicable policies are provided below.

- **COS-2.1, Protection, Restoration and Enhancement:** Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.

- **COS-2.2, Habitat Protection through Site Design:** Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.

- **COS-1.9, Invasive Species:** Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.

- **COS-3.1, Wetland Protection:** Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.

- **COS-3.2, Minimize Impacts of Development:** Require development projects to:

    1) mitigate any unavoidable losses of wetlands, including its habitat functions and values; and,

    2) Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydro-modification, land and vegetation clearing, and the introduction of invasive species.

Environmental factors have been considered and incorporated into the siting and design of the Proposed Project. To avoid new resource impacts, The Proposed Project has been co-located in areas that have been subject to prior disturbance to the extent possible. In addition, the size of the SVC facility and associated access roads have been minimized to minimize loss of natural habitat, which will also be promoted by the implementation of APM BIO-10. Following construction, any temporary work areas will be returned to pre-construction conditions and native seed mixes appropriate for the site-specific project area will be utilized to revegetate disturbed areas and minimize the potential for invasive species (APM BIO-11). Impacts to wetlands, streams, lakes, and riparian areas have been completely avoided by project design.

Overall, implementation of the Proposed Project is anticipated to have no conflict with local policies or ordinances relating to biological resources, and therefore no impacts are anticipated.

5.3.6 Conflicts with an Approved Habitat Conservation Plan

There are no adopted plans applicable to the Proposed Project. The Proposed Project is located within the San Diego County MSCP area, but the MSCP has not been implemented for eastern San Diego County;

however is in the planning stages. No special-status species were observed in the Project Area during 2015 surveys, including MSCP-covered species. In addition, APMs would further reduce impacts to wildlife and their habitats. Therefore, no conflicts with the MSCP are anticipated.

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Appendix A.
Floral Compendium

Table A-1. Plant Compendium

Common Name	Scientific Name
Angiospermae – Flowering Plants	
Dicotyledones	
Adoxaceae – Muskroot Family	
blue elderberry	*Sambucus nigra*
Anacardiaceae – Sumac Family	
laurel sumac	*Malosma laurina*
skunkbush	*Rhus aromatica*
sugar bush	*Rhus ovata*
western poison oak	*Toxicodendron diversilobum*
Apiaceae – Carrot Family	
southern umbelwort	*Tauschia arguta*
Apocynaceae – Dogbane Family	
milkweed	*Asclepias fascicularis*
Indian milkweed	*Asclepias eriocarpa*
Asteraceae (Compositae) – Sunflower Family	
common yarrow	*Achillea millefolium*
common Fiddleneck	*Amsinckia intermedia*
California sagebrush	*Artemisia californica*
tarragon	*Artemisia dracunculus*
mule fat	*Baccharis salicifolia* ssp. *salicifolia*
clustered tarplant	*Deinandra fasciculata*
daisy sp.	*Erigeron* sp.
golden yarrow	*Eriophyllum confertifolium* var. *confertiflorum*
California matchweed	*Gutierrezia californica*
telegraphweed	*Heterotheca grandiflora*
smooth cat's ear**(moderate)	*Hypochaeris glabra*
Menzies' goldenbush	*Isocoma menziesii*
California goldfields	*Lasthenia californica*
prickly lettuce*	*Lactuca serriola*
scale-broom	*Lepidospartum squamatum*
pineapple weed*	*Matricaria discoidea*
California everlasting	*Pseudognaphalium californicum*
common dandelion*	*Taraxacum officinale*
Boraginaceae – Borage Family	
fiddleneck	*Amsinckia* sp.
prickly cryptantha	*Cryptantha muricata*
popcorn flower	*Cryptantha* sp.

Table A-1. Plant Compendium

Common Name	Scientific Name
distant phacelia	*Phacelia distans*
Caprifoliaceae – Honeysuckle Family	
Southern honeysuckle	*Lonicera subpspicata* var. *denudata*
Convolvulaceae – Morning-Glory Family	
dodder	*Cuscuta* sp.
Cucurbitaceae – Gourd Family	
wild cucumber	*Marah macrocarpus*
Ericaceae – Heath Family	
Bigberry manzanita	*Arctostaphylos glauca*
Euphorbiaceae – Spurge Family	
doveweed	*Eremocarpus setigerus*
Fabaceae (Leguminosae) – Legume Family	
deerweed	*Acmispon glaber [Lotus scoparius* var. *scoparius]*
lupine	*Lupinus* sp.
California burclover**(Limited)	*Medicago polymorpha*
annual yellow sweet clover*	*Melilotus indica*
rose clover*	*Trifolium hirtum*
Facaceae – Oak / Beech Family	
coast live oak	*Quercus agrifolia*
California scrub oak	*Quercus berberidifolia*
Muller's oak	*Quercus cornelius-mulleri*
Engelmann oak	*Quercus engelmannii*
Geraniaceae – Geranium Family	
red-stemmed filaree**(limited)	*Erodium cicutarium*
Grossulariaceae – Gooseberry Family	
currant	*Ribes* sp.
Lamiaceae (Labiatae) – Mint Family	
Felt-leaved monardella	*Monardella hypoleuca ssp. lanata*
white sage	*Salvia apiana*
Cleveland sage	*Salvia clevelandii*
chia	*Salvia columbariae*
black sage	*Salvia mellifera*
Danny's skullcap	*Scutellaria tuberosa*
mountain blue-curls	*Trichostema parishii*
Montiaceae – Montia Family	
Narrow-leaved miner's lettuce	*Claytonia parviflora* ssp. *parviflora*

Table A-1. Plant Compendium

Common Name	Scientific Name
Myrsinaceae – Myrsine Family	
scarlet pimpernel*	*Anagallis arensis*
Onagraceae – Evening Primrose Family	
California sun cup	*Camissoniopsis bistorta*
fireweed	*Epilobium angustifolium*
Orobanchaceae – Broomrape Family	
bristly birds beak	*Cordylanthus rigidus* ssp. *Setigerus*
Paeoniaceae – Peony Family	
California peony	*Paeonia californica*
Papaveraceae – Poppy Family	
California poppy	*Eschscholzia californica*
Plantaginaceae – Plantain Family	
purple Chinese houses	*Collinsia heterophylla*
Climbing penstemon	*Keckiella cordifolia*
Polemoniaceae – Phlox Family	
holly leaved pincushion plant	*Navarretia atractyloides*
Polygonaceae – Buckwheat Family	
California buckwheat	*Eriogonum fasciculatum*
California dock	*Rumex californicus*
Ranunculaceae – Buttercup Family	
foothill larkspur	*Delphinium hesperium* ssp. *hesperium*
Rhamnaceae – Buckthorn Family	
buck brush	*Ceanothus cuneatus var cuneatus*
chaparral whitethorn	*Ceanothus leucodermis*
spiny redberry	*Rhamnus crocea*
Rosaceae – Rose Family	
chamise	*Adenostoma fasciculatum*
Birch leaf mountain mahogany	*Cercocarpus betuloides var. betuloides*
toyon / Christmas berry	*Heteromeles arbutifolia*
Rubiaceae – Madder Family	
three petal beardstraw	*Galium trifidium* var. *pacificum*
Monocotyledones – Monocots	
Agavaceae – Century Plant Family	
small flowered soap root	*Chlorogalum parviflorum*
our Lord's candle	*Hesperoyucca whipplei* [*Yucca whipplei*]

Table A-1. Plant Compendium

Common Name	Scientific Name
Liliaceae – Lily Family	
splendid mariposa lily	*Calochortus splendens*
Poaceae [Gramineae] – Grass Family	
slender oat**(moderate)	*Avena barbata*
soft chess**(limited)	*Bromus hordeaceus*
red brome**(high)	*Bromus madritensis* ssp. *rubens*
cheatgrass**(high)	*Bromus tectorum*
littleseed canary grass*	*Phalaris minor*
nodding needle grass	*Stipa cernua*
Themidaceae – Brodiaea Family	
wild hyacinth	*dichelostemma capitatum*

*Introduced species
** Cal-IPC inventoried plant (risk)

Appendix B.
Faunal Compendium

Table B-1. Wildlife Compendium

Common Name	Scientific Name
Reptiles	
Phrynosomatidae	
side-blotched lizard	*Uta stanburiana*
Birds	
Odontophoridae	
mountain quail	*Oreortyx pictus*
Cathartidae	
turkey vulture	*Cathartes aura*
Accipitridae	
red-tailed hawk	*Buteo jamaicensis*
Columbidae	
mourning dove	*Zenaida macroura*
Trochilidae	
Anna's hummingbird	*Calypte anna*
Costa's hummingbird	*Calypte costae*
Picidae	
northern flicker	*Colaptes auratus*
Tyrannidae	
Say's phoebe	*Saynornis saya*
ash-throated flycatcher	*Myiarchus cinerascens*
western kingbird	*Tyrannus verticalis*
Corvidae	
western scrub-jay	*Aphelocoma californica*
common raven	*Corvus corax*
Hirundinidae	
cliff swallow	*Petrochelidon pyrrhonota*
Paridae	
oak titmouse	*Baelophus inornatus*
Aegithalidae	
bushtit	*Psaltriparus miniumus*
Troglodytidae	
house wren	*Troglodytes aedon*
Polioptilidae	
blue-gray gnatcatcher	*Polioptila caerulea*
Sylviidae	
wrentit	*Chamaea fasciata*

Table B-1. Wildlife Compendium

Common Name	Scientific Name
Turdidae	
western bluebird	*Sialia mexicana*
Mimidae	
California thrasher	*Toxostoma redivivum*
Sturnidae	
European starling*	*Sturnus vulgaris*
Ptilogonatidae	
Phainopepla	*Phainopepla nitens*
Emberizidae	
spotted towhee	*Pipilo maculatus*
black-chinned sparrow	*Spizella atrogularis*
lark sparrow	*Chondestes grammacus*
Cardinalidae	
black-headed grosbeak	*Pheucticus melanocephalus*
Icteridae	
red-winged blackbird	*Agelaius phoeniceus*
Fringillidae	
house finch	*Haemorhous mexicanus*
lesser goldfinch	*Spinus psaltria*
Mammals	
Sciuridae	
California ground squirrel	*Otospermophilus beecheyi*

*Introduced species

Appendix C.
Photo Documentation

PHOTO 1:

View of Engelmann Oak-Coast Live Oak/ Poison Oak/ Grass Association (*Quercus engelmannii-Quercus agrifolia/ Toxicodendron diversilobum*/ Grass Association) at the Proposed Project.

Photo taken on March 26, 2015.

PHOTO 2:

View of Chamise Chaparral (*Adenostoma fasciculatum* Alliance) at the Proposed Project.

Photo taken on March 26, 2015.

PHOTO 3:

View of California Buckwheat Scrub (*Eriogonum fasciculatum* Association) at the Proposed Project.

Photo taken on March 27, 2015.

PHOTO 4:

View of Bigberry Manzanita – Chamise Chaparral Association (*Arctostaphylos glauca – Adenostoma fasciculatum* Association) at the Proposed Project.

Photo taken on March 26, 2015.

PHOTO 5:

View of Non-native Grassland at the Proposed Project.

Photo taken on March 27, 2015.

PHOTO 6:

View of Developed area.

Photo taken on March 26, 2015.

PHOTO 7:

View of a typical drainage ditch.

Photo taken on March 27, 2015.

Appendix E:

Cultural Resources Technical Report

SUNCREST DYNAMIC REACTIVE POWER SUPPORT PROJECT CULTURAL RESOURCES TECHNICAL REPORT

August 2015

SUBMITTED TO

NextEra Energy Transmission, West LLC
700 Universe Boulevard
Juno Beach, Florida 33408

SUBMITTED BY

SWCA Environmental Consultants
60 Stone Pine Road, Suite 201
Half Moon Bay, California 94019

Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location. This document contains sensitive information regarding the nature and location of archaeological sites that should not be disclosed to the general public or unauthorized persons.

Information regarding the location, character, or ownership of a cultural resource is exempt from the Freedom of Information Act pursuant to 16 United States Code (U.S.C.) 470w-3 (National Historic Preservation Act) and 16 U.S.C. Section 470(h) (Archaeological Resources Protections Act).

For Public Distribution – Confidential Information Redacted

Suncrest Dynamic Reactive Power Support Project
Cultural Resources Technical Report
Alpine, San Diego County, California

Prepared for

NextEra Energy Resources, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Andy Flajole

Prepared by

Laura Hoffman, M.A., RPA,
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U.S. Geological Survey 7.5-Minute Quadrangle: Viejas Mountain, California

SWCA Project No. 32001
SWCA Cultural Resources Report No. 15-188

August 24, 2015

Keywords: CEQA; cultural resources survey; positive survey results; three isolated prehistoric artifacts; two isolated historical artifacts; six prehistoric archaeological sites; two built environment resources; ineligible; CA-SDI-19307; CA-SDI-20166; CA-SDI-20984; SUN-S-1004; SUN-S-1005; SUN-S-1012; SUN-BSO-1002/Bell Bluff Truck Trail; SUN-BSO-1011; Alpine; San Diego County; Viejas Mountain quadrangle; Section 34, Township 15 South, Range 3 East; Sections 3 and 4, Township 16 South, Range 3 East; San Bernardino Base and Meridian

EXECUTIVE SUMMARY

Purpose and Scope: NextEra Energy Transmission West, LLC (NEET West) retained SWCA Environmental Consultants (SWCA) to conduct a cultural resources study that includes a cultural resource records search and literature review, Native American coordination, a cultural resource survey, and preparation of a cultural resources technical report in support of the proposed Suncrest Dynamic Reactive Power (Static Var Compensator [SVC]) Support Project (Proposed Project) in an unincorporated area of San Diego County, California. This study is intended to identify and describe cultural resources that could be affected by ground-disturbing activities associated with the Proposed Project. This study was completed in compliance with and in satisfaction of the California Environmental Quality Act (CEQA). California Public Resources Code (PRC) Section 5024.1, California Code of Regulations (CCR) Title 14, Section 15064.5 of the State CEQA Guidelines, and PRC Sections 21083.2 and 21084.1 were also used as the basic guidelines for the cultural resources study (Governor's Office of Planning and Research 1998).

The Proposed Project is located in an unincorporated area of San Diego County, California, approximately 29 miles east of San Diego and 3.36 miles southeast of the community of Alpine. The Proposed Project consists of the SVC location, underground electrical transmission line (SVC tie-line), riser pole, and a 300-foot-long overhead transmission span connecting the SVC tie-line to the Suncrest Substation. Construction of the SVC will occur on an approximately 6-acre, privately owned parcel comprising the SVC facility, temporary laydown yard, stormwater drainage and conveyance system, and associated site improvements. Once complete, the SVC will be contained within a fenced area of up to approximately 112,000 square feet (2.58 acres). The approximately 1-mile-long 230-kilovolt (kV) SVC tie-line will be located on two privately owned parcels, one of which is owned by San Diego Gas and Electric (SDG&E). At the terminus of the SVC tie-line, a riser pole will connect an approximately 300-foot-long overhead span into the existing Suncrest Substation's 230 kV bus. Because the cultural resources study was conducted prior to finalization of project plans, SWCA surveyed a larger "Cultural Resources Survey Area" comprising approximately 65.2 acres that consisted of all land under consideration for the Proposed Project at the time of the survey; the 12.21-acre Proposed Project Area, which includes the entire Proposed Project Footprint, including temporary and permanent disturbance areas, is located entirely within the Cultural Resources Survey Area. This report documents the results of these efforts.

Dates of Investigation: SWCA requested a California Historical Resources Information System (CHRIS) records search of the Records Search Area, consisting of the Proposed Project Area plus approximately a 1-mile buffer, on February 13, 2015, from the South Coastal Information Center (SCIC), located at San Diego State University; SCIC provided the results to SWCA on February 18, 2015. On March 16, 2015, SWCA requested a search of the Sacred Lands Files (SLF) from the Native American Heritage Commission (NAHC) and received a response letter by fax on April 20, 2015. SWCA requested a supplemental SLF search from the NAHC on July 1, 2015, that covered an expanded area of interest in case of future changes to the Proposed Project, and received a response letter by email on August 18, 2015. NEET West initiated coordination with Native American groups on June 22, 2015. As of August 21, 2015, NEET West has received two responses—the first requesting a site visit and a copy of the cultural resources survey report when it is publicly available, and the second requesting to review the cultural resources technical report and recommending the Viejas Band of Kumeyaay Indians provide Native American monitoring for the Proposed Project. SWCA archaeologists conducted an intensive pedestrian survey of the Proposed Project Area on five occasions between February 24 and August 13, 2015. This report was completed in August 2015.

Summary of Findings: The SCIC records search identified 21 previously conducted cultural resources studies within the Records Search Area (approximately a 1-mile radius around the Proposed Project Area), five of which occurred within the Proposed Project Area. The SCIC records search also identified

21 previously recorded cultural resources within the Records Search Area. Of these, three prehistoric archaeological sites (CA-SDI-20166/P-37-031744, CA-SDI-19307/P-37-030375, and CA-SDI-20984/P-37-033363), all bedrock milling stations, are located in the Cultural Resources Survey Area. Archaeological site CA-SDI-20166 is located within the Proposed Project Area. SWCA revisited and updated all three previously recorded sites during the cultural resources survey. In addition, SWCA identified and recorded three prehistoric archaeological sites, two historic built environment resources, three prehistoric isolated artifacts, and two historic isolated artifacts within the Cultural Resources Survey Area. Of these, archaeological site SUN-S-1012, a prehistoric lithic scatter, and built environment SUN-BSO-1002, the historic Bell Bluff Truck Trail, are located in the Proposed Project Area.

Investigation Constraints: Most of the Cultural Resources Survey Area is covered in dense vegetation, and ground visibility is variable though generally very poor, ranging from less than 10 percent in undisturbed, highly vegetated areas to over 70 percent in disturbed areas that have been cleared of brush. However, visibility within the Proposed Project Area is generally good to excellent (over 70 percent), and no areas of poor visibility were located within the Proposed Project Area.

Conclusions: One previously recorded prehistoric archaeological site, CA-SDI-20166, and one newly identified prehistoric archaeological site, SUN-S-1012, are located within the Proposed Project Area. Site CA-SDI-20166 was previously found ineligible for listing on the California Register of Historical Resources (CRHR) by the California Public Utilities Commission (CPUC) and the Bureau of Land Management (Kyle and Williams 2013); SWCA finds the site remains ineligible and no further cultural resources work is recommended for this resource. SWCA finds site SUN-S-1012 ineligible for listing on the CRHR and no further cultural resources work is recommended for this resource. One newly identified built environment resource, SUN-BSO-1002, is located within the Proposed Project Area; SWCA finds SUN-BSO-1002 ineligible for listing on the CRHR and no further cultural resources work is recommended for this resource.

Archival research indicates that there is a moderate to high potential to encounter prehistoric resources in the Cultural Resources Survey Area, and ground visibility during the pedestrian survey was very poor in portions of the Cultural Resources Survey Area. However, visibility within the Proposed Project Area is generally good to excellent, and nearly all sediments within the Proposed Project Area have been highly disturbed from construction activities associated with the Sunrise Powerlink, including road construction, the use of the proposed SVC site as a materials storage and laydown area (Wilson Laydown Area), and habitat restoration efforts. Based on survey results and the highly disturbed context of sediments within the Proposed Project Area, it is unlikely that previously unidentified cultural resources, including intact buried archaeological deposits, occur within the Proposed Project Area.

The following applicant-proposed measures have been developed to ensure that significant impacts to cultural resources are avoided or reduced to less-than-significant during Proposed Project implementation: retain a qualified principal investigator to carry out all applicant-proposed measures related to archaeological and historical resources; conduct periodic spot-checking of construction activities by a qualified archaeological monitor; stop work within a 15-meter (m; 50-foot) radius if unanticipated cultural deposits or human remains are discovered and treat newly identified resources appropriately; and comply with existing regulations. The duration and timing of the monitoring shall be determined by the principal investigator in consultation with the CPUC. If, in consultation with the CPUC, the principal investigator determines that monitoring is no longer warranted, he or she may recommend that monitoring cease entirely. In addition, if, in consultation with the CPUC, the principal investigator determines that full-time monitoring is required, he or she may recommend continued monitoring of ground-disturbing activities.

Disposition of Data: The final cultural resources survey report and any subsequent related reports will be filed with NEET West, the CPUC, the SCIC, and SWCA's Half Moon Bay, California, office. All field

notes, photographs, and records related to the current study are on file at the SWCA Half Moon Bay office.

CONTENTS

Figures

Tables

Appendices

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1 INTRODUCTION

NextEra Energy Transmission West, LLC (NEET West) retained SWCA Environmental Consultants (SWCA) to conduct a cultural resources study that includes a cultural resource records search and literature review, Native American coordination, a cultural resource survey, and preparation of a cultural resources technical report in support of the Suncrest Dynamic Reactive Power (Static Var Compensator [SVC]) Support Project (Proposed Project) in an unincorporated area of San Diego County, California (Figures 1 and 2). The Proposed Project Area measures approximately 12.21 acres and consists of an approximately 6-acre SVC location on private land, which comprises the SVC facility, temporary laydown yard, and stormwater drainage and conveyance system; a 2.56-acre temporary staging area; plus approximately 3.6 acres located on both private and San Diego Gas and Electric (SDG&E) land consisting of the remaining project components, including the 1-mile 230-kilovolt (kV) SVC-Suncrest Substation single-circuit underground electrical transmission line (SVC tie-line), riser pole, and 300-foot-long overhead span that will connect into the existing Suncrest Substation.

Because the cultural resources study was conducted prior to finalization of project plans, SWCA surveyed a larger Cultural Resources Survey Area comprising approximately 65.2 acres, herein called the "Cultural Resources Survey Area" or "Survey Area," that consisted of all land under consideration for the Proposed Project at the time of the survey; the 12.21-acre Proposed Project Area is included in the Survey Area (Figures 3 and 4).

SWCA refers to several different areas associated with the Proposed Project, as defined below and shown on Figure 3:

- **Proposed Project Area:** An approximately 12.21-acre area comprising the entire Proposed Project Footprint, including temporary and permanent disturbance areas.

- **Cultural Resources Survey Area:** An approximately 65.2-acre area that was surveyed for cultural resources and encompasses the entire Proposed Project Area.

- **Records Search Area:** An approximately 1-mile radius around the Proposed Project Area for which a California Historical Resources Information System (CHRIS) records search was conducted.

This study was completed in compliance with and in satisfaction of the California Environmental Quality Act (CEQA). California Public Resources Code (PRC) Section 5024.1, California Code of Regulations (CCR) Title 14, Section 15064.5 of the State CEQA Guidelines, and PRC Sections 21083.2 and 21084.1 were also used as the basic guidelines for the cultural resources study (Governor's Office of Planning and Research 1998).

The format used in this report follows *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (California Office of Historic Preservation [OHP] 1990), and includes four appendices: Confidential Cultural Resources Survey Results Map (Appendix A), the South Coastal Information Center (SCIC) Records Search Results Letter (Appendix B), Native American Coordination Documentation (Appendix C), and California Department of Parks and Recreation (DPR) 523 Series Forms (Appendix D). Cultural Resource Project Manager Laura Hoffman, M.A., Registered Professional Archaeologist (RPA), managed the study, conducted the field survey, prepared all the figures, and coauthored the report. Architectural Historian Steven Treffers, M.A., coauthored the report. Principal Investigator Heather Gibson, Ph.D., RPA, reviewed this report for quality assurance and quality control. Principal Investigator John Dietler, Ph.D., RPA, conducted the field survey and provided quality assurance and quality control. Archaeologists Aaron Elzinga, M.A., RPA; Rebekka Knierim, B.A.; and Erica Nicolay, B.A., conducted the field survey. Technical Editor Jaimie Jones edited the report.

Figure 1. Project Vicinity Map

Figure 2. Project Location Map

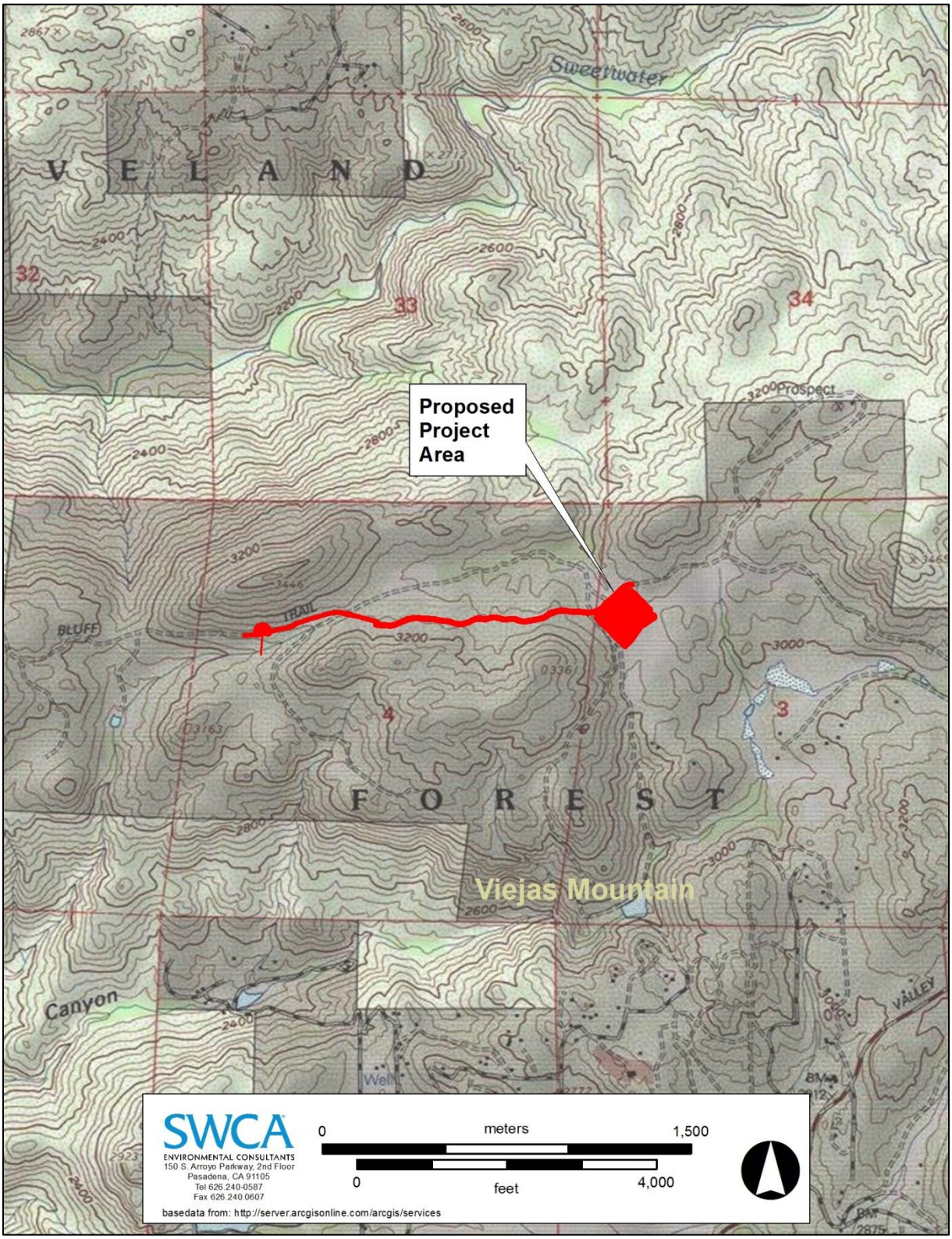


Figure 3. Proposed Project Area, Cultural Resources Survey Area, and Records Search Area

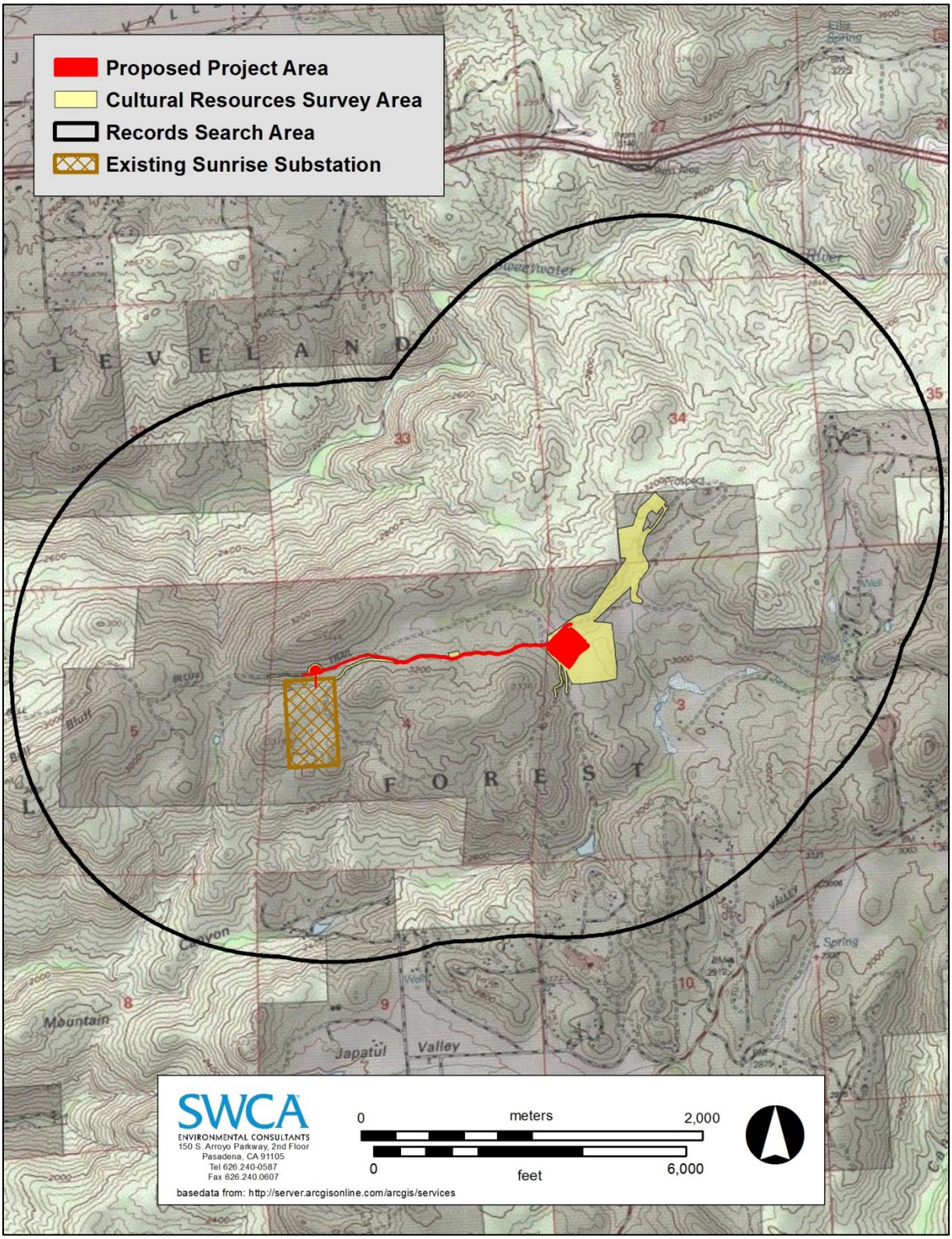
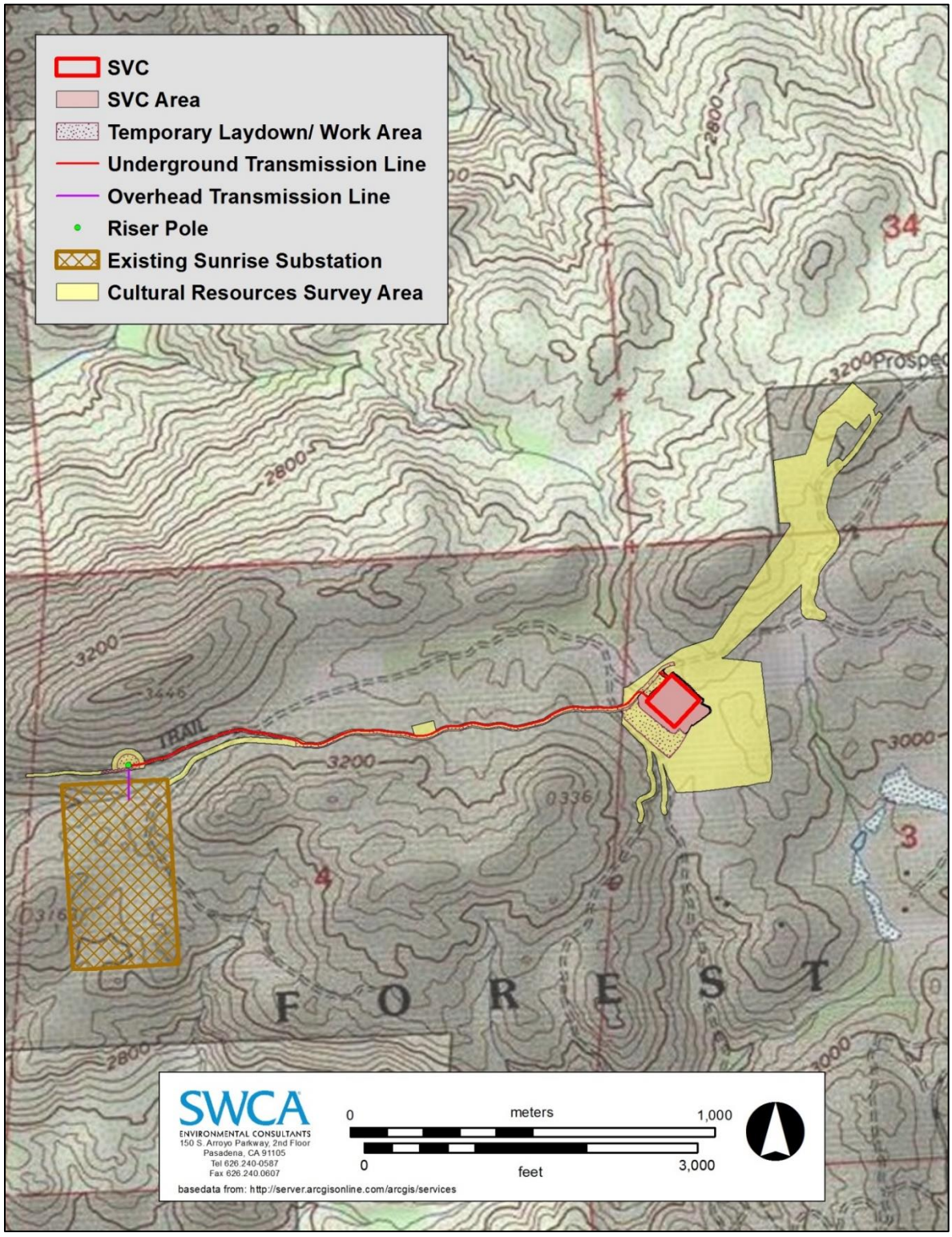


Figure 4. Major Proposed Project Components and Cultural Resources Survey Area



2 PROJECT DESCRIPTION

2.1 Project Location

The Proposed Project is located in an unincorporated area of San Diego County approximately 29 miles east of San Diego and 3.36 miles southeast of the community of Alpine (see Figure 1). Interstate 8 is approximately 1.75 miles to the north, and California Highway 79/Japatul Valley Road is approximately 1.66 miles to the east. The SDG&E 500/230 kV Suncrest Substation (Suncrest Substation), constructed ca. 2012 as part of the SDG&E Sunrise Powerlink Transmission Project (Sunrise Powerlink), is located at the western terminus of the Proposed Project Area. Specifically, the Proposed Project Area is in Section 34, Township 15 South, Range 3 East, and Sections 3 and 4, Township 16 South, Range 3 East, San Bernardino Base and Meridian, as shown on the Viejas Mountain, California, U.S. Geological Survey (USGS) 7.5-minute quadrangle (see Figure 2).

2.2 Proposed Project Work

The Proposed Project has two primary components, the SVC and an approximately 1-mile-long 230 kV single-circuit underground transmission line connecting the SVC to the existing Suncrest Substation, which is owned and operated by SDG&E. An approximately 300-foot-long overhead span will connect to the existing Suncrest Substation's 230-kV bus.

In addition to the two primary components, the Proposed Project will also include the following:

- Construction of two new access drives to facilitate construction, operation, and maintenance of the SVC;
- installation of fiber optic cable within the same underground duct bank as the 230 kV cable to provide communications for line relaying, Supervisory Control and Data Acquisition (SCADA), and other devices as required;
- installation of up to five splice vaults to facilitate installation of the new underground cable and operation and maintenance of the transmission line; and
- installation of a 12 kV underground electrical distribution feed to the SVC.

Construction of the SVC will occur on an approximately 6-acre, privately owned parcel comprising the SVC facility, temporary laydown yard, stormwater drainage and conveyance system, and associated site improvements. Once complete, the SVC will be contained within a fenced area of up to approximately 112,000 square feet (2.58 acres). The approximately 1-mile-long, 230 kV SVC tie-line will be located on two privately owned parcels, one of which is owned by SDG&E. The proposed SVC will be constructed immediately south of Bell Bluff Truck Trail (an existing paved private road that is approximately 30 feet wide curb-to-curb near the SVC site, and 12 feet wide curb-to-curb closer to the Suncrest Substation), in an area that was previously used as a materials storage and laydown area for the Sunrise Powerlink. The proposed underground transmission line will exit the SVC on the north side and then turn westward along the north side of Bell Bluff Truck Trail for approximately 1 mile to a point where the transmission line will transition to a riser pole structure. The riser pole structure will serve as the change of ownership pole between NEET West and SDG&E. SDG&E will then string the conductor overhead with a single, approximately 300-foot-long overhead span to enter the Suncrest Substation and make the interconnection.

With the exception of the riser pole structure and some temporary work areas (to facilitate installation of the vault structures), the majority of the proposed underground transmission line will be located within the paved roadbed of Bell Bluff Truck Trail. Duct bank installation and equipment and material staging

will be limited to either the north or south side of the road centerline, depending on the location of other utilities in the roadway, to maintain an unobstructed single lane of travel on the 30-foot-wide road section so as not to impede access to Suncrest Substation. Up to five splice vaults will be installed underground along the transmission line alignment approximately every 900 feet to facilitate installation of the underground cable and operation as well as maintenance of the transmission line following construction. Blasting may occur during excavation for approximately 15 to 20 percent of the proposed underground transmission line and SVC. Blasting will be limited to areas where standard excavation methods are not feasible, such as within bedrock, and will occur after other sediments have been mechanically removed with standard exaction methods. In addition, blasting will be minimized to localize disturbance. Access to the proposed SVC area will be immediately off Bell Bluff Truck Trail via two new approximately 20-foot-wide by 95-foot-long access drives. The roadway aprons of these access drives will be paved while the remainder of the access drives will be graveled.

Construction of the SVC (e.g., limit of grading and associated site improvements based on current information) will occupy a total area of approximately 261,360 square feet (6.00 acres). The SVC will be contained within a fenced area of up to approximately 112,000 square feet (2.58 acres). An approximately 12-foot-wide permanent easement will be obtained from SDG&E and the private landowner to operate and maintain the underground transmission line on their respective properties. New temporary disturbance associated with the underground transmission line will be approximately 0.48 acre. The remaining 3.13-acre temporary work area will be within the paved portion of Bell Bluff Truck Trail. Permanent disturbance totals 0.01 acre as the majority of the underground line will be installed within the existing roadway.

Construction of the Proposed Project will follow a typical sequence beginning with pre-construction surveys and survey staking; then site preparation and grading for the SVC pad, transmission structure work areas, and access road construction; followed by installation of SVC structures, transmission structure foundations, pole installation, and laying of conductor; and, lastly, installing and testing of electrical equipment, energization, and site restoration. Site preparation will involve clearing, grubbing, and grading of the SVC footprint, transmission structure work areas, and access roads, as well as installing security fencing. Underground equipment, if necessary, will be installed in trenches, and backfilled with suitable material (e.g., excavated soil or clean fill). SVC equipment will be installed on concrete foundations. After clearing and grading, transmission line and SVC construction activities will occur simultaneously. Construction is targeted to start September 1, 2016, and is expected to be complete March 11, 2017, at a total of approximately 6.5 months from initial site disturbance until the SVC is ready for testing. Testing and commissioning of the Proposed Project will take approximately 2.5 months between March 11, 2017, and May 30, 2017, at which point the SVC will be fully operational and ready for energization. Restoration and cleanup will take another 2 months following energization.

3 REGULATORY FRAMEWORK

3.1 Federal

3.1.1 National Historic Preservation Act of 1966

The Proposed Project does not have a federal nexus and, therefore, compliance with reference to the NHPA and other federal laws is provided here for informational purposes only. Projects that involve federal funding or permitting (i.e., have a federal nexus) must comply with the provisions of the National Historic Preservation Act of 1966 (NHPA), as amended (16 United States Code [U.S.C.] 470f). Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA through one of its implementing regulations, 36 Code of Federal Regulations (CFR) 800 (Protection of Historic Properties), as well as the National Environmental Policy Act (NEPA). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the NHPA.

Other relevant federal laws include the Archaeological Data Preservation Act of 1974, American Indian Religious Freedom Act of 1978, Archaeological Resources Protection Act of 1979, and Native American Graves Protection and Repatriation Act of 1989.

Section 106 requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, cultural resources must be identified and evaluated; effects to historic properties are reduced to acceptable levels through mitigation measures or agreements among consulting and interested parties. Historic properties are those resources listed in or are eligible for the NRHP per the criteria listed below (36 CFR 60.4; Advisory Council on Historic Preservation 2000).

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects 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 patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period, or method of installation, 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.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in *National Register Bulletin 15* as the "ability of a property to convey its significance" (National Park Service [NPS] 1990). In order to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

1. **Location:** the place where the historic property was constructed or the place where the historic event occurred;

2. **Design:** the combination of elements that create the form, plan, space, structure, and style of a property;

3. **Setting:** the physical environment of a historic property;

4. **Materials:** 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.

5. **Workmanship:** the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

6. **Feeling:** a property's expression of the aesthetic or historic sense of a particular period of time; and

7. **Association:** the direct link between an important historic event or person and a historic property.

Impacts of an undertaking that affect contributing elements of a historic property are considered a significant effect on the environment. Under 36 CFR 800.5(a)(2), adverse effects on historic properties include, but are not limited to:

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration;

(vii) Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

3.1.2 Cleveland National Forest

The *Cleveland National Forest (CNF) Land Management Plan* includes goals and objectives regarding cultural resources, including Native American traditional use of resources. The Plan discusses the importance of balancing the protection of cultural resources and Native American concerns with managing the CNF. The CNF aims to promote conservation education as well as provide heritage site protection, and to maintain the national forest in a condition so that Native Americans can exercise and retain traditional connections to the land and to foster both traditional and contemporary cultural uses of the national forests.

3.2 State

The policies of the NHPA are implemented at the state level by the California Office of Historic Preservation (OHP), a division of the DPR. The OHP is also tasked with carrying out the duties described in the California Public Resources Code and maintaining the California Historic Resources Inventory and California Register of Historical Resources (CRHR). The State-level regulatory framework also includes CEQA, which requires the identification and mitigation of substantial adverse impacts that may affect the significance of eligible historical and archaeological resources.

3.2.1 California Environmental Quality Act

CEQA requires a lead agency to analyze whether historic and/or archaeological resources may be adversely impacted by a proposed project. Under CEQA, a "project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment" (California PRC Section 21084.1). Answering this question is a two-part process: first, the determination must be made as to whether the proposed project involves cultural resources; second, if cultural resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of the resource.

3.2.1.1 HISTORICAL RESOURCES

According to State CEQA Guidelines, Section 15064.5, for the purposes of CEQA, historical resources are:

- A resource listed in, or formally determined eligible for listing in, the CRHR (PRC Section 5024.1; 14 CCR, Section 4850 et seq.);
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significance in a historic resources survey meeting the requirements of PRC Section 5024.1(g); and,
- Any building, structure, object, site, or district that the lead agency determines eligible for national, state, or local landmark listing; generally, a resource shall be considered by the lead agency to be historically significant (and therefore a historic resource under CEQA) if the resource meets the criteria for listing on the CRHR (as defined in PRC 5024.1; 14 CCR 4852).

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity (as defined in previous section) does not meet NRHP criteria may still be eligible for listing in the CRHR.

According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude the lead agency from determining that the resource may be an historical resource (PRC Section 5024.1). Pursuant to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (State CEQA Guidelines Section 15064.5(b).

Substantial Adverse Change and Indirect Impacts to Historical Resources

The State CEQA Guidelines specify that "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (State CEQA Guidelines Section 15064.5). Material impairment occurs when a project alters in an adverse manner or demolishes "those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion" or eligibility for inclusion in the NRHP, CRHR, or local register. In addition, pursuant to State CEQA Guidelines Section 15126.2, the "direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects."

Pursuant to the State CEQA Guidelines (Section 15378), study of a project under CEQA requires consideration of "the whole of an action, which has the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." The State CEQA Guidelines (Section 15064d) further define direct and indirect impacts as follows:

1. A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project.
2. An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment.

3. An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project.

3.2.1.2 ARCHAEOLOGICAL RESOURCES

Archaeological resources can be historical resources as defined above; in addition, unique archaeological resources must also be considered by a lead agency under the State CEQA Guidelines. PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a proposed project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a], [b], and [c]). CEQA notes that if an archaeological resource is neither a unique archaeological resource nor an historical resource, the effects of the project on those resources shall not be considered to be a significant effect on the environment (State CEQA Guidelines Section 15064.5(c)(4)).

The disposition of burials falls first under the general prohibition on disturbing or removing human remains under California Health and Safety Code Section 7050.5. More specifically, remains suspected to be Native American are treated under CEQA in CCR Section 15064.5, which cites language found in PRC Section 5097.98 that illustrates the process to be followed in the event that remains are discovered. Further, if human remains are discovered during the construction of the Proposed Project, no further disturbance to the site shall occur, and the San Diego County Coroner must be notified (PRC Sections 15064.5 and 5097.98). If the County Coroner determines the remains to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC) within 48 hours. The NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of the deceased, and the MLD may then make recommendations as to the disposition of the remains.

3.2.1.3 ASSEMBLY BILL 52

This study complies with CEQA, including Assembly Bill 52 of 2014 (AB 52), which amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

Consultation with Native Americans

AB 52 formalizes the lead agency – tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. As the lead agency, the CPUC Energy Division is required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Tribal Cultural Resources

Section 4 of AB 52 adds Sections 21074 (a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074 (a) defines tribal cultural resources as one of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

3.2.1.4 CALIFORNIA REGISTER OF HISTORICAL RESOURCES

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Sections 21083.2 and 21084.1). PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR.

According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it 1) retains "substantial integrity," and 2) meets one or more of the following criteria, which are modeled on NRHP criteria:

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

2. It is associated with the lives of persons important in our past;

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

4. It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity does not meet NRHP criteria may still be eligible for listing in the CRHR.

3.3 Local

Because the CPUC regulates and authorizes the construction of investor-owned public utility facilities, it has exclusive jurisdiction over the siting and design of the Proposed Project. As such, projects, including the Proposed Project, are exempt from local land use and zoning regulations and discretionary permitting. However, Section III.C of CPUC General Order 131-D (planning and construction of facilities for the generation of electricity and certain electric transmission facilities) requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any non-discretionary local permits." As such, NEET West has taken into consideration all State and local land use plans and policies, as well as local land use priorities and concerns as they relate to cultural resources. Although County and other local polices are provided below, they are provided for disclosure purposes only.

3.3.1 County of San Diego Municipal Code

The County Municipal Code, Section 396.7 (San Diego County Local Register of Historical Resources) provides guidelines for the application, enforcement, and public awareness of the County's historic preservation regulations, as enforced by the County Planning and Development Services department. The purpose of the historic preservation ordinance is stated as follows: "The Local Register is an authoritative listing and guide to be used by local agencies, private groups, and citizens in identifying historical resources within the County. In addition, the listing shall also be used as a management tool for planning, and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (Subsection B).

Subsection E(2) of Section 396.7 of the Municipal Code provides the following criteria for the designation of historical resources in San Diego County:

A. Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;

B. Is associated with the lives of persons important to the history of San Diego County or its communities;

C. Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,

D. Has yielded, or may be likely to yield, information important in prehistory or history.

3.3.2 County of San Diego General Plan

Chapter 5, Conservation and Open Space Element, of the *San Diego County General Plan* (County of San Diego 2011a) includes goals and policies regarding cultural resources to ensure their protection and

preservation. The goals and policies are intended to supplement NEPA, the NHPA, and CEQA, and are listed below.

- **Goal COS-7, Protection and Preservation of Archaeological Resources:** Protection and preservation of the County's important archeological resources for their cultural importance to local communities, as well as their research and educational potential.
    - **Policy COS-7.1, Archaeological Protection:** Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.
    - **Policy COS-7.2, Open Space Easements:** Require development to avoid archeological resources whenever possible. If complete avoidance is not possible, require development to fully mitigate impacts to archaeological resources.
    - **Policy COS-7.3, Archaeological Collections:** Require the appropriate treatment and preservation of archaeological collections in a culturally appropriate manner.
    - **Policy COS-7.4, Consultation with Affected Communities:** Require consultation with affected communities, including local tribes, to determine the appropriate treatment of cultural resources.
    - **Policy COS-7.5, Treatment of Human Remains:** Require human remains be treated with the utmost dignity and respect, and that the disposition and handling of human remains will be done in consultation with the MLD and under the requirements of federal, State, and County regulations.
    - **Policy COS-7.6, Cultural Resource Data Management:** Coordinate with public agencies, tribes, and institutions to build and maintain a central database that includes a notation whether collections from each site are being curated, and, if so, where, along with the nature and location of cultural resources throughout San Diego County.
- **Goal COS-8, Protection and Conservation of the Historical Built Environment:** Protection, conservation, use, and enjoyment of the County's important historic resources.
    - **Policy COS-8.1, Preservation and Adaptive Reuse:** Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process.
    - **Policy COS-8.2, Education and Interpretation:** Encourage and promote the development of educational and interpretive programs that focus on the rich multicultural heritage of San Diego County.

3.3.2.1 ALPINE COMMUNITY PLAN

The *Alpine Community Plan* was developed as a part of and in conjunction with the *San Diego County General Plan* to provide guidance for decisions regarding land use in the Alpine Planning Area. Chapter 9, Conservation, addresses cultural resources—Goal 1 is to "promote the well-planned management of all valuable resources, natural and man-made, and prevent the destruction and wasteful exploitation of natural resources, where feasible." The chapter discuses Resource Conservation Areas (RCAs), localities

identified as worthy of special efforts to protect resources, and it includes policies and recommendations to help meet conservation goals; those listed below pertain to cultural resources.

Conservation

- **Policies and Recommendations 1:** Encourage the protection and conservation of unique resources in the Alpine Planning Area.

- **Policies and Recommendations 2:** Important plant, animal, mineral, water, cultural and aesthetic resources in the *Alpine Community Plan* area shall be protected through utilization of the Resource Conservation Area designations and appropriate land usage.

- **Policies and Recommendations 3:** Agencies regulating environmental reports and analyses required by CEQA may require supplemental studies for projects with land located in RCAs, if necessary.

- **Policies and Recommendations 4:** Promote conservation education in the community and schools.

- **Policies and Recommendations 26:** Support the preparation of an adequate inventory of significant historical landmarks in Alpine.

- **Policies and Recommendations 27:** Encourage cooperation with other jurisdictions for trading and otherwise negotiating land transfers to consolidate holdings for historical preservation.

3.3.2.2 CENTRAL MOUNTAIN SUBREGIONAL PLAN

The *Central Mountain Subregional Plan* (County of San Diego 2011c) was developed as a part of and in conjunction with the San Diego County General Plan to provide guidance for decisions regarding land use in the Central Mountain Area. The Proposed Project Area is west of the boundary of the Central Mountain Subregional Plan, but within several hundred feet of that Plan's coverage area. Therefore, given the Proposed Project site's proximity to the area formally addressed by the Plan, the Plan's policies are considered in this analysis. Chapter 8, Conservation, is the primary section that addresses cultural resources and discuses RCAs. The goals and policies specific to cultural resources are listed below.

Conservation

Goals

- **Goal 1:** The preservation of known historical and archaeological resources, and the provision of adequate protection for new sites as they are discovered.

- **Goal 2:** The preservation of archaeological and historical resources through the identification of resources and regulatory review of development projects.

Policies

- **Policy 1:** Appropriate historical resources shall be nominated to the State and/or National Register of Historic Resources.

- **Policy 2:** Significant historic and prehistoric sites located within the Subregion shall be evaluated for Historic Landmark Status under Ordinance 7105 and if qualified shall be designated and rezoned in accordance with Section 7550 and regulated under Section 5700 of The Zoning Ordinance.

- **Policy 3:** Encourage public agencies and private property owners to make significant archaeological and historic resources available to the public for educational purposes.

- **Policy 4:** Create RCAs to protect unique or otherwise scientifically valuable archaeological sites that are identified in CEQA studies, scientific investigations, or from institutional records.

- **Policy 5:** Create management plans to protect archaeological sites from future land development and vandalism.

4 PROJECT SETTING

4.1 Environmental Setting

The Proposed Project is located on the west side of the Peninsular Range approximately 3.36 miles southeast of the community of Alpine. The topography of the region is characterized by steep hills interspersed by narrow valleys and deep canyons with incised high gradient drainage corridors that are home to waterways and ephemeral streams. The Sweetwater River is approximately 0.7 mile northwest, Japatul Valley approximately 1.3 miles south, and Bell Bluff approximately 0.7 mile southwest. The vicinity is largely undeveloped, consisting of unpopulated open space, with the notable exception of the SDG&E Suncrest Substation and associated infrastructure.

Nearly all of the Proposed Project Area is disturbed, most notably by recent improvements to Bell Bluff Truck Trail and the former Wilson Laydown Area, a temporary laydown yard area for construction associated with Sunrise Powerlink that is currently the site of biological habitat restoration andis proposed as the site for the SVC. The segment of Bell Bluff Truck Trail located within the Proposed Project area was widened, graded, and paved during construction associated with the Sunrise Powerlink. Within the former Wilson Laydown Area, construction activities associated with site preparation included brush clearing and grading in 2011–2012; removed native vegetation was incorporated into the topsoil, and topsoil salvage to a depth of 6 inches (15.24 cm) was conducted (AECOM and RECON 2012). After the location was no longer used as a materials storage and laydown area in late 2012, restoration efforts included re-contouring the land and mechanically ripping the ground, resulting in substantial movement of sediments. The yard was ripped and cross-ripped to a depth of 18 to 24 inches (46 to 61 cm) prior to being re-contoured to the original topography, and the salvaged topsoil was then re-distributed over the site and seeded (SDG&E 2015). Biological habitat restoration efforts, including restoration maintenance activities, weed control, and monitoring, are currently ongoing (SDG&E 2015).

The elevation in the Proposed Project Area varies between 3,000 to 3,200 feet above mean sea level. The local climate is mild, with an annual mean temperature of 63.4 degrees Fahrenheit (°F) (IDcide 2015). Summers are warm, with average maximum temperatures peaking at 76°F in August, and winters are cool, reaching the lowest average minimum temperatures in December at 54°F. The average annual precipitation in Alpine is 14.7 inches, with most of the rainfall occurring in the winter and spring (NOAA 2015). Vegetation in the vicinity is consists of a mixture of chaparral scrub and oak woodlands, with pockets of disturbance dominated by non-native grasses and forbs. Dominant species include chamise (*Adenostoma fasciculatum*) and several varieties of live oak (*Quercus* spp.), along with smaller shrubs and various grasses, including manzanita (*Arctostaphylos manzanita*), red brome (*Bromus madritensis*), and buckwheat (*Fagopyrum esculentum*).

4.2 Cultural Setting

4.2.1 Prehistoric Overview

The prehistory of coastal and inland southern California is varied and rich, with occupations extending from at least 12,000 years ago to historic contact. Numerous chronological sequences have been devised to assess cultural changes within various areas of southern California in the past 75 years or more (Byrd and Raab 2007:215–227; Moratto 1984;). The framework used here is divided into three major periods: the Paleoindian Period (ca. 9000–6000 B.C.), Archaic Period (6000 B.C.–A.D. 500), and Late Prehistoric Period (A.D. 500–Historic Contact). Within these lengthy periods are refined ecological and chronological subdivisions (e.g., Sutton et al. 2007:229–245). These subdivisions help us better understand the dynamism and diversity of the archaeological record—the presence over time of a variety of technological features, economy and exchange systems, and social organization and complexity—as well as the timing of and responses to environmental shifts present within the southern coastal region (Orange, western Riverside, and San Diego Counties).

4.2.1.1 PALEOINDIAN PERIOD (~9000–6000 B.C. [11,500–8000/7500 B.P.])

Discovery of the earliest human presence in the Americas, and for that matter coastal and interior southern California, continues to be of interest to archaeologists and the general public. Although occupation in California began as early as 8,000 to 11,000 years ago, evidence for the presence of humans prior to about 6000 B.C. (or 8,000 years before present [B.P.]) is relatively sparse and scattered throughout the state. The earliest accepted dates for human occupation of southern California come from sites along the coast, particularly from two of the Northern Channel Islands situated off the coast of Santa Barbara, and form part of a Paleo-Coastal Tradition dependent on marine resources (e.g., Jones 1991; Jones et al. 2002). However, an increasing frequency of radiocarbon dates show occupation of the Southern Channel Islands as well as the coastal areas of Orange and San Diego Counties as early as 7000 to 8000 cal. B.C. (or 9,000 to 10,000 years B.P.) (Byrd and Raab 2007:219). Away from the coast in California were Western Pluvial Lakes Tradition (WPLT) Paleoindians, who practiced a diverse mixture of hunting and gathering, but who were not dependent on large Pleistocene megafauna as in other parts of North America at the time. A major occupational emphasis by WPLT peoples was on Pleistocene lakeshores in the now-arid areas of southern California, the western Great Basin, and along the Cascade–Sierra Nevada uplift that forms California's eastern border (see Moratto 1984:90–92).

4.2.1.2 PALEO-COASTAL TRADITION

The pattern of early Holocene, and in some cases late Pleistocene, sites along the coast is generally subsumed within the Paleo-Coastal Tradition. The Paleo-Coastal Tradition was originally proposed more than three decades ago by Davis et al. (1969), and recently brought to the forefront again by new finds from the southern California coastal region (e.g., Jones et al. 2002; Mason and Peterson 1994:57–58; Moratto 1984:104). The Paleo-Coastal Tradition has recently been reconsidered as a spatially and temporally coherent archaeological and adaptive pattern, reflecting broad similarities in organizational strategies, knowledge, and practices related to the exploitation of both marine and terrestrial resources under certain environmental and social conditions (Elzinga 2011:41; see also Davis 2011). The two Northern Channel Islands with the earliest accepted dates for human habitation within southern California are San Miguel and Santa Rosa. Daisy Cave (CA-SMI-261), situated on San Miguel Island, has evidence for a short-term camp as early as 11,500 B.P., with several other occupations dating before 8800 B.P. (Erlandson 1991:105; Erlandson et al. 2007:57). The Arlington Springs site (CA-SRI-173) on Santa Rosa Island has human remains dating to between 8,600 and 13,000 B.P. (Johnson et al. 2002).

4.2.1.3 WESTERN PLUVIAL LAKES TRADITION

Paleoindian Period sites located on or near the shores of former pluvial lakes and marshes or along old stream channels form part of the WPLT as first defined by Bedwell (1970). Moratto (1984:92) subsumed numerous local California patterns (e.g., San Dieguito Complex, Lake Mojave Period) under the overarching WPLT to reduce terminological confusion, but the literature on California prehistory typically references the Paleoindian Period, Early Man Period, or San Dieguito Complex, rather than the WPLT. With the onset of the early Holocene around 10,000 years ago, significant warming and drying occurred in the environment, and hunter-gatherers subsequently adapted their subsistence economy to the changing resource structure along the coast and interior deserts of California. Lakes and streams within the interior desert regions gradually dried and shrank compared with late Pleistocene times. The WPLT way of life, which emphasized adaptations to lakes and marshes, gradually disappeared by 8000 to 7000 B.P. as the environment warmed during the Altithermal (Byrd and Raab 2007:217–218; Moratto 1984:91). Localized studies, however, indicate that the complete disappearance of a WPLT (i.e., San Dieguito) adaptation was not necessarily uniform across all regions; in San Diego County, for example, archaeological sites representing substantial residential bases have been documented adjacent to coastal lagoons, marshes, and river valleys well into the Archaic Period (Noah and Gallegos 2006:1–14).

4.2.1.4 ARCHAIC PERIOD (6000 B.C.–A.D. 500 [8000–1500 B.P.])

Subsistence patterns shifted around 6000 B.C. coincident with the gradual desiccation associated with the onset of the Altithermal, a warm and dry period that lasted about 3,000 years (Antevs 1955). Greater emphasis was placed on plant foods and smaller animals during this time and into the subsequent Late Prehistoric Period. Compared with the preceding Paleoindian Period, subsistence practices were more diversified but focused on gathering activities in interior ecological areas, with a continued emphasis on a maritime economy in coastal areas (Erlandson 1997:4). According to Maxon et al. (2004:4), researchers have referred to the presence of the San Dieguito culture as marking the start of the Archaic Period. The Archaic Period generally is characterized by an ecological adaptation to collecting, which resulted in an increased frequency of ground stone implements. The Early Archaic Period in southern California is generally referred to as the Milling Stone Period (Wallace 1955, 1978); this period is also sometimes designated as the La Jolla Complex, with sites common in the southern California coastal region between Santa Barbara and San Diego, and at many near-coastal and inland locations (Jordan 2006:4).

A distinction is made between coastal (La Jolla complex) and inland (Pauma complex) culture within San Diego County during the entirety of the Archaic Period (Moriarty 1966; Rogers 1939, 1945; True 1958). The La Jolla complex is characterized by shell midden sites near the coast, and is usually distinguished from inland Pauma complex sites that lack shell middens. Recent research indicates that inland Pauma complex sites potentially represent a seasonal component of the subsistence round used by coastal La Jolla complex populations (Smith et al. 1996; True and Pankey 1985). Considerable debate exists as to the relationship between the San Dieguito, La Jolla, and Pauma complexes within the San Diego County subregion. Gallegos et al. (1987), for example, suggest that these cultural complexes represent adaptations by related peoples between 8,500 and 3,500 years ago (see also Jordan 2006:5). In contrast, Smith (1987) argues that the La Jolla complex replaced the San Dieguito complex. Regardless of the San Dieguito debate, archaeological evidence from both inland and coastal sites in San Diego County indicates a long period of cultural continuity during the entire span of the Archaic Period (Noah and Gallegos 2006:1–15).

Within the inland portion of northern San Diego County, Phase I of the San Luis Rey complex (Meighan 1954; True et al. 1974) appears by approximately 1000 B.C. during the Late Archaic Period. True and Waugh (1982) proposed that San Luis Rey I phase peoples frequently resided in small camps and were residentially mobile throughout the year. San Luis Rey I sites are distinguished from San Luis Rey II sites of the Late Prehistoric Period by a lack ceramics. Noah and Gallegos report that cultural configurations in northern San Diego County, including the San Luis Rey complex, display seasonal settlement and

subsistence patterns marked by semi-sedentary winter settlements with stored resources at lower elevations and use of mountain settlements during the summer and fall months (Noah and Gallegos 2007:1–16). This pattern apparently continued into the Late Prehistoric Period, albeit with populations becoming increasingly sedentary around major water resources.

4.2.1.5 LATE PREHISTORIC PERIOD (A.D. 500–HISTORIC CONTACT [1500 B.P.–HISTORIC CONTACT])

The Late Prehistoric Period in southern California is characterized by a number of changes in subsistence, foraging, and land use patterns, which begins to reflect the use pattern known from ethnographic and Historic Period Native American groups. Hallmarks of the Late Prehistoric Period include the dominance of small projectile points, signifying introduction and use of the bow and arrow, and, with the exception of the rudimentary ceramic industry found during the Early Archaic/Milling Stone Period in Orange and Riverside Counties, pottery (i.e., Patayan III/Colorado Buff) occurs in southern California sites for the first time (Noah and Gallegos 2006:1–17). The period also witnessed an increased emphasis on plant collecting and processing, population size and settlement growth, permanent villages, expansion of trade networks, the practice of cremation in lieu of flexed burials, and rock art in some areas (Jordan 2006:5). The changes most likely reflect in situ cultural adaptations in response to shifts in environmental conditions, as well as influences from outside the area.

Two cultural complexes have been defined for San Diego County during the Late Prehistoric Period: the San Luis Rey II complex in the north and the Cuyamaca complex in the south (Meighan 1954; True et al. 1974; see also Noah and Gallegos 2007:1-16 through 1-19). The San Luis Rey II complex likely represents the forebears of the Takic-speaking Luiseño/Juaneño, who inhabited what is present-day northern San Diego County during the Ethnohistoric Period. The forebears of the Yuman-speaking Kumeyaay (Ipai and Tipai geographic divisions) of ethnographic and modern times may be represented by the Cuyamaca complex.

San Luis Rey II began as early as A.D. 1200 and lasted during the Contact period, until approximately 100 years ago. San Luis Rey II phase sites differ from San Luis Rey I sites in that they have ceramic cooking and storage vessels, cremation urns, and polychrome pictographs (Meighan 1954; True et al. 1974). Subsistence probably focused on the utilization of acorns, a storable species that allowed for relative sedentism and increased population. As evidenced by the presence of bedrock milling stations, acorns and other nuts were exploited at the highland summer camps. San Luis Rey II peoples in lower elevation areas of the drainage system likely lived in sedentary villages, and were at least partially dependent on marine resources (True 1993:17).

The Cuyamaca complex in southern San Diego County centered on the Cuyamaca Mountain area (True 1966, 1970; True et al. 1974, 1991). True (1970:53–54) indicates that the Cuyamaca complex, although generally similar to the San Luis Rey complex, differs in important ways. It is represented by a wider range of ceramic forms (bow pipes, effigy forms, rattles); a steatite industry; cremation ashes placed in urns away from habitation areas; grave markers; scrapers and scraper planes; a higher dependence on grinding implements; and the production and placement of mortuary goods (Maxon et al. 2004:5). These characteristics suggest a definite influence from the cultures along the Colorado River and of Numic speakers from the north (Maxon et al. 2004:5). In addition, as noted, the Cuyamaca complex may represent the culture of the forbearers of ethnohistoric Yuman-speaking Kumeyaay (Ipai and Tipai geographic divisions).

4.2.2 Ethnographic Overview

4.2.2.1 DIEGUEÑO/KUMEYAAY

At the time of European contact, most of present-day Imperial and San Diego Counties were populated with Yuman-speaking peoples, who are collectively referred to today as the Kumeyaay. Termed the Diegueño by the Spanish (Kroeber 1925; Luomala 1978), this diverse geographic Native American group inhabited the region along the Pacific coast from central San Diego County southward into the Baja California region past Ensenada, and eastward into the Yuha and Anza-Borrego Deserts to the Sand Hills. The Diegueño/Kumeyaay language is recognized as a member of the California–Delta Yuman division of the Yuman-Cochimi language family (Mithun 2004:304, 577). Diegueño consists of three main dialects: 'Iipay, Kumeyaay, and Tiipay (the first and third terms from the word meaning "people") (Mithun 2004:577).

Geographic divisions of the three Diegueño dialects have been commonly referred to as Ipai, Kamia (also Kumeyaay), and Tipai (California Indian Assistance Program [CIAP] 2003:56; Gifford 1918:156; Loumala 1978:607–608; Kroeber 1925:710). The Ipai (formerly Northern or Western) inhabited the central portion of San Diego County, whereas the Kamia (formerly Eastern) occupied the remaining southern part of San Diego County and eastward into Imperial County and the California portion of the Colorado Desert. Tipai (formerly Southern) territory included Jamul in San Diego County, extending southward deep into Baja California. Some recent ethnographers combine Tipai and Kamia/Kumeyaay as a continuous social group (the Tipai) (Loumala 1978). The Yuman-language-speaking Kumeyaay thus have been variously referred to as Tipai-Ipai, Kamia, Northern and Southern Diegueño, or by clan name, such as Kwaaymii. Today, many local groups have banded together as the Kumeyaay Nation or Kumeyaay-Diegueño Nation (Kumeyaay Information 2015). The preference for use of the name Kumeyaay was established more than 30 years ago (e.g., Hedges 1975:77).

Kumeyaay territory was divided among bands that generally controlled 10 to 30 miles within a drainage system (Shipek 1982:297). Each band had five to 15 kinship groups (sibs or shiimul) (Kroeber 1925:719; Shipek 1987:8), some of which were divided among more than one band. The entire band aggregated in winter villages, which were placed in sheltered valleys near reliable sources of water (Luomala 1978:597). Dwellings in these villages were semi-subterranean and roughly circular, with a wooden pole framework covered with brush thatch. Other structures in winter villages included family-owned platform granaries, a village-owned brush ceremonial enclosure, and sweat lodges. Granaries and more permanent housing were sometimes constructed within frequently visited oak groves. All of the Ipai and many of the Tipai camped in coastal valleys during certain times of the year when they gathered coastal resources. Land resources generally belonged to individual bands, with few areas considered "tribal" or open to anyone (Shipek 1982:301).

The religious conversion and physical removal of the Kumeyaay from their territory (through the *reduccion* process) began after establishment by the Spanish of the presidio at San Diego and the Mission San Diego de Alcalá in A.D. 1769. The loss of freedom and land by the Kumeyaay negatively affected their traditional subsistence strategies and overall lifeways (Carrico 1987). Many of the Kumeyaay eventually worked for the mission, though there was a feeling of nationality among the Kumeyaay that resulted in a level of federation not seen among other southern California native groups (Shipek 1987:5). Many Native American neophytes left the mission grounds when freed from mission control by the Mexican government in 1825. When the missions were fully secularized from 1834 to 1836, even more Native Americans left to find work on the large cattle ranchos created from prior mission lands.

California officially became part of the United States in 1848 with the signing of the Treaty of Guadalupe Hidalgo, and several reservations were formed after the mid-1870s. These include Barona Ranch, Campo, Cuyapaipe, Inaja and Cosmit, Los Coyotes (shared with Mountain Cahuilla), Manzanita, Mesa Grande,

Santa Ysabel, Sycuan, and Viejas (CIAP 2003). In the four decades following U.S. control, many of the ranchos became small farms and towns. The Kumeyaay who remained at or around the mission grounds usually tended to cattle and sheep, and maintained personal subsistence gardens. In the 1920s, many Kumeyaay became members of the Mission Indian Federation, which was organized to fight for self-rule on southern California reservations.

4.2.3 Historic Overview

Post-Contact history for California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and signing of the Treaty of Guadalupe Hidalgo in 1848, which ended the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

4.2.3.1 SPANISH PERIOD (1769–1822)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríguez Cabrillo stopped in 1542 at present-day San Diego Bay. With his crew, Cabrillo explored the shorelines of present Catalina Island, and San Pedro and Santa Monica Bays. Much of the present-day California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island, and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1886:96–99; Gumprecht 1999:35).

Inland exploration and colonization of Alta California by Spain was not a priority for more than 200 years. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's "Historic Period," occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July 1769, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

To establish overland connections with California from Mexico's interior, Captain Juan Bautista de Anza set out in 1774 from Sonora and crossed the Colorado River into present-day Imperial Valley with a party of 34 padres, soldiers, and servants. Fr. Francisco Garcés, who had charted much of this route in 1770, guided the caravan through present-day Imperial County along the Alamo River drainage west and then north (Imperial County 2007; NPS 2004; Trimble 1977). The Spaniards continued their trek northwest to Monterey Bay, marching into present-day Riverside County through the Cahuilla Valley, tracing the Santa Rosa Mountains, continuing through Coyote Canyon, marching through San Jacinto Valley by way of Bautista Creek, and possibly passing through lands that now constitute March Air Reserve Base (Brown 1985). De Anza called the San Jacinto plain "Paradise Valley," and considered it to have good potential for future ranching and agriculture (Greenwood et al. 1993:10). De Anza returned to California in 1775 along the same route with a larger group of 240—including permanent settlers—pushed to San Francisco Bay, then retraced his trail to Sonora through present-day Riverside, San Diego, and Imperial counties in 1776 (Guerrero 2006).

Garcés returned in 1779 to the Yuma area, where he established Mission La Purisima Concepción de la Virgén Santisima on the north bank (California side) of the Colorado River. The mission was administered as part of the Arizona missions, and so was not part of the California series. The settlement included soldiers, settlers, and missionaries, but lasted only 6 months. To retaliate for the loss of their lands and crops, the local Native American population, the Quechan (formerly known as the Yuma) attacked and destroyed the settlement in 1781, killing the missionaries and nearly a hundred others (Weber 1992:257). With the Spanish expelled, this land route between northern Mexico and California settlements remained closed for decades.

Soon after the de Anza expeditions, seven additional missions were established in the 1770s as far north as present-day San Francisco. In southern California, these included Missions San Juan Capistrano and San Gabriel Arcángel in today's Orange and Los Angeles counties, respectively. A second mission in San Diego County, Mission San Luis Rey de Francia, was not founded until 1798.

The 21 missions were situated paralleling California coastline between San Diego and Sonoma. Near-coastal locations were preferred by the Spaniards for colonization because they were easier to defend and supply from ships, and were also bordered by populous Native American villages with potential converts. Approximately 30 miles or a day's ride by horseback typically separated the missions. The connecting roadway became known as "El Camino Real." Today's Interstate 5 between San Diego and Los Angeles and Highway 101 between Los Angeles and Petaluma generally follow "the King's Highway."

Only three fortified outposts besides the Presidio of San Diego were established by the Spanish government in Alta California. The northernmost was founded with the Mission San Francisco de Asís in 1776. The other two presidios were spaced in between these northern and southern arms of the mission system. The Presidio of Monterey and accompanying mission (San Carlos de Monterey) were established in 1770; in 1782, Spain built its last presidio in Alta California at Santa Bárbara.

All the missions contained churches, workshops, storehouses, soldiers' barracks, and quarters for Native American neophytes. These new converts were used as labor, establishing and nurturing the mission orchards, gardens, vineyards, and pastures. In San Diego, for example, 1,400 Native Americans were associated with the mission by 1797. Initially, cattle and horses were raised on the pastures adjacent to that first mission. Sheep, goats, and pigs were later added to the repertoire of animals raised on mission lands. These animals ultimately provided meat, wool, tallow for candles and soap, and leather for clothing, among other uses. Ranching eventually expanded to other areas and missions within San Diego County and beyond.

At all the missions, padres exercised strict control over the Native American neophytes, and oversaw all economic activities of Spanish California, particularly directing agricultural activities, including slaughter of cattle, pigs, and sheep, and nearly all related commercial activity (Dallas 1955:3–4). Chapman (1921:387) described the unique role of the padres as "[s]omething more than teachers of religion. The wide power of their administration made them virtual owners and managers of a vast economic plant. They were farmers, cattlemen, manufacturers, traders, and, in a sense, bankers and innkeepers, as well as preachers."

Although the areas within present-day Riverside and San Bernardino counties did not formally host Spanish missions, they remained connected to the California presidio and mission system through the Franciscan establishment of *estancias* (ranchos) and *asistencias* (submissions with a chapel but without a resident priest). Riverside was considered a part of the San Diego district, a military designation associated with the presidio; however, most of the territory fell under the authority of the Mission San Luis Rey de Francia, near present-day Oceanside in San Diego County. The most populous of California's 21 missions, San Luis Rey was founded in 1798. A series of mission *estancias* and *asistencias* were established in what is now Riverside County, including Santa Margarita, Las Flores, San

Mateo, San Juan, Pala, San Marcos, Agua Hedionda, Buena Vista, and the northernmost, San Jacinto (Greenwood et al. 1993:10; Tetra Tech 1999:7).

In 1818, Mission San Diego de Alcalá initiated a plan for a chain of inland branches, the first of which was Asistencia de Santa Ysabel, located in the mountains east of San Diego near the Native American village of *Elcuanan*. By 1821, the *asistencia* boasted a chapel, granary, cemetery, and adobe houses, and a population of 600 Native Americans (Quinn 1964). Two other inland substations were established by the powerful and populous Mission San Luis Rey. Asistencia de San Antonio de Pala was founded ca. 1816 approximately 20 miles inland from San Luis Rey. The second substation, the Los Flores Estancia, was constructed ca. 1823 between Missions San Luis Rey and San Juan Capistrano on the San Pedro Rancho, later called Rancho Santa Margarita y Los Flores, and now the Marine Corps Base at Camp Pendleton in northern San Diego County.

4.2.3.2 MEXICAN PERIOD (1822–1848)

A major emphasis during the Spanish Period in California was to build missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Inducements were also made to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and are now major California cities (San José and Los Angeles). The threat of foreign invasion, political dissatisfaction, demands for land by civilian settlers and retiring soldiers, and unrest among the indigenous population kept growth within Alta California to a minimum. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports, including San Diego, open to foreign merchants (Dallas 1955:14).

With Mexican independence, the new government attempted in 1823 to reopen the de Anza Trail and established Fort Romauldo Pacheco at Laguna Chapala on New River, about 20 miles northwest of present Calexico. The Quechan in 1826 once again expelled these intruders, whose survivors fell back to San Diego. Despite these efforts, the de Anza Trail eventually found a new purpose and accommodated tremendous traffic after the 1840s (von Werlhof 1992).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population away from the more settled coastal areas where the Spanish had concentrated their colonization efforts. At the same time, the influence of the California missions waned in the late 1820s through the early 1830s. This decline resulted from a combination of outside events and pressures, including increasing hostilities between missionaries and local civilians who demanded mission lands, decimation of the Native American population by introduced diseases, and the influence of private traders in the hide and tallow industry.

Following adoption of the Secularization Act of 1833, the Mexican government privatized most Franciscan lands, including holdings of their California missions. By 1836, this sweeping process effectively reduced the California missions to parish churches and released their vast landholdings. Although earlier secularization schemes had called for redistribution of lands to Native American neophytes who were responsible for construction of the mission empire, the vast mission lands and livestock holdings were instead redistributed by the Mexican government through several hundred land grants to private, non–Native American ranchers (Langum 1987:15–18). The private Mexican citizens who received the land and their holdings subsequently used local Native Americans expelled from the missions for cheap, protracted labor, and in some instances expelled them from their grant holdings.

During the Mexican Period, the large ranchos became important economic and social centers. These included Cuyamaca Rancho, San Felipe Rancho, and Santa Ysabel Rancho, which together comprised

about 63,000 acres in today's central San Diego County. Nearly 48,000 acres were awarded as part of the Santa Rosa land grant in the southwestern corner of today's Riverside County, with an additional 27,000 acres as the Temecula Rancho to the east in Temecula and Murrieta Valleys. The Santa Rosa Rancho was located northeast of Rancho Santa Margarita y Los Flores, comprising more than 133,000 acres, and is now the Marine Corps Base at Camp Pendleton in northwestern San Diego County. The adjacent lands of Rancho Mission Viejo (also known as La Paz) in southeastern Orange County comprised more than 43,000 acres.

San Diego was organized under Mexico's laws as a pueblo (town) in 1834, bringing development of its own growing non-native population beyond the walls of the presidio in the area now known as Old Town (Pourade 1964). The lands of the Mission San Diego de Alcalá were sold to Santiago Arguella in 1845, although in 1862 the Catholic Church claimed the 22 acres of the rancho that included the mission buildings, graveyard, and church.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The non-native population of California increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population unfortunately contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities. Large numbers of native peoples in the Central Valley, for example, died from disease between 1830 and 1833, and disease exterminated whole tribes along the American, Merced, Tuolumne, and Yuba Rivers. The Central Valley was hit by a second epidemic in 1837, which further decimated indigenous Californians (Cook 1955).

4.2.3.3 AMERICAN PERIOD (1848–PRESENT)

War in 1846 between Mexico and the United States brought U.S. Colonel Stephen Watts Kearny and part of his Army of the West from Kansas to California through present-day Imperial Valley. Lt. Colonel Philip St. George Cooke and the Mormon Battalion, following Kearny west to map a strategic wagon road through the territory, likewise moved through Imperial Valley. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo signed in 1848, ushering California into its American Period.

Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through the first decade of the Gold Rush beginning in 1848. California became one of the United States with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories. San Diego County, at first stretching from the bay east to the Colorado River, was designated upon statehood and formally organized in 1852, followed in 1853 by San Bernardino County to the northeast (Greenwood et al.1993:14). Later, portions of San Diego County were carved out to create part of Riverside County in 1893 and Imperial County in 1907. Orange County, created in 1889, includes former Los Angeles County lands. Riverside County was also formed from parts of Los Angeles and San Bernardino counties.

During the Gold Rush, thousands of people traveled the Gila Trail or Southern Overland Trail from Texas to Arizona, then crossed the Colorado River at present-day Yuma, Arizona, into California and proceeded across the Colorado Desert to the San José Valley. The main trail continued from that point northward to Temecula and Los Angeles. Many left the main trail and traveled southward to San Diego, where they then journeyed via ship to San Francisco or took the inland coastal route to Los Angeles, rejoining the main trail to the gold fields.

With the influx of people seeking gold, cattle were no longer desired mainly for their hides, but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from

southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains where available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices, as operation of the huge ranchos became increasingly difficult, and as droughts severely reduced their productivity.

American politics and the need for a mild-winter route to the West favored a southerly thoroughfare from the eastern United States to California in the 1850s. The U.S. Gadsden Purchase of 1854 secured more land from Mexico for this route, and by 1857 surveys established the current international boundary from New Mexico west to California (Walker and Bufkin 1986). In 1857 the government awarded to James E. Birch a 1,475-mile mail contract from San Antonio, Texas, to San Diego. The contractor's "Jackass Mail" passed through the Imperial Valley on its 2-month-long roundtrips. In 1858, the federal contract passed to the Butterfield Overland Mail Company. With the start of the Civil War in 1861 and departure of Southern representatives from Congress, the U.S. government cancelled Butterfield's contract and suspended talks on a southern transcontinental rail route.

With the disruption of the Civil War and other factors, rancho ownerships changed hands often, and patróns subdivided some larger holdings into smaller parcels. The winters of 1862–1863 and 1863–1864 produced almost no rainfall in southern California, and by the time rains came in February 1864, thousands of livestock had perished from hunger and/or thirst. Devastation brought about by severe droughts and the changing economy ruined many surviving ranchero families and resulted in the refocusing of grazing activities in southern California upon sheep (Beattie and Beattie 1939; Brown 1985; Ingersoll 1904).

Following the Civil War, overland stage services to and from southern California resumed in 1868 with the Holladay and Wells Fargo operations (Nevin 1974; Stein 1994). The pre–Civil War national initiative for a southern transcontinental railroad route resumed during the 1870s, as the Texas and Pacific (T&P) Railway Company in 1871 received a federal charter and conducted transcontinental surveys to pursue the initiative. In 1873, however, the T&P's westerly construction stalled in north-central Texas. The resulting delay was critical, allowing San Francisco investors to extend their own Southern Pacific Railroad (SPRR) through Imperial Valley to the Colorado River in 1877, bridging the river at Yuma into Arizona along the T&P survey in 1878 (Yenne 1985).

The California Southern Railroad (a subsidiary of the Santa Fe Railway system) connected the Los Angeles area through Oceanside with San Diego in 1885 (Davidson 1955). Arrival of the Southern Pacific, Santa Fe, and connecting lines throughout southern California in the 1870s and 1880s brought economic opportunity and exponentially increased the state's population, a combined economic and cultural phenomenon widely identified as the Boom of the Eighties (Dumke 1944).

Agricultural development of the Imperial Valley around 1900 brought regional rail service deeper into its fertile lands, beginning with a SPRR branch in 1903 between Niland and Imperial, eventually connecting to Calexico in 1904. The town of El Centro was linked directly with San Diego in 1919 with construction of the San Diego and Arizona (SD&A) Railway, which penetrated part of the rough Jacumba Mountains by meandering south into Mexico through its San Ysidro and Tecate Valleys (Imperial County 2007; Wee and Ferrell 2000).

4.2.3.4 SAN DIEGO COUNTY

Successful Gold Rush merchant and land speculator Alonzo E. Horton moved from San Francisco to San Diego in 1867, purchased 960 acres adjacent to the bay south of Old Town, and laid out an "addition" for San Diego's new town site. The fast-growing city was re-incorporated in 1872, and within a few years San Diego became the largest California city south of Los Angeles, aided significantly by completion of

the Atchison, Topeka, and Santa Fe Railway (as its California Southern Railroad subsidiary) connection to its transcontinental line northeast of Los Angeles in 1885 (Dumke 1944).

Beginning in the 1870s, many residents of San Diego County commonly lived on farmsteads, often forming rural communities with clusters of other nearby farmsteads. Many of these farmsteads were built on land surrounding Horton's Addition, while his "South San Diego" rapidly developed into the new downtown San Diego and the Hillcrest area. The county's farming communities included El Cajon, Jamacha, Mission, and Otay, supplying urban San Diego with food and developing strong local markets and businesses. Wheat was an important cash crop early on, but in the 1870s and 1880s, farmers increasingly cultivated tree or vine sustenance crops such as apricots, cherries, grapes, lemons, olives, oranges, peaches, and plums. Fruit trees grew best on hillsides and mesas, while barley, corn, oats, and wheat grew well in the valleys (Davidson 1955).

The discovery of gold-bearing quartz during the winter of 1869–1870 was San Diego County's first and only gold rush. A thriving mining district located in the Cuyamaca Range about 50 miles east of San Diego grew around the town of Julian, the district's social and commercial center (Anonymous 1890; Hoover et al. 2002). With over 60 mining locations, the hard rock mines, particularly the better-known George Washington, Cuyamaca, Golden Chariot, and Stonewall Jackson, yielded some $5 million in gold ore. Oak and pine timber for the mines, camps, quartz mill furnaces, and towns was obtained in the mountains around the mines; dim traces of "skid roads" remain visible in the area. As gold production declined over the ensuing decade, most of the hard rock mines at Julian and its sister community of Banner were played out by 1880.

San Diego Bay first harbored U.S. Navy ships in 1898, and San Diego County thereafter hosted several major naval installations, accelerating after construction of the Pacific fleet's coaling station in 1907. San Diego in the late 1910s experienced another major urban boom highlighted by the Panama-California Exposition of 1915–1916, celebrating completion of the Panama Canal. Starting in the 1910s, aircraft enthusiasts and builders found San Diego weather attractive; the Navy added its first Naval Air Station on North Island in 1917, and in 1927 Charles Lindbergh prepared his Ryan monoplane in San Diego for its record-setting trans-Atlantic flight. San Diego's mild climate and strong military presence attracted other aircraft manufacturers in the 1930s, and during World War II the city and bay became a major center of the aircraft industry and naval aviation. At the northwestern extent of the county, Marine Corps Base Camp Pendleton was established on the coast in 1942 to train Marines for the war. After the war, many personnel that had been stationed in San Diego County returned to the area with their families to create the next population and housing boom (Davidson 1955).

Yet another transportation event strongly affected southern California in the 1910s, as national automobile clubs sought to stitch the country together with a highway network for their members who were discovering the freedom and economics of gasoline-powered vehicles. Promoters of the "Ocean-to-Ocean Highway," including Alabama Senator John H. Bankhead, first drew lines on maps to connect Washington, D.C. (through Alabama) with California. While the Ocean-to-Ocean Highway crossed into California at Yuma, by 1912 its members decided to connect with Los Angeles. Another association promoting the "Dixie Overland Trail" projected a connection west to San Diego and eventually sponsored the infamous "Old Plank Road" through Imperial Valley as part of its route. Through the 1920s, City, County, and State road departments with some federal assistance pieced together a paved series of roads for this San Diego transcontinental connection, now called the "Broadway of America" and "Bankhead Highway" for its loudest promoter after his death in 1920. In 1926, a federal committee designated the route in Arizona and California U.S. Highway 80, eventually improved as a 2,500-mile "critical, primary road" passing through eight states from the Atlantic seaboard through Imperial Valley to the Pacific Ocean at San Diego. By 1972, completion of Interstate Highway 8 largely replaced U.S. 80 in California, but many sections of the old highway, regularly improved through the 1960s, still carry traffic in San Diego and Imperial counties (Weingroff 2008; Finley 1997).

Outside the City of San Diego, the earliest farmers and farming communities owned the most productive land and prospered well into the 1920s. Unfortunately, latecomers who purchased less productive land often struggled to maintain farms they frequently sold within 10 years. Many of the county's smaller agricultural tracts disappeared in the 1920s and 1930s, and some were incorporated into a few large agricultural tracts. The associated decline in cattle ranching was further exacerbated by the creation of the CNF in 1908. Developed to protect the San Diego, Orange, and Riverside County watershed, the U.S. Forest Service placed strict guidelines on the number of cattle permitted to graze the forest lands and on burning vegetation to improve forage quality. Still, beef production remained one of the more important agricultural industries in San Diego throughout the 1930s and 1940s.

According to the San Diego Regional Chamber of Commerce (1998–2008), the key industries in the county include agriculture, the military and homeland defense industry, high technology (biomedical, software, telecommunications), international trade, manufacturing, and tourism. Of these, manufacturing, including shipbuilding and repair, production of toys and sporting goods, computers, metals, and industrial machinery, contributed the most to the county's gross national product in 2002. Agricultural production in the county now focuses on specialized crops (e.g., avocados, exotic flowers, and nursery and decorative plants). The county has the second largest number of farms and is the twentieth largest agriculture producer in the United States; nursery plants and flowers constitute two-thirds of the value of crops produced.

5 NATIVE AMERICAN COORDINATION

On March 16, 2015, SWCA requested a search of the Sacred Lands Files (SLFs) from the NAHC. SWCA received a response letter by facsimile from the NAHC on April 20, 2015, stating that the results of the SLF search indicate that no Native American cultural resources are known in the immediate vicinity of the Proposed Project Area. The NAHC provided a list of 15 Native American groups and individuals who may have knowledge of cultural resources in the Proposed Project Area. On June 22, 2015, Carolyn Stewart, Director of Tribal Relations for NEET West, sent letters to each of the contacts listed by the NAHC, plus four additional contacts NEET West identified independently, identifying an area of interest in which the Proposed Project will be located and requesting input by email or by U.S. mail. Table 1 summarizes NEET's coordination efforts with each Native American contact. As of August 21, 2015, NEET West has received two responses: Julie Hagen of the Viejas Band of Kumeyaay Indians requested a site visit and a copy of the cultural resources technical report when it is publicly available, and Carmen Lucas of the Kwaaymii Laguna Band of Mission Indians requested to review the cultural resources technical report and recommended that the Viejas Band of Kumeyaay Indians provide Native American monitoring for the Proposed Project. NEET West responded to Hagen and Lucas, and arranged a site visit on August 4, 2015. Copies of the cultural resources technical report will be provided to the two groups upon filing the PEA with the CPUC.

On July 1, 2015, SWCA requested a supplemental SLF search from the NAHC, which covered an expanded area of interest in case of future changes to the Proposed Project. SWCA received a response letter by email from the NAHC on August 18, 2015, stating that the results of the SLF search indicate that no Native American cultural resources are known in the immediate vicinity of the expanded area of interest. The NAHC provided a list of Native American groups and individuals who may have knowledge of cultural resources in the Proposed Project Area; the list was identical to the list provided in response to the initial request. Documentation of coordination with Native American groups and individuals is provided in Appendix C.

Table 1. Native American Coordination Summary

Native American Contact	Letter Sent	Follow-Ups	Results
Ewiiaapaayp Tribal Office Robert Pinto Sr., Chairperson 4054 Willows Road Alpine, CA 91901 wmicklin@leaningrock.net (619) 445-6315 (619) 445-9126 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Jamul Indian Village Raymond Hunter, Chairperson P.O. Box 612 Jamul, CA 91935 Rhunter1948@yahoo.com (619) 669-4785	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Sycuan Band of the Kumeyaay Nation Cody J. Martinez, Chairperson 1 Kwaaypaay Court El Cajon, CA 92019 ssilva@sycuan-nsn.gov (619) 445-2613 (619) 445~1927 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Kwaaymii Laguna Band of Mission Indians Carmen Lucas P.O. Box 775 Pine Valley, CA 91962 (619) 709-4207	06/22/2015: via U.S. Mail		07/06/2015: Letter received via U.S. Mail requesting a copy of the cultural resources technical report and recommending that the Viejas Band of Kumeyaay Indians provide Native American monitoring for the Proposed Project. A site visit was conducted on August 4, 2015, and the cultural resources technical report will be provided once the PEA is filed with CPUC.
Viejas Band of Kumeyaay Indians Anthony R. Pico, Chairperson P.O. Box 908 Alpine, CA 91903 jhagen@vlejas-nsn.gov (619) 445-3810 (619) 445-5337 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Kumeyaay Cultural Repatriation Committee Steve Banegas, Spokesperson 1095 Barona Road Lakeside, CA 92040 sbanegas50@gmail.com (619) 742-5587 (619) 443-0681 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015

Table 1. Native American Coordination Summary

Native American Contact	Letter Sent	Follow-Ups	Results
Kumeyaay Cultural Historic Committee Ron Christman 56 Viejas Grade Road Alpine, CA 91901 (619) 445-0385	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Viejas Band of Kumeyaay Indians Julie Hagen, Cultural Resources P.O. Box 908 Alpine, CA 91903 jhagen@viejas-nsn.gov (619) 445-3810 (619) 445-5337	06/22/2015: via U.S. Mail		06/29/2015: Letter received from Hagen via email requesting a copy of the cultural resources technical report and a site visit. Stewart responded informing Hagen that she would be in touch regarding her requests. Subsequently, a site visit was conducted on August 4, 2015. The cultural resources technical report will be provided once the PEA is filed with CPUC.
Ewiiaapaayp Tribal Office Will Micklin, Executive Director 4054 Willows Road Alpine, CA 91901 wmicklin@leaningrock.net (619) 445-6315 (619) 445-9126 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Inter-Tribal Cultural Resource Protection Council Frank Brown, Coordinator 240 Brown Road Alpine, CA 91901 frbrown@viejas-nsn.gov (619) 884-6437	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Iipay Nation of Santa Ysabel Clint Linton, Director of Cultural Resources P.O. Box 507 Santa Ysabel. CA 92070 cjlinton73@aol.com (760) 803-5694	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Kumeyaay Cultural Repatriation Committee Bernice Paipa, Vice Spokesperson P.O. Box 937 Boulevard, CA 91905 bernicepaipa@gmail.com	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Sycuan Band of the Kumeyaay Nation Lisa Haws, Cultural Resource Manager 1 Kwaaypaay Court El Cajon, CA 92019 (619) 445-4564	06/22/2015: via U.S. Mail		No response as of 8/21/2015

Table 1. Native American Coordination Summary

Native American Contact	Letter Sent	Follow-Ups	Results
Iipay Nation of Santa Ysabel Virgil Perez, Chairperson P.O. Box 130 Santa Ysabel, CA 92070 (760) 765-0845 (760) 765-0320 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Kumeyaay Diegueno Land Conservancy Kim Bactad, Executive Director 2 Kwaaypaay Court El Cajon, CA 92019 kimbactad@gmail.com (619) 659 1008 (619) 445-0238 (fax)	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Barona Band of Mission Indians Mr. Adam Reyes, Councilman 1095 Barona Road Lakeside, CA 92040	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Barona Band of Mission Indians Mr. Clifford LaChappa, Chairman 1095 Barona Road Lakeside, CA 92040	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Campo Kumeyaay Nation Mr. Ralph Goff, Chairman 36190 Church Road, Suite 1 Campo, CA 91906	06/22/2015: via U.S. Mail		No response as of 8/21/2015
Campo Kumeyaay Nation Mr. Steven Cuero, Committee Member 36190 Church Road, Suite 1 Campo, CA 91906	06/22/2015: via U.S. Mail		No response as of 8/21/2015

6 METHODS

6.1 Records Search

On February 13, 2015, SWCA requested a search of the California Historical Resources Information System (CHRIS) from the SCIC, located at San Diego State University; SCIC provided the results to SWCA on February 18, 2015. The search included any previously recorded cultural resources and investigations within the Records Search Area, defined as approximately a 1-mile radius around the Proposed Project Area (see Figure 3). Both the Survey Area and the Proposed Project Area are within Records Search Area. The CHRIS search also included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, the Historic Properties Directory, and the California State Historic Resources Inventory. The letter from the SCIC summarizing the results of the records search is provided in Appendix B.

6.2 Cultural Resources Survey

SWCA conducted cultural resources surveys on February 24, March 25, May 1, May 11–14, and August 13, 2015. An intensive-level survey of the Cultural Resources Survey Area was conducted. The intensive-level survey consisted of systematic surface inspection with transects walked at 15-m (50-foot) intervals or less to ensure that all surface-exposed artifacts, sites, and built environment resources in the Survey Area could be identified. SWCA examined the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discoloration that might indicate the presence of a cultural midden, roads and trails, and depressions and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations).

Whenever cultural materials were encountered, SWCA collected all data necessary to complete the appropriate DPR 523 series forms (Appendix D). Resources were mapped with a handheld mapping-grade Trimble GeoXT global positioning system (GPS) unit with sub-meter accuracy and differential correction. Field GPS data for sites were post-processed using ArcGIS ArcPad software and projected into Universal Transverse Mercator, Zone 11 North, North American Datum 1983 coordinates. All GPS data were exported into geographic information systems (GIS) geodatabases and plotted onto the associated geo-referenced USGS 7.5-minute quadrangle to ensure accuracy and to produce location maps of all resources. In addition to mapping, SWCA documented all resources with overview photographs. No artifacts were collected during the surveys. SWCA assigned temporary field numbers using the prefix "SUN" (Suncrest) and the designation "S" for site, "BSO" for built environment resources, and "ISO" for isolate. All field notes, photographs, and records related to the current study are on file at the SWCA Half Moon Bay, California, office.

7 RESULTS

7.1 Records Search

7.1.1 Previously Conducted Cultural Resource Studies

Results of the cultural resources records search indicate that 21 previous cultural resource studies have been conducted within the Records Search Area, which is defined as approximately a 1-mile radius around the Proposed Project Area (see Figure 3); five of these were conducted within the Proposed Project Area. Details pertaining to these investigations are presented in Table 2.

Table 2. Prior Cultural Resource Studies within the Records Search Area

Report Number	Author	Year	Study Title	Proximity to Survey Area	Proximity to Proposed Project Area
SD-00293	Carrico, Richard	Unknown	*Archaeological Investigation of TPM 13476 Willows Road Alpine, California*	Outside	Outside
SD-00614	Fink, Gary R.	1974	*Archaeological Survey for the Proposed Descanso Landfill, Descanso, California, Project No. UJ0112*	Outside	Outside
SD-00617	Fink, Gary R.	1973	*Archaeological Survey of the Descanso Landfill Site*	Outside	Outside

Table 2. Prior Cultural Resource Studies within the Records Search Area

Report Number	Author	Year	Study Title	Proximity to Survey Area	Proximity to Proposed Project Area
SD-01261	Isham, Dana	1974	*An Archaeological Survey of Some Rock Circles in the Japatul Valley, San Diego County, California.*	Outside	Outside
SD-01551	Swenson, James D., and Phillip J. Wilke	1980	*An Assessment of Cultural Resources Located on the Viejas Indian Reservation, San Diego County, California*	Outside	Outside
SD-01648	Welch, Patrick	1977	*Archaeological Reconnaissance of the Proposed Alpine Recreational Vehicle Park*	Outside	Outside
SD-02116	TMI Environmental Services	1989	*Draft Environmental Impact Report Tully General Plan Amendment Alpine Community Plan Update (GPA 89-03)*	Outside	Outside
SD-04221	Crouthamel, Steven J.	1994	*An Archaeological Survey of the Viejas Indian Reservation of 10 Scattered Housing Sites, CA 80-60, in the Viejas Mtn, Quad (7.5 minute)*	Outside	Outside
SD-05851	Crouthamel, Steven J.	1991	*Archaeological Site Survey of the Viejas Indian Reservation, San Diego County, California, Proposed House Sites CA 80-56*	Outside	Outside
SD-06425	Carrico, Richard	1990	*Historic Resources Inventory Sweetwater Valley*	Within	Within
SD-07107	Welch, Pat	1977	*An Archaeological Survey of the Claus Property, Escondido*	Outside	Outside
SD-07825	Nighabhlain, Sinead, and Drew Pallette	2000	*Archaeology Survey for the Viejas Water Distribution System Improvement Project Viejas Indian Reservation, California*	Outside	Outside
SD-07827	Nighabhlain, Sinead, and Drew Pallette	2000	*Cultural Resource Survey of Four Properties for the Viejas Fee-To-Trust Transfer Application, Alpine, California*	Outside	Outside
SD-10217	Rosen, Martin D., and Lori Harrington	2005	*Qwest Viejas Relocation Project Historic Property Survey Report and Negative Archaeological Survey Report*	Outside	Outside
SD-10476	Carrico, Richard L.	1974	*Archaeological Reconnaissance of Rezone Request R74-53*	Outside	Outside

Table 2. Prior Cultural Resource Studies within the Records Search Area

Report Number	Author	Year	Study Title	Proximity to Survey Area	Proximity to Proposed Project Area
SD-10551	Arrington, Cindy	2006	*Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California*	Outside	Outside
SD-10997	Carrico, Richard L., Theodore G. Cooley, and Laura J. Barrie	2003	*Final Archaeological Overview for the Cleveland National Forest, California*	Within	Within
SD-11977	SWCA Environmental Consultants	2008	*Final Cultural Resources Survey of Alternatives for the Sunrise Powerlink Project in Imperial, Orange, Riverside, and San Diego Counties, California*	Within	Within
SD-12046	Noah, Anna C.	2008	*Cultural Resources Study of the Modified Route D Substation and Access Road for the SDG&E Sunrise Powerlink Project, San Diego County, California*	Within	Within
SD-12181	Mitchell, Patricia	2009	*Sunrise Powerlink Incident Report of Findings*	Outside	Outside
SD-12711	Garcia-Herbst, Arleen, David Iversen, Don Laylander, and Brian Williams	2010	*Final Inventory Report of the Cultural Resources Within the Approved San Diego Gas & Electric Sunrise Powerlink Final Environmentally Superior Southern Route, San Diego and Imperial Counties, California*	Within	Within

7.1.2 Previously Recorded Cultural Resources

The SCIC records search results identify 21 previously recorded cultural resources within the Records Search Area, which is defined as approximately a 1-mile radius around the Proposed Project Area (see Figure 3). Of these, one is within the Proposed Project Area: prehistoric site P-37-031744/CA-SDI-20166, a prehistoric bedrock milling station. Details pertaining to these sites are presented in Table 3.

Table 3. Previously Recorded Cultural Resources within the Records Search Area

Primary Number	Trinomial	Type	Resource Description	CRHR/NRHP/ SHL Eligibility Status	Recorded By and Year	Proximity to Survey Area	Proximity to Proposed Project Area
P-37-009194	CA-SDI-9194	Prehistoric site	Lithic scatter	Not evaluated	Brandoff, J. 1975	Outside	Outside
P-37-009841	CA-SDI-9841	Prehistoric site	Lithic scatter	Not evaluated	Noach, A., and R. Gadler 1984	Outside	Outside
P-37-029773	CA-SDI-19036	Prehistoric site	Bedrock milling features and lithic scatter	Recommended eligible for NRHP/CRHR	Bouscaren, C., P. Hanes, P. Shattuck, L. Burgos, M. Hares, and R. Pettus 2007; Williams, B. 2010; Williams, B. 2011	Outside	Outside
P-37-029774	CA-SDI-19037	Prehistoric site	Bedrock milling features and lithic scatter	Not evaluated	Bouscaren, C., P. Hanes, P. Shattuck, L. Burgos, M. Hares, and R. Pettus 2007	Outside	Outside
P-37-029775	CA-SDI-19038	Prehistoric site	Bedrock milling features and lithic artifact	Not evaluated	Bouscaren, C., P. Hanes, R. Pettus, L. Burgos, and M. Hares 2007; Comeau, B. 2009	Outside	Outside
P-37-030222	CA-SDI-19254	Prehistoric site	Lithic scatter	Not evaluated	Piek, L. 2007	Outside	Outside
P-37-030375	CA-SDI-19307	Prehistoric site	Bedrock milling feature and lithic scatter	Not evaluated	Doose, N, B. Spelts, R. Brooke, and C. Linton 2008; Williams, B. 2010	Within	Outside
P-37-031198	CA-SDI-19771	Prehistoric site	Bedrock milling features and lithic scatter	Not evaluated	Williams, B., D. Mengers, W. Reed, and J. Herrera 2009	Outside	Outside
P-37-031199	CA-SDI-19772	Prehistoric site	Bedrock milling features	Not evaluated	Williams, B., W. Reed, and J. Herrera 2009	Outside	Outside
P-37-031200	CA-SDI-19773	Prehistoric site	Ceramic scatter	Not evaluated	Williams, B., W. Reed, and J. Herrera 2009	Outside	Outside

Table 3. Previously Recorded Cultural Resources within the Records Search Area

Primary Number	Trinomial	Type	Resource Description	CRHR/NRHP/ SHL Eligibility Status	Recorded By and Year	Proximity to Survey Area	Proximity to Proposed Project Area
P-37-031202	CA-SDI-19775	Prehistoric site	Lithic scatter	Not evaluated	Williams, B., D. Mengers, S. Rochester, L. Piek 2010	Outside	Outside
P-37-031203	CA-SDI-19776	Prehistoric site	Lithic scatter and rock alignment	Not evaluated	Williams, B., D. Mengers, S. Rochester, L. Piek 2010	Outside	Outside
P-37-031204	CA-SDI-19777	Prehistoric site	Bedrock milling features and ceramic scatter	Not evaluated	Williams, B. 2010	Outside	Outside
P-37-031206	CA-SDI-19779	Historic site	Refuse scatter	Not evaluated	Comeau, B. 2009	Outside	Outside
P-37-031212	N/A	Historic site	Two rock cairns	Not evaluated	Williams, B., D. Mengers, W. Reed, and J. Herrera 2009	Outside	Outside
P-37-031221	CA-SDI-20166	Prehistoric site	Bedrock milling features	Not evaluated	Elliot, W., T. Hector-Rosen, J. Herrera, D. Iversen, D. Mengers, and J. Parada 2009	Outside	Outside
P-37-031717	–	Prehistoric isolate	Biface fragment	Not evaluated	Williams, B. 2010	Outside	Outside
P-37-031744	CA-SDI-20166	Prehistoric site	Bedrock milling feature	Unknown	Piek, L., B. Williams, and B. Comeau 2011	Within	Within
P-37-031970	CA-SDI-20239	Prehistoric site	Lithic scatter	Unknown	Justus, S. 2011	Outside	Outside
P-37-033363	CA-SDI-20984	Prehistoric site	Bedrock milling feature	Not evaluated	Justus, S. 2011	Within	Outside
P-37-033365	–	Historic site	Rock ring	Not evaluated	MacHardy, B. 2012	Outside	Outside

7.2 Cultural Resources Survey

SWCA conducted an intensive-level pedestrian survey of the 65.2-acre Cultural Resources Survey Area (Figure 4). Thirteen resources were recorded within the Survey Area (Table 4; Figure A-1): three previously recorded prehistoric archaeological sites (CA-SDI-19307, CA-SDI-20984, and CA-SDI-20166); three newly identified prehistoric archaeological sites (SUN-S-1004, SUN-S-1005, and SUN-S-1012); two newly identified historic built environment resources (SUN-BSO-1002 and SUN-BSO-1011); three newly identified prehistoric isolates (SUN-ISO-1006, SUN-ISO-1017, and SUN-ISO-1028); and two newly identified historic isolates (SUN-ISO-1001 and SUN-ISO-1016). Disturbances are generally limited to the areas adjacent to Bell Bluff Truck Trail and the former location of the Wilson Laydown Area, a temporary laydown yard for construction associated with the Suncrest Substation and currently the site of biological habitat restoration; the SVC location is located within the former laydown yard. Most of the Survey Area consists of slopes of varying steepness and is covered in dense vegetation, including brush, trees, and grasses. Ground visibility in the Survey Area is variable though generally very poor, ranging from less than 10 percent in undisturbed, highly vegetated areas to over 70 percent in disturbed areas that have been cleared of brush (Figures 6–9). SWCA identified 31 acres within the Survey Area as areas with very poor ground visibility; none of these are within the Proposed Project Area (Figure 5).

Table 4. Resources Recorded in Survey Area During Cultural Resources Survey

Primary Number	Trinomial or Temporary Number	Resource Type	Time Period	Description	Intersecting Project Components
P-37-030375	CA-SDI-19307	Prehistoric archaeological site	Prehistoric	Bedrock mortar with one milling slick	None
P-37-031744	CA-SDI-20166	Prehistoric archaeological site	Prehistoric	Bedrock mortar with two milling slicks	SVC underground tie-line
P-37-033363	CA-SDI-20984	Prehistoric archaeological site	Prehistoric	Bedrock mortar with one milling slick	None
–	SUN-S-1004	Prehistoric archaeological site	Prehistoric	Lithic scatter and quarry	None
–	SUN-S-1005	Prehistoric archaeological site	Prehistoric	Bedrock mortar with one milling slick	None
–	SUN-S-1012	Prehistoric archaeological site	Prehistoric	Lithic scatter	SVC location
–	SUN-ISO-1001	Historic isolate	Mid-twentieth century	5-gallon metal drum	None
–	SUN-ISO-1006	Prehistoric isolate	Prehistoric	Flake	None
–	SUN-ISO-1016	Historic isolate	Twentieth century	Metal can	None
–	SUN-ISO-1017	Prehistoric isolate	Prehistoric	Mano fragment	None
–	SUN-ISO-1028	Prehistoric isolate	Prehistoric	Flake	None
–	SUN-BSO-1002	Historic built environment resource	Early twentieth century	Bell Bluff Truck Trail	SVC underground tie line
–	SUN-BSO-1011	Historic built environment resource	Early to mid-twentieth century	Water conveyance feature	None

Figure 5. Survey Coverage and Areas of Poor Ground Visibility

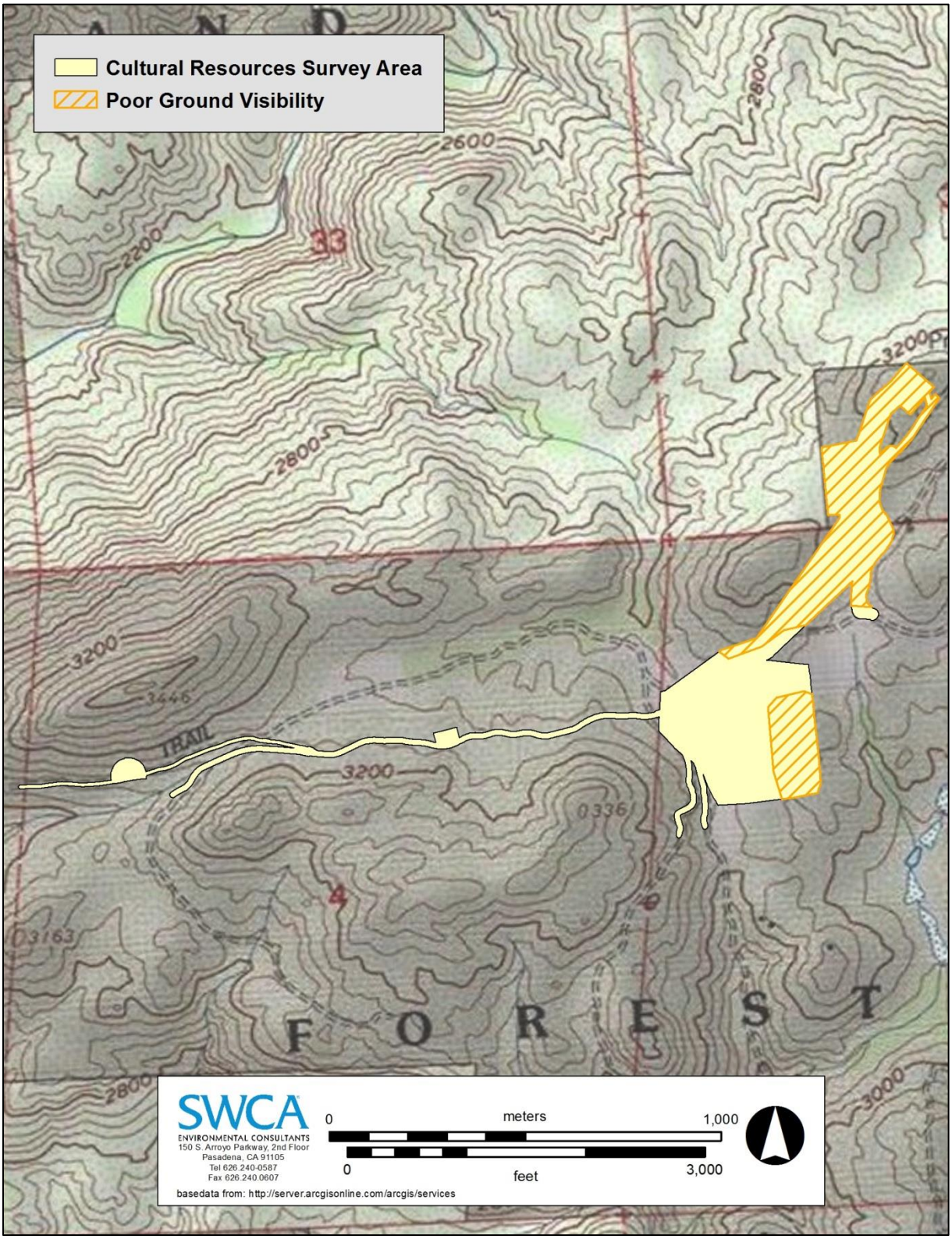


Figure 6. Overview of SVC Location, View to the East

Figure 7. Overview of Survey Area, View to the West

Figure 8. Overview of Survey Area with Dense Vegetation Outside of Proposed Project Area, View to the South

Figure 9. Overview of Bell Bluff Truck Trail within Proposed Project Area, View to the East

7.2.1 Previously Recorded Archaeological Sites

SWCA updated three previously recorded archaeological sites during the field survey: CA-SDI-19307, CA-SDI-20984, and CA-SDI-20166. All three sites are small bedrock milling stations with one or two slicks on granite outcrops. Only one of these, CA-SDI-19307, has associated artifacts.

7.2.1.1 CA-SDI-19307 (P-37-030375)

Temporal Affiliation: Prehistoric
Dimensions: 29 × 20 m (95 feet × 65.5 feet)
Proximity to Proposed Project Area: Outside

Site CA-SDI-19307 (P-37-030375) is a prehistoric bedrock milling station occupying a west-facing slope measuring 29 × 20 m (95 × 65.5 feet) (Figure 10). The site is situated on a granite bedrock landform with an unknown thickness of residuum and colluvium composed of decomposed granite and organic matter or duff. The topography of the vicinity is characterized by mostly flat terrain that slopes gently to the west and southwest toward a broad meadow. Additional, discontinuous granite outcroppings extend northeast of the site; some of these outcroppings are included within the original site boundary. An unnamed, intermittent stream is located approximately 225 m (738 feet) east of the site. Ground visibility is poor (approximately 10 percent) due to the presence of dense short and tall grasses and heavy accumulation of plant duff.

Figure 10. Site CA-SDI-19307, Overview of Milling Station, View to the South

The site was originally recorded in 2008 by Gallegos and Associates as a granite outcrop with a single milling slick and an associated piece of quartz debitage. The site was updated in 2010 by ASM Affiliates, Inc. (ASM), who confirmed that it was in the same condition as previously recorded. SWCA revisited and updated the site record during the current study. SWCA re-located the site in its recorded location and in the same general condition as described in the 2008 site form and in the 2010 updated site record.

The granite outcrop is oriented north-south and was originally measured in 2008 to be 0.7 × 1.0 × 0.3 m (2 feet 3 ½ inches × 3 feet 3 $^{3}/_{8}$ inches × 1 foot). Upon measuring the outcrop for the 2015 site update,

SWCA observed that some residual deposition and accumulation of organic matter has occurred around the perimeter of the small outcrop; nonetheless, the current dimensions were approximately the same as the original measurements. The partially exfoliated milling slick or worked surface of the outcrop measures 8 × 20 centimeters (cm) (3 $^{1}/_{8}$ inches × 7 $^{7}/_{8}$ inches).

SWCA did not observe the piece of quartz debitage noted in the previous site record, possibly due to poor ground visibility. SWCA identified and recorded a flaked stone multi-directional core fragment composed of fine-grained, greenish-blue Santiago Peak metavolcanic material (Figure 11) within the site boundary approximately 14 m north of the milling slick. The core measures 5 × 3.7 cm (2 inches × 1 $^{7}/_{16}$ inches) and is 2.7 cm (1 $^{1}/_{16}$ inches) thick, and displays two negative flake scars originating from two different platform surfaces.

The site was likely utilized at low frequencies in the past by people travelling through the area on seasonal rounds. This type of site is relatively common within the Survey Area, and several new and previously recorded sites exhibit similar levels of utilization. It is unclear whether the milling slick and the associated flaked stone items were used contemporaneously.

Figure 11. Core Fragment Associated with CA-SDI-19307, Plan View

Site CA-SDI-19307 is in good condition with no observable disturbances. Some exfoliation is evident on the bedrock outcrop and worked surface of the milling slick. The area was used for cattle grazing in the past, which may have impacted it. Sediments within the site boundary are fine to coarse loamy sand with approximately 40 percent of the matrix composed of sub-rounded to sub-angular granitic pebbles and gravels (up to 2 cm [$^{13}/_{16}$ inches] in length). No observable indicators such as darkened, organic sediments, additional features, or diverse ranges or densities of surface artifacts were identified at CA-SDI-19307, suggesting little potential for the presence of subsurface cultural deposits at the site. However, the thin layer of colluvium present may conceal buried deposits.

7.2.1.2 CA-SDI-20166 (P-37-031744)

Temporal Affiliation: Prehistoric
Dimensions: 31 × 17 m (101 feet 8 ½ inches × 55 feet 9 $^{3}/_{8}$ inches)
Proximity to Proposed Project Area: Within

Site CA-SDI-20166 (P-37-031744) is a bedrock milling station measuring 31 × 17 m (101 feet 8 ½ inches × 55 feet 9 $^{3}/_{8}$ inches), comprising a cluster of granite outcrops with two partially exfoliated slicks (Figure 12). Site CA-SDI-20166 lies among a rather discrete grouping of granite bedrock outcroppings and boulders. The entire outcrop formation is generally northeast-facing and occurs on a gentle slope that is less than 5 percent. The topography of the vicinity is characterized by a series of small hilltops to the south and west, and slightly undulating terrain sloping downward toward the north and northeast. The area is punctuated by randomly distributed granite outcrop formations. Apart from exposed granite bedrock, ground visibility is poor (approximately 20 percent) due to the presence of dense vegetation and duff in and around the site perimeter.

Figure 12. Overview of Site CA-SDI-20166, View to the West

The site was originally recorded in 2011 by ASM as a prehistoric bedrock milling site consisting of a low granite outcrop measuring 15 × 8 × 1 m (49 feet 2 ½ inches × 26 feet 3 inches × 3 feet 3 $^{3}/_{8}$ inches) with one partially exfoliated slick measuring 33 × 19 cm (1 foot 11 $^{7}/_{8}$ inches × 7 ½ inches). In the 2011 site record, ASM refers to the granite outcrop with milling slick as Feature A; for the present site update, SWCA will refer to this feature as Feature 1019. ASM excavated two shovel test pits on the west and east sides of the outcrop and both were negative for cultural materials (Kyle and Williams 2013). The site was found ineligible for the CRHR by the CPUC and the Bureau of Land Management (BLM) and a portion of the bedrock outcrop was impacted during construction of the adjacent segment of Bell Bluff Truck Trail (Kyle and Williams 2013).

SWCA revisited the site as part of the current study, identified an additional milling slick, and expanded the site boundary. The site location is consistent with the original recording; however, an approximately 3-m portion of the bedrock outcrop south of the recorded milling slick location was impacted as a result of road construction (Figure 13). SWCA identified the granite outcrop and the location of Feature 1019. SWCA's measurements of Feature 1019 are consistent with ASM's measurements, and the feature appears to be in the same general condition as described in the original 2011 site record (Figure 14).

Figure 13. Site CA-SDI-20166, Overview of Outcrop Impacted by Road Construction, View to the North

Figure 14. Overview of Feature 1019, View to the Northeast

SWCA identified and recorded Feature 1021, an additional partially exfoliated milling slick measuring 1.2 × 1.2 m (3 feet 7 $^{11}/_{16}$ inches × 3 feet 7 $^{11}/_{16}$ inches) (Figure 15). Feature 1021 is located on the west end of a large, raised, and partially exfoliated granite outcrop that measures 14 × 3 × 2.3 m (45 feet 11 $^{3}/_{16}$ inches × 9 feet 10 $^{3}/_{16}$ inches × 7 feet 6 $^{5}/_{8}$ inches). The location of the slick atop Feature 1021 affords 360-degree visibility of the surrounding area.

Figure 15. Overview of Feature 1021, View to the Northeast

The site is a special purpose site and was likely utilized at low frequencies in the past by people travelling through the area on seasonal rounds. This type of site is common in the Survey Area, and several new and previously recorded sites exhibit similar levels of utilization.

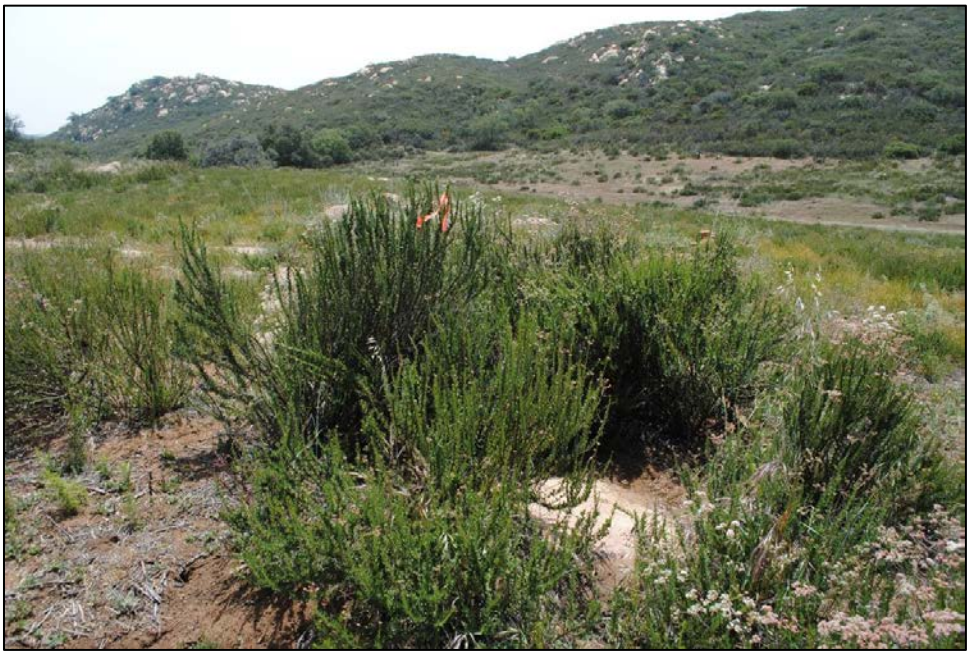
Site CA-SDI-20166 is in poor condition. Road construction for Bell Bluff Truck Trail has damaged a portion of the granite outcrop comprising Feature 1019 and has disturbed the soils bordering the south and southeast edges of the site. Substantial exfoliation is evident on the bedrock outcrops and worked surfaces of the two milling slicks. Sediments within the site boundary are dark brown, sandy silt with some decomposed granite. No observable indicators such as darkened organic sediments, additional features, or diverse ranges or densities of surface artifacts were identified at CA-SDI-20166, suggesting little potential for the presence of subsurface cultural deposits at the site. Subsurface testing in 2011 did not identify any subsurface deposits associated with the site (Kyle and Williams 2013).

7.2.1.3 CA-SDI-20984 (P-37-033363)

Temporal Affiliation: Prehistoric
Dimensions: 9 × 7 m (29 feet 6 $^{3}/_{8}$ inches × 22 feet 11 $^{5}/_{8}$ inches)
Proximity to Proposed Project Area: Outside

Site CA-SDI-20984 (P-37-033363) is a prehistoric bedrock milling station measuring 9 × 7 m (29 feet 6 $^{3}/_{8}$ inches × 22 feet 11 $^{5}/_{8}$ inches) comprising a low granite outcrop with a single, partially exfoliated slick located in a generally flat and open area (Figure 16). An additional, discrete granite outcrop exists about 20 m south of the site. The topography of the greater vicinity is characterized by mostly flat terrain that slopes gently to the east toward a small hilltop. Ground visibility is poor (approximately 25 percent) due to the presence of dense short and tall grasses, heavy accumulation of plant duff, and new vegetal growth in the site's immediate vicinity.

Figure 16. Site CA-SDI-20984, Overview of Milling Station, View to the South



The site was originally recorded in 2011 by ASM as a prehistoric bedrock milling site consisting of one partially exfoliated slick measuring 50 × 40 cm (1 foot 7 $^{11}/_{16}$ inches × 1 foot 3 ¾ inches), located on a granite outcrop oriented north-south and measuring 1.20 × 0.80 × 0.05 m (3 feet 11 ¼ inches × 2 feet 7 $^{7}/_{16}$ inches × 1 foot 7 $^{11}/_{16}$ inches) with no associated artifacts. SWCA revisited the site as part of the current study. Although the site is located approximately 20 m (65 feet) north of the location indicated by the GIS data provided by the SCIC, it is in the same general condition as described in the 2011 site record. An unknown thickness of residuum and accumulated plant material has slightly altered the appearance of the bedrock outcrop, but SWCA's measurements were consistent with the previous recording. No other artifacts or features were encountered.

The site was likely utilized at low frequencies in the past by people travelling through the area on seasonal rounds. This type of site is relatively common in the Survey Area, and several new and previously recorded sites exhibit similar levels of utilization.

Site CA-SDI-20984 is in good condition with no observable disturbances. Some exfoliation is evident on the bedrock outcrop and worked surface of the milling slick. The area was used for cattle grazing in the past, which may have impacted the site. Observed sediments within the site boundary are medium reddish-brown colluvium with intermixed decomposed granite; approximately 20 percent of the matrix is composed of sub-angular granitic pebbles and gravels up to 2 cm ($^{13}/_{16}$ inches) in length. No observable indicators such as darkened organic sediments, additional features, or diverse ranges or densities of surface artifacts were identified at CA-SDI-19307, suggesting little potential for the presence of subsurface cultural deposits at the site. However, the thin layer of colluvium present around the perimeter of the site may conceal buried cultural deposits.

7.2.2 Newly Recorded Archaeological Sites

SWCA identified and recorded three new archaeological sites during the field survey: SUN-S-1004, Sun-S-1005, and SUN-S-1012, all of which are prehistoric.

7.2.2.1 SUN-S-1004

Temporal Affiliation: Prehistoric
Dimensions: 52 × 16 m (170 feet 7 $^{3}/_{16}$ inches × 52 feet 5 $^{7}/_{8}$ inches)
Proximity to Proposed Project Area: Outside

Site SUN-S-1004 is a prehistoric lithic quarry and flake scatter measuring 52 × 16 m (170 feet 7 $^{3}/_{16}$ inches × 52 feet 5 $^{7}/_{8}$ inches), comprising three distinct concentrations of lithics (Features 1025, 1026, and 1027), a scatter of both modified and unmodified quartz and granitic lithic materials, and an exposed quartz vein utilized as a quarry. The site is situated on an approximately 5 percent southwest-facing slope near the top of a small hill (Figure 17). The site is transected by a northeast-southwest-trending unpaved road, within which multiple fluvial channels occur. The topography of the general site vicinity is characterized by undulating terrain that slopes gently from a small hilltop to the northeast toward a relatively narrow, northeast-southwest-trending drainage to the southwest. Dense vegetation is present throughout most of the area, and identified artifacts are located either within the road or other areas that have been cleared of vegetation. Ground visibility varies from excellent (85 percent) within the unpaved access road and other areas cleared of vegetation to very poor in adjacent areas with dense vegetation.

Figure 17. Overview of Site SUN-S-1004, View to the Southwest

Artifacts outside the artifact concentrations consist of one core and at least 10 pieces of milky quartz and crystalline quartz debitage. The site surface is littered with small to large gravels and cobbles as well as small boulders composed of granite and quartz material types. An exposed vein of quartz that was likely used as a quarry for lithic tool production is located at the northeast end of the site within the unpaved access road.

Feature 1025 is located within a small clearing on the east side of the unpaved access road that transects the site (Figure 18). The concentration measures 3.5 × 1.5 m (11 feet 5.75 inches × 4 feet 11 inches), and consists of four pieces of milky and crystalline quartz debitage. Lithic debitage located inside of Feature 1025 is summarized in Table 5.

Figure 18. Site SUN-S-1004, Overview of Feature 1025, View to the Northwest

Table 5. Lithic Debitage Present in Feature 1025

Material Type	Flake Type	Size Class (maximum length of flake in centimeters)					Type Total	Material Total
		1	2	3	4	5		
Milky quartz	T				1		1	1
	S						-	
	P						-	
Crystalline quartz	T			1	1		2	3
	S			1			1	
	P						-	
Size Total				**2**	**2**		**4**	**4**

T = Tertiary, S = Secondary, P = Primary

Feature 1026 is a concentration of seven pieces of crystalline quartz flaked stone debitage in a small clearing on the southwest side of the unpaved access road, and measuring 1.5 × 1.0 m (4 feet 11 inches × 3 feet 3 $^{3}/_{8}$ inches) (Figures 19 and 20). Lithic debitage inside Feature 1026 is summarized in Table 6.

Figure 19. Site SUN-S-1004, Overview of Feature 1026, View to the West

Figure 20. Site SUN-S-1004, Flakes from Feature 1026, Plan View

Table 6. Lithic Debitage Present in Feature 1026

Material Type	Flake Type	Size Class (maximum length of flake in centimeters)					Type Total
		1	2	3	4	5	
Crystalline quartz	T		4	3			7
	S						-
	P						-
Size Total			**4**	**3**			**7**

T = Tertiary, S = Secondary, P = Primary

Feature 1027 is a concentration of three white and gray–colored chalcedony flakes and five crystalline quartz flakes located adjacent to the west side of the unpaved access road and measuring 2.0 × 1.0 m (6 feet 6 ¾ inches × 3 feet 3 $^{3}/_{8}$ inches) (Figure 21). Only two of the crystalline quartz flakes are complete; the remaining flakes are fragments. The debitage present in Feature 1027 is summarized in Table 7.

Figure 21. Site SUN-S-1004, Overview of Feature 1027, View to the Northwest

Table 7. Lithic Debitage Present in 1027 Lithic Debitage

Material Type	Flake Type	Size Class (maximum length of flake in centimeters)					Type Total	Material Total
		1	2	3	4	5		
Chalcedony	T			2	1		3	3
	S						-	
	P						-	
Crystalline quartz	T		1	4			5	5
	S						0	
	P						-	
Size Total			**1**	**6**	**1**		**8**	**8**

T = Tertiary, S = Secondary, P = Primary

Site SUN-S-1004 represents a locus of lithic procurement and reduction activity associated with prehistoric peoples' travel across the landscape. The flaked stone artifacts are manufactured from a narrow range of materials, consisting of milky quartz, crystalline quartz, and chalcedony; the quartz varieties were likely derived from local surface cobbles and vein deposits in the immediate vicinity. Chalcedony may be available from local geological deposits composed of weathered igneous parent material, but its origin is likely extra-local and was transported to the site from elsewhere. Only one core was identified within SUN-S-1004, suggesting that the site was the location of low frequency episodes of tool stone procurement and primary reduction. Most of the flaked stone debitage, however, reflects middle- to late-stage flake-core reduction, indicating that a low frequency expedient stone tool production took place at this site. Only one flake from the identified debitage assemblage retains any cortex, and the preponderance of artifacts is interior or tertiary flakes. Given the presence of potentially extra-local lithic materials, the site may also have been a location where people conducted minor tool maintenance activities and resupplied toolkits with local materials.

Site SUN-S-1004 is in poor condition, with moderate disturbances by construction, use, and maintenance of the unpaved access road that transects it, as well as the multiple fluvial channels present in the road. Many of the lithic artifacts at the site have likely been redeposited as a result of fluvial action along the road section. Site sediments are composed of dark red and brownish-red, poorly sorted loamy sand with approximately 60 percent of the matrix composed of small to large (up to 10 cm [3 $^{15}/_{16}$ inches] long) gravel and cobble inclusions and few boulder-sized rocks (up to 30 cm [11 $^{13}/_{16}$ inches] long). No observable indicators such as darkened organic sediments, features, or diverse ranges or densities of surface artifacts were identified at SUN-S-1004, suggesting little potential for the presence of subsurface cultural deposits at the site. Further, evidence of frequent, high-energy fluvial action observed at the surface of SUN-S-1004 indicates an unstable land surface, which is not conducive to the preservation of intact archaeological deposits.

7.2.2.2 SUN-S-1005

Temporal Affiliation: Prehistoric
Dimensions: 24 × 20 m (78 feet 8 $^{7}/_{8}$ inches × 65 feet 7 $^{7}/_{16}$ inches)
Proximity to Proposed Project Area: Outside

Site SUN-S-1005 is a prehistoric bedrock milling station consisting of one partially exfoliated milling slick located within a group of granite outcrops and measuring 24 × 20 m (78 feet 8 $^{7}/_{8}$ inches × 65 feet 7 $^{7}/_{16}$ inches) (Figure 22). The site is located near the base of a gentle, northeast-facing slope on the west

end of a large, open, and grassy meadow. A north-south-trending ephemeral stream is located approximately 100 m to the east. Ground visibility is low, at approximately 30 percent across the site.

Figure 22. Overview of Site SUN-S-1005, View to the Northeast

Feature 1023 is a milling slick located at the south end of a low, flat granitic bedrock outcrop that is oriented north-south and measures 5.5 × 2.7 m (18 feet ½ inch × 8 feet 10 $^{5}/_{16}$ inches). The worked surface of the feature measures 1.15 × 1.0 m (3 feet 9 ¼ inches × 3 feet 3 $^{3}/_{8}$ inches) and exhibits faint evidence of use. No additional artifacts or features were observed. The site was likely utilized at low frequencies in the past by people travelling through the area on seasonal rounds. This type of site is relatively common in the Proposed Project Area, and several new and previously recorded sites exhibit similar levels of utilization.

Site SUN-S-1005 is in good condition with no observable disturbances. Some exfoliation is evident on the bedrock outcrop and on the milling slick, and the area has been used for livestock grazing, which may have impacted it. Portions of the bedrock outcropping and milling slick are covered with dirt and duff from the immediate vicinity. Site sediments are composed of light to medium-brown, poorly sorted coarse sand derived from decomposing granite; sediment constituents also include small to large pebbles and small gravels (up to 2 cm [$^{13}/_{16}$ inches] long). No observable indicators such as darkened organic sediments, additional features, or diverse ranges or densities of surface artifacts were identified at SUN-S-1005, suggesting little potential for the presence of subsurface cultural deposits at the site. However, the thin layer of colluvium around the perimeter of the site may conceal buried cultural deposits.

7.2.2.3 SUN-S-1012

Temporal Affiliation: Prehistoric
Dimensions: 15 × 12 m (49 feet 2 ½ inches × 39 feet 4 $^{7}/_{16}$ inches)
Proximity to Proposed Project Area: Within

Site SUN-S-1012 is a prehistoric lithic scatter consisting of three pieces of flaked stone debitage measuring 15 × 12 m (49 feet 2 ½ inches × 39 feet 4 $^{7}/_{16}$ inches). The site is located on a gentle, west-facing slope (less than 2 percent) within the previous location of the Wilson Laydown Area (Figure 23).

The entire area of the former laydown yard is now the location of biological habitat restoration. Ground visibility is good, at approximately 85 percent across the site.

Figure 23. Overview of Site SUN-S-1012, View to the Southeast

The flakes are manufactured from a single metavolcanic material type known as Santiago Peak (Figure 24). The Santiago Peak Formation is a near-local source of lithic material; the metamorphosed volcanic material is fine-grained and exhibits a suitable conchoidal fracture (Pigniolo 2009). Lithic debitage present is summarized in Table 8.

Figure 24. Site SUN-S-1012, Dorsal Surface, Plan View.
Left to Right: Artifact Nos. 1033, 1031, and 1032.

Table 8. SUN-S-1012, Lithic Debitage Tally

Material Type	Flake Type	Size Class (maximum length of flake in centimeters)					Type Total
		1	2	3	4	5	
Santiago Peak Metavolcanic	T			1	1		2
	S			1			1
	P						-
Size Total				**2**	**1**		**3**

T = Tertiary, S = Secondary, P = Primary

Based on debitage type and artifact distribution and frequency, SUN-S-1012 likely represents a single-use reduction locus where people conducted core reduction and minor maintenance activities associated with their movement across the landscape. Debitage attributes indicate that middle- and late-stage core reduction took place, along with some core maintenance.

The site is in poor condition with significant disturbances and is impacted by past use of the area as a construction laydown yard and by current habitat restoration efforts. Multiple vehicle tracks likely associated with laydown yard or restoration activities are present within the site boundary. The lithic artifacts at the site were likely redeposited as a result of ground disturbances associated with use of the area as a materials storage and laydown area, including brush clearing and grading, topsoil salvage, ripping and re-contouring to a depth of 46–61 cm (18–24 inches), and habitat restoration efforts. Other disturbances include colluvial and alluvial processes, vehicle disturbances, pedestrian traffic, and bioturbation. Soils present consist of light brownish-yellow, poorly sorted fine to coarse sand with gravel-sized inclusions derived from colluvial slopewash. No observable indicators such as darkened organic sediments, features, or diverse ranges or densities of surface artifacts were identified at SUN-S-1012, suggesting little potential for the presence of buried cultural deposits at the site.

7.2.3 Newly Recorded Isolates

SWCA identified and recorded five isolated artifacts, consisting of three prehistoric isolates (SUN-ISO-1006, SUN-ISO-1017, and SUN-ISO-1028) and two historic isolates (SUN-ISO-1001 and SUN-ISO-1016). The prehistoric isolates are flaked and ground stone artifacts, and are consistent with regular use of the area by prehistoric peoples. The historic isolates are likely the result of use and casual dumping by local residents in the twentieth century. Isolated artifacts are summarized in Table 9.

Table 9. Newly Recorded Isolated Resources

Isolate Number	Time Period	Description	Date Range	References	Intersecting Project Components
SUN-ISO-1006	Prehistoric	Gray rhyolite medial fragment with simple dorsal topography	Prehistoric	–	None
SUN-ISO-1017	Prehistoric	Bifacial, granitic mano fragment	Prehistoric	–	None
SUN-ISO-1028	Prehistoric	Crystalline quartz tertiary flake fragment with single-facet platform	Prehistoric	–	None

Table 9. Newly Recorded Isolated Resources

Isolate Number	Time Period	Description	Date Range	References	Intersecting Project Components
SUN-ISO-1001	Historic	5-gallon metal drum	Twentieth century	ICC Compliance Center 2015	None
SUN-ISO-1016	Historic	Metal can; can opener–opened with welded side-seam	1904–1993	Rock 1987	None

7.2.4 Newly Recorded Built Environment Resources

SWCA identified and recorded two historic built environment resources during the field survey: SUN-BSO-1002 and SUN-BSO-1011.

7.2.4.1 SUN-BSO-1002 (BELL BLUFF TRUCK TRAIL)

Temporal Affiliation: Historic
Dimensions: Varied
Proximity to Proposed Project Area: Within

The current study identified and recorded three segments of SUN-BSO-1002, Bell Bluff Truck Trail, an access road located in unincorporated San Diego County (Figures 25–27). Historic maps and aerial photographs indicate that portions of Bell Bluff Truck Trail have been realigned several times since initial development of the road in the early twentieth century, most notably during the construction of the adjacent Suncrest Substation in 2012. The three segments that were recorded as part of the current study are identified portions of the historic road alignment that intersect the Proposed Project Area. All segments were historically unpaved, but two were graded and paved as part of the substation's construction and include drainage culverts, paved water channels, and other erosion control infrastructure.

Appearing to coincide with the original road alignment dating to at least 1903, the western segment is approximately 0.3 mile (0.48 kilometer [km]) long and 12 feet (3.7 m) wide. The middle segment begins approximately 0.5 mile (0.8 km) east of the western segment, and appears to have been constructed between 1960 and 1982, replacing an earlier alignment to the north. Also recently paved, it is approximately 0.2 mile (0.3 km) long and 30 feet (9.1 m) wide. The eastern segment comprises a small portion of a segment that was likely constructed between 1960 and 1982 and that has been recently paved, and a north-south-trending, unpaved spur that appears to have been constructed prior to 1944.

The subject property is located in a largely undeveloped area that is characterized by native vegetation. Due to the recent paving of two segments of the road and extensive grading and realignment, the subject property no longer retains integrity of design, materials, and workmanship.

Figure 25. Western Segment of Bell Bluff Truck Trail, View to the Northeast

Figure 26. Eastern Segment of Bell Bluff Truck Trail, View to the South

Figure 27. Middle Segment of Bell Bluff Truck Trail, View to the Northeast

Historic USGS topographic maps dating to 1903 identify an unpaved access road following a similar alignment of the western segment of the subject property (USGS 1903) (Figure 28). The road appears to have been developed to connect a building west of the termini of the western segment to more developed areas to the east. By 1944, the building appears to have been demolished and the road, now identified as Bell Bluff Truck Trail, had been extended further to west and north to connect to the community of Alpine (USGS 1942) (Figure 29). The road continued to operate as a recreational trail into the following decades and was intermittently realigned, including development of the current eastern segment between 1960 and 1983 (California Legislature 1951; USGS 1960) (Figure 30). Portions of Bell Bluff Truck Trail, including two segments of the subject property, were incorporated into an access road that was developed in support of the construction and operation of the Suncrest Substation in 2012 (Geocon 2015). As part of this effort, two of the three subject segments were graded and paved to connect to a newly developed segment of road.

Figure 28. Segments of Bell Bluff Truck Trail in the Survey Area on a 1903 USGS Topographic Map

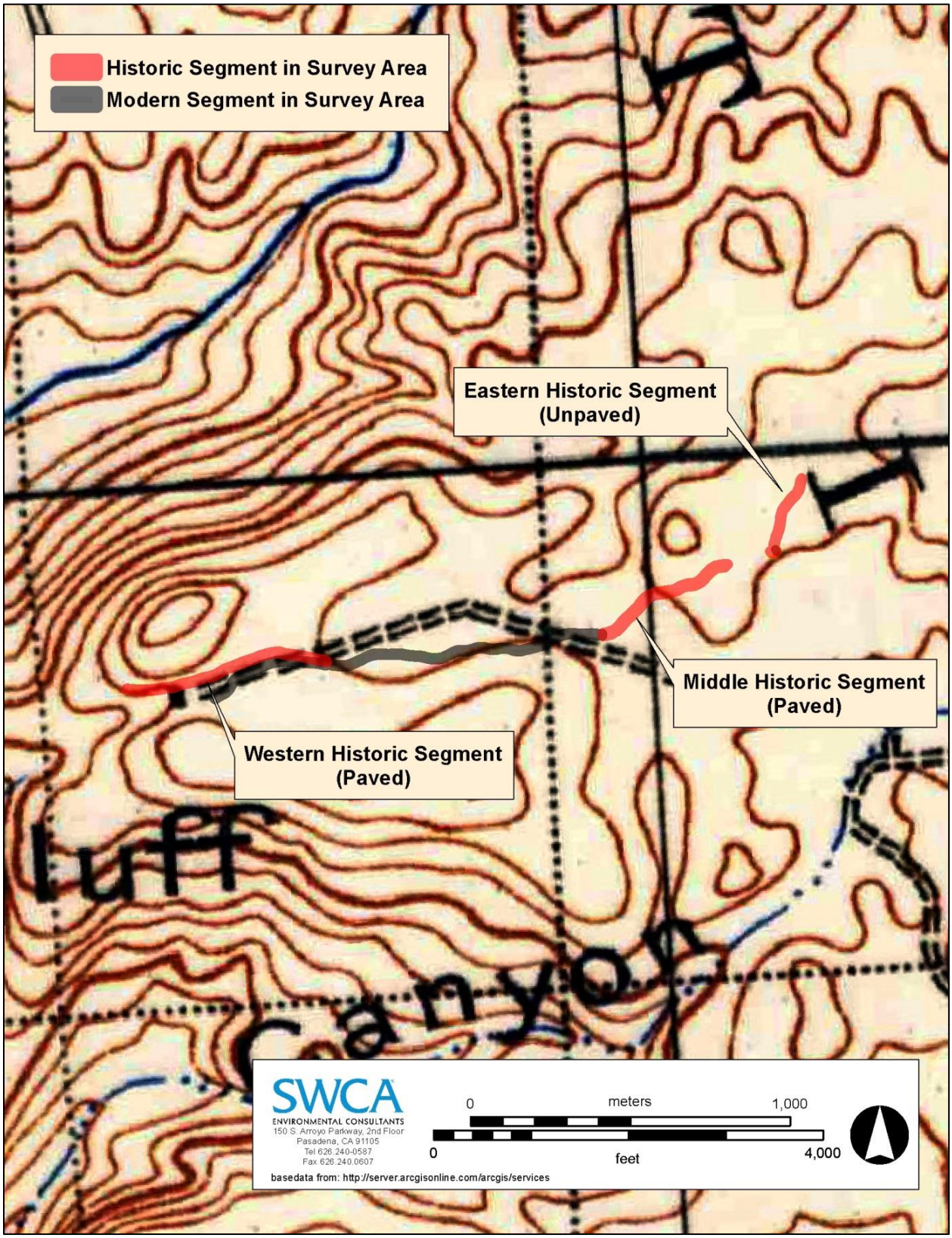


Figure 29. Segments of Bell Bluff Truck Trail in the Survey Area on a 1944 USGS Topographic Map

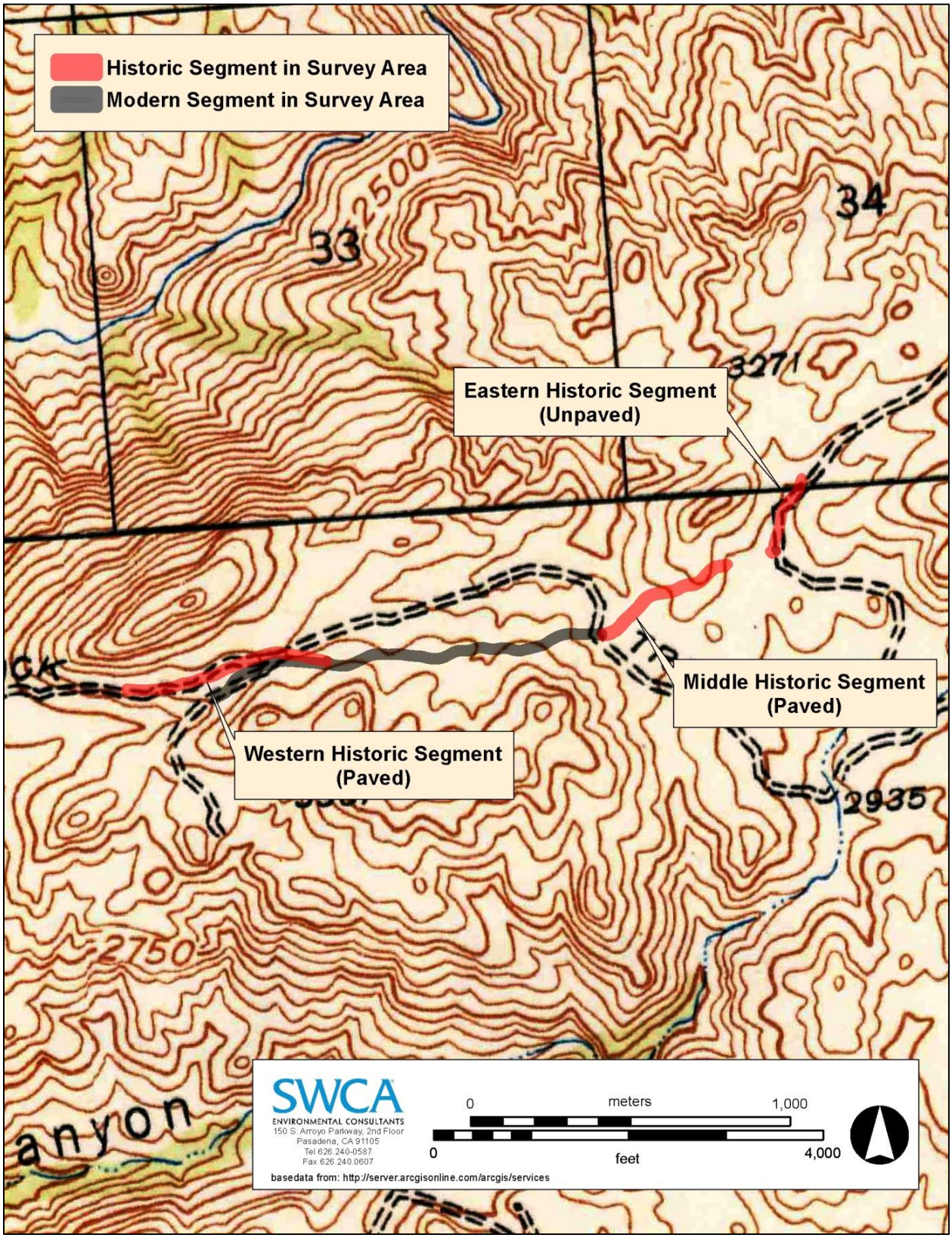
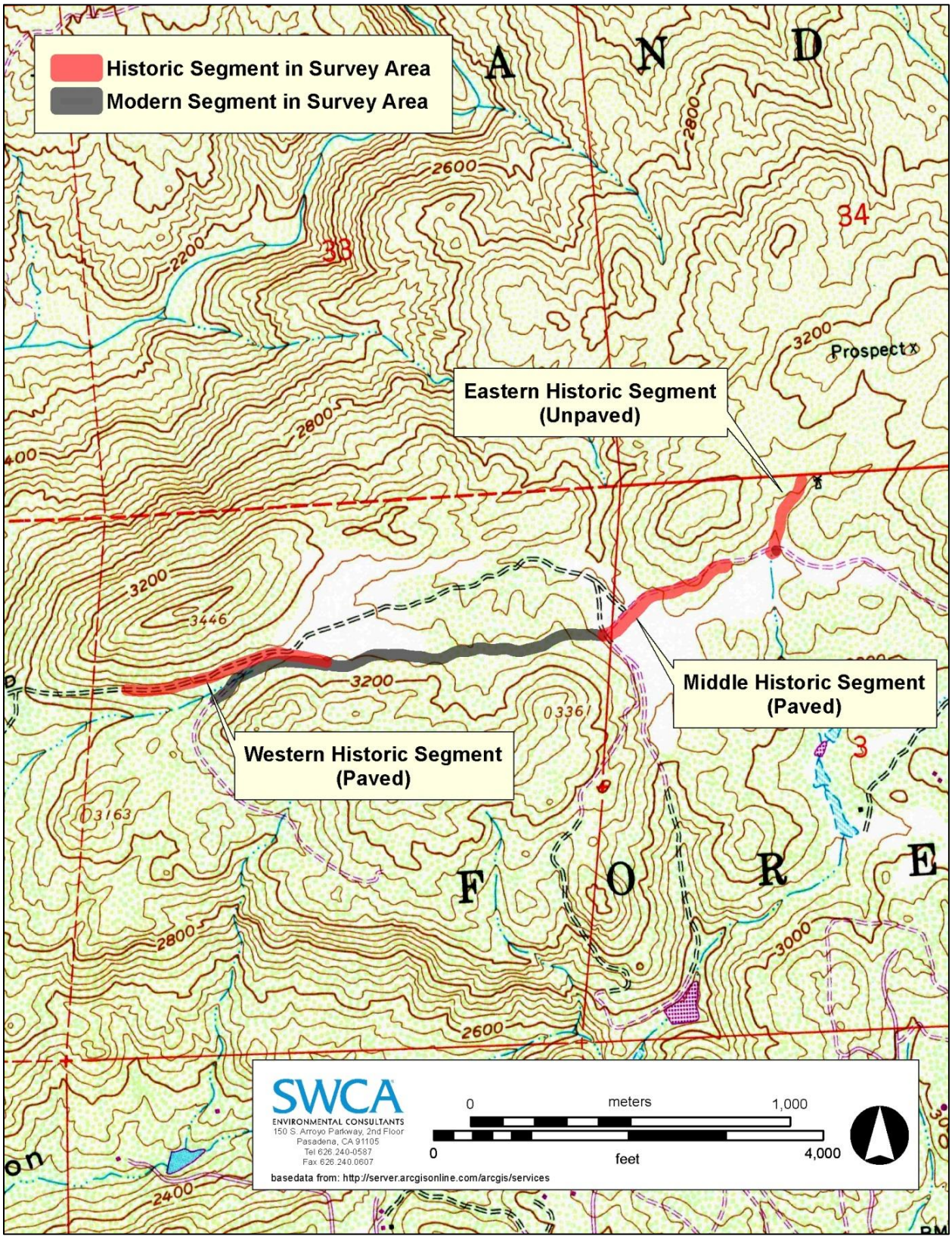


Figure 30. Segments of Bell Bluff Truck Trail in the Survey Area on a 1960 USGS Topographic Map; Photorevised in 1983



7.2.4.2 SUN-BSO-1011

Temporal Affiliation: Historic
Dimensions: 18 feet × 1 foot 6 inches (5.5 × 0.5 m)
Proximity to Proposed Project Area: Outside

SUN-BSO-1011 consists of a corrugated metal conduit and an associated rock alignment (Figure 31) within the previous location of the Wilson Laydown Area. Potentially a culvert for Bell Bluff Truck Trail prior to its realignment ca. 1960, the conduit is approximately 18 feet (5.5 m) long with a diameter of 1 foot 6 inches (0.5 m), and is partially buried under a built-up mound of sediments from the surrounding area. It is oriented east-west and is bordered to the east by a linear rock alignment composed of a single course of angular, granite boulders. Although the exposed southern portion has been slightly damaged from impact, the resource still retains overall integrity. It is situated in a small, narrow, north-south-trending valley that is undeveloped and characterized by high-density native and invasive grasses.

Figure 31. Overview of SUN-BSO-1011, View to the West

SUN-BSO-1011 appears to have been constructed at some point between 1903 and 1942 as part of a former alignment of Bell Bluff Truck Trail. Historic USGS topographic maps dating to 1903 first identify Bell Bluff Truck Trail following an east-west alignment south of SUN-BSO-1011 and leading to a building approximately 1 mile to the west (USGS 1903). Bell Bluff Truck Trail was realigned by 1942, crossing the location of SUN-BSO-1011 and extending to the community of Alpine approximately 6 miles northwest; SUN-BSO-1011 appears to have been constructed as a culvert for ca. 1942 alignment of Bell Bluff Truck Trail (USGS 1942). Bell Bluff Truck Trail was realigned again ca. 1960, resulting in the abandonment of SUN-BSO-1011 and the eventual erosion of the former road grading (USGS 1960).

8 SUMMARY AND RECOMMENDATIONS

The Proposed Project Area is in an unincorporated area of San Diego County, approximately 29 miles east of San Diego and 3.36 miles southeast of the community of Alpine. The Proposed Project consists of the SVC location, SVC tie-line, riser pole, and a single 300-foot-long overhead transmission span connecting the SVC tie-line to the Suncrest Substation. Because the cultural resources study was conducted prior to finalization of project plans, SWCA surveyed a larger Survey Area comprising approximately 65.2 acres that consisted of all land under consideration for the Proposed Project at the time of the survey; the Proposed Project Area is included in the Survey Area.

SWCA requested a CHRIS records search from the SCIC, which identified three prehistoric archaeological sites in the Survey Area; of these, site CA-SDI-20166, a bedrock milling station, is located in the Proposed Project Area. Qualified SWCA archaeologists conducted an intensive-level pedestrian cultural resources survey of the Survey Area. During the survey, SWCA revisited and updated all three previously recorded sites. In addition, SWCA identified and recorded three prehistoric archaeological sites, two historic built environment resources, three prehistoric isolated artifacts, and two historic isolated artifacts within the Survey Area. Of these, archaeological site SUN-S-1012, a prehistoric lithic scatter, and built environment SUN-BSO-1002, historic Bell Bluff Truck Trail, are located in the Proposed Project Area.

As discussed in Section 3, Regulatory Framework, above and in accordance with PRC Section 5024.1(c)(1–4), a resource is considered eligible for the CRHR and ***historically significant*** if it 1) retains "substantial integrity," and 2) meets at least one of the following criteria:

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

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

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

4) Has yielded, or may be likely to yield, information important in prehistory or history.

Under CEQA, isolates are generally not eligible for the CRHR. The information potential of the five isolated artifacts identified during the field survey has been exhausted by their recordation and analysis as part of the current study, and relevant DPR forms will be submitted to the CHRIS information center. Although none of the isolates are located within the Proposed Project Area, no further work is necessary for these resources, regardless of future changes to the Proposed Project footprint.

Prehistoric archaeological sites CA-SDI-19307, CA-SDI-20984, SUN-S-1004, and SUN-S-1005 have not been evaluated for listing on the CRHR. All these sites will be avoided due to project redesign; if changes to the Proposed Project footprint occur, impacts to any of these sites should be avoided.

Prehistoric archaeological site SUN-S-1012 is located in the Proposed Project Area, within the former Wilson Laydown Area, a materials storage and laydown area for Sunrise Powerlink that is currently the site of biological habitat restoration. Ground disturbance in the vicinity of the site that occurred during site preparation, during its use as a materials storage and laydown area, and during restoration efforts was significant (SDG&E 2015). Construction activities associated with site preparation included brush clearing and grading; removal of native vegetation and incorporation of vegetation into the topsoil, and topsoil salvage to a depth of 6 inches (15.24 cm) (AECOM and RECON 2012). After the location was no longer used as a materials storage and laydown area, restoration efforts included re-contouring the land

and mechanically ripping the ground to alleviate compaction, resulting in substantial movement of sediments. The yard was ripped and cross-ripped to a depth of 18 to 24 inches (45.72 to 60.96 cm) prior to being re-contoured to the original topography. Salvaged topsoil was then re-distributed over the site and seeded (SDG&E 2015).

The ground surface surrounding site SUN-S-1012 is highly disturbed, with a visibly uneven surface consisting of a mixture of subsoil and topsoil. Information provided by SDG&E indicates that the disturbance related to the use of the area as a materials storage and laydown area for Sunrise Powerlink has thoroughly disrupted the horizontal position of materials and the stratigraphic relationships of the entire area to a depth of at least 45 cm, and as deep as 61 cm (SDG&E 2015). The site is not known to contain buried deposits, but if these exist, they are highly unlikely to retain integrity. SWCA thus finds prehistoric archaeological site SUN-S-1012 ineligible for listing in the CRHR due to a lack of integrity. In addition, SWCA prehistoric archaeological site SUN-S-1012 does not meet the criteria for a "*unique archaeological resource*" under CEQA. Thus, SWCA no further cultural resources work, including further research, avoidance, or additional mitigation measures, is necessary for this resource.

Prehistoric archaeological site CA-SDI-20166, located within the Proposed Project Area, was evaluated by ASM and found not eligible for listing on the CRHR by the CPUC and the BLM (Kyle and Williams 2013). As part of the current study, SWCA updated the site, identified an additional feature in the portion of the site outside the Proposed Project Area, and expanded the site boundary. The newly identified feature is the same type of feature as was identified in the original site record, and there is no evidence to suggest buried cultural deposits are present within the expanded site boundary. Thus, the new data do not change the previous finding that the site lacks the potential to yield important information (Criterion 4). In addition, there are no new data to suggest that the site may be eligible under Criterion 1, 2, or 3. SWCA finds the site ineligible for listing on the CRHR, and no further cultural resources work, including further research, avoidance, or additional mitigation measures, is necessary for this resource.

SWCA finds built environment resource SUN-BSO-1002 (Bell Bluff Truck Trail) not eligible for listing in the CRHR or as a historical resource in San Diego County, either individually or as a contributor to an eligible historic district for the following reasons:

- Research did not reveal any direct and important associations with the CNF, the early development of the area, or a significant event or patterns of development, nor with any individual significant in the history of the city, region, state, or nation (Criteria 1 and 2).

- Available sources also did not identify the structure's designer or builder, and it is a typical (but not distinctive or outstanding) example of a common property type; it does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, nor possess high artistic values (Criterion 3).

- Research does not suggest the property has the potential to yield information important in history or prehistory (Criterion 4).

The resource has been modified numerous times since it was initially developed in the early twentieth century, including recent grading, paving, and other alterations. Taken together, these modifications have affected the integrity of the subject property, and it no longer conveys any potential significance as an early unpaved access road. Because built environment resource SUN-BSO-1002 (Bell Bluff Truck Trail) is ineligible for listing on the CRHR, no further cultural resources work, including further research, avoidance, or additional mitigation measures, is necessary for this resource.

SWCA finds built environment resource SUN-BSO-1011 not eligible for listing in the NRHP or CRHR, or as a historical resource in the County of San Diego either individually or as contributors to an eligible historic district for the following reasons:

- It is unable to convey any associations with Bell Bluff Truck Trail following realignment of the road and the subsequent erosion of the grading, and research did not reveal any direct and important associations with the CNF, the early development of the area, or a significant event or patterns of development, nor with any individual significant in the history of the city, region, state, or nation (Criteria A/1/A and B/2/D).

- Available sources also did not identify the structure's designer or builder, and it is a typical (but not distinctive or outstanding) example of a common property type; it does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, nor possess high artistic values (Criteria C/3/C).

- Research does not suggest the potential to yield information important in history (Criteria D/4/D).

Because built environment resource SUN-BSO-1011 is ineligible for listing on the CRHR, no further cultural resources work, including further research, avoidance, or additional mitigation measures, is necessary for this resource.

Management recommendations for all identified resources within the Survey Area are summarized in Table 10.

Table 10. Summary of Management Recommendations

Primary Number	Trinomial or Temporary Number	Resource Type	Intersecting Project Components	Evaluation	Management Recommendation
P-37-033363	CA-SDI-20984	Prehistoric archaeological site	None	Not evaluated	Avoid or evaluate; if avoidance is not feasible, evaluate by conducting subsurface testing
P-37-031744	CA-SDI-20166	Prehistoric archaeological site	SVC underground tie-line	Not eligible	No further work needed
P-37-030375	CA-SDI-19307	Prehistoric archaeological site	None	Not evaluated	Avoid or evaluate; if avoidance is not feasible, evaluate by conducting subsurface testing
	SUN-BSO-1002	Historic built environment resource	SVC underground tie-line	Not eligible	No further work needed
	SUN-BSO-1011	Historic built environment resource	None	Not eligible	No further work needed
	SUN-ISO-1001	Historic isolate	None	Not eligible	No further work needed
	SUN-ISO-1006	Prehistoric isolate	None	Not eligible	No further work needed

Table 10. Summary of Management Recommendations

Primary Number	Trinomial or Temporary Number	Resource Type	Intersecting Project Components	Evaluation	Management Recommendation
	SUN-ISO-1016	Historic isolate	None	Not eligible	No further work needed
	SUN-ISO-1017	Prehistoric isolate	None	Not eligible	No further work needed
	SUN-ISO-1028	Prehistoric isolate	None	Not eligible	No further work needed
	SUN-S-1004	Prehistoric archaeological site	None	Not evaluated	Avoid or evaluate; if avoidance is not feasible, evaluate by conducting subsurface testing
	SUN-S-1005	Prehistoric archaeological site	None	Not evaluated	Avoid or evaluate; if avoidance is not feasible, evaluate by conducting subsurface testing
	SUN-S-1012	Prehistoric archaeological site	SVC location	Not eligible	No further work needed

In addition to the known presence of two prehistoric archaeological sites in the Proposed Project Area (SUN-S-1012 and CA-SDI-20166), archival research indicates that there is a moderate to high potential to encounter prehistoric materials in the Survey Area. Surface visibility was very poor (less than 10 percent) in portions of the Survey Area due to the presence of dense chaparral. Buried or obscured archaeological resources may be encountered during construction, if construction occurs in undisturbed sediments within of the Survey Area. However, ground visibility in the Proposed Project Area was generally good to excellent (over 70 percent). Further, nearly all sediments in the Proposed Project Area have been highly disturbed from construction activities associated with the Sunrise Powerlink, including road construction, the use of the proposed SVC site as a materials storage and laydown area (Wilson Laydown Area), and habitat restoration efforts. Nearly all of the Proposed Project Area that is located outside of the former Wilson Laydown Area, including the majority of the proposed underground transmission line, is located within the paved segments of Bell Bluff Truck Trail. Bell Bluff Truck Trail was widened, graded, and paved during construction associated with the Sunrise Powerlink.

Within the former Wilson Laydown Area, construction activities associated with site preparation included brush clearing and grading in 2011–2012; removed native vegetation was incorporated into the topsoil, and topsoil salvage to a depth of 6 inches (15.24 cm) was conducted (AECOM and RECON 2012). After the location was no longer used as a materials storage and laydown area in late 2012, restoration efforts included re-contouring the land and mechanically ripping the ground, resulting in substantial movement of sediments. The yard was ripped and cross-ripped to a depth of 18 to 24 inches (46 to 61 cm) prior to being re-contoured to the original topography, and the salvaged topsoil was then re-distributed over the site and seeded (SDG&E 2015). Biological habitat restoration efforts, including restoration maintenance activities, weed control, and monitoring, are currently ongoing (SDG&E 2015).

Based on survey results and the highly disturbed context of sediments in the Proposed Project Area, it is unlikely that previously unidentified cultural resources, including intact buried archaeological deposits,

occur within the Proposed Project Area. Proposed construction activities will be limited to the Proposed Project Area, and potential blasting will be limited to areas wherein standard excavation methods are not feasible, such as within bedrock, which is highly unlikely to contain archaeological deposits. Further, the potential blasting will occur after other sediments have been mechanically removed through standard excavation methods and will be minimized to localize disturbance. Thus, proposed construction activities, including potential blasting, are unlikely to disturb previously unidentified cultural resources. The following applicant-proposed measures have been developed to avoid or minimize potential impact to cultural resources and ensure that impacts remain less than significant:

1. **Retain a Qualified Principal Investigator:** A qualified principal investigator, defined as an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology, will be retained to carry out all applicant proposed measures related to archaeological and historical resources.

2. **Archaeological Construction Monitoring:** A qualified archaeological monitor will be retained to conduct periodic spot checking of initial ground disturbing activities. The archaeological monitor will work under the supervision of the principal investigator. Spot checking will include but not be limited to: excavations below 24 inches (60 cm) within the former Wilson Laydown Area (previously used as a materials storage and laydown area for the Sunrise Powerlink); and in locations wherein blasting will occur, both prior to and after blasting. The duration and timing of the monitoring will be determined by the CPUC, with recommendations provided by the principal investigator. If the principal investigator determines that periodic spot-checking is no longer warranted, he or she may recommend to the CPUC that monitoring cease entirely. In addition, if the principal investigator determines that an increase in the level of monitoring is warranted, he or she may recommend to the CPUC that full-time monitoring of ground disturbing activities be conducted in archaeologically sensitive areas.

3. **Inadvertent Discoveries:** In the event that unanticipated cultural materials are encountered during any phase of construction, all construction work within 50 feet of the deposit will cease, and the principal investigator will be consulted to assess the find. Construction activities may continue in other areas. Ground-disturbing impacts to any newly-discovered eligible or potentially eligible resources should be avoided to the extent feasible. If avoidance of these sites is not feasible, CPUC's Energy Division will ensure that potentially impacted cultural resources are assessed for significance, as defined by PRC Section 21083.2 or State CEQA Guidelines Section 15064.5(a), through implementation of Phase II investigations. Should such testing exhaust the data potential of these resources, impacts from the Proposed Project would be reduced to less than significant. Resources found to be not significant will not require additional treatment. Impacts to resources found to be significant will be reduced to less than significant through a Phase III data recovery program. Prior to any ground-disturbing activities, a detailed archaeological treatment plan will be prepared and implemented by a qualified archaeologist for the data recovery program. Data recovery investigations will be conducted in accordance with the archaeological treatment plan to ensure collection of sufficient information to address archaeological and historical research questions, and results will be presented in a technical report (or reports) describing field methods, materials collected, and conclusions. Additional testing and/or data recovery phases may involve additional excavation and/or more detailed recordation of resources or more comprehensive archival research. Any cultural material collected as part of an assessment or data recovery effort should be curated at a qualified facility. Field notes and other pertinent materials should be curated along with the archaeological collection.

4. **Discovery of Human Remains:** If human remains are discovered, all work within 15 meters (50 feet) of the discovery shall cease and the San Diego County Coroner shall be notified. State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance will occur

until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The San Diego County Coroner and the CPUC will be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a MLD. The MLD will complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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Appendix A.
Confidential Cultural Resources Survey Results Map

This appendix has been redacted from the public version of this report because it contains confidential site information.

Appendix B.
South Coastal Information Center
Records Search Results Letter

South Coastal Information Center
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www.scic.org
nick@scic.org

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

Company: SWCA Environmental Consultants

Company Representative: Laura Hoffman

Date Processed:

Project Identification: 32001 NEET Suncrest Reactive Power Project #32001

Search Radius: 1 mile

Historical Resources: YES

Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: YES

Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: YES

A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: YES

The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Summary of SHRC Approved CHRIS IC Records Search Elements	
RSID:	964
RUSH:	yes
Hours:	1
Spatial Features:	47
Address-Mapped Shapes:	no
Digital Database Records:	0
Quads:	1
Aerial Photos:	0
PDFs:	Yes
PDF Pages:	105

This is not an invoice. Please pay from the monthly billing statement

Appendix C.
Native American Coordination Documentation

From:	Laura Hoffman
To:	nahc@nahc.ca.gov
Cc:	Megan Peterson; Flajole, Andy (Andy.Flajole@nexteraenergy.com)
Subject:	Attention Katy Sanchez: SWCA request for SLF search for Project 32001, NEET Suncrest Reactive Power Project in San Diego County
Date:	Monday, March 16, 2015 2:21:00 PM
Attachments:	032001_NEET_Suncrest_Reactive_Power_Project_NAHC_Map1_v2.pdf 032001_NEET_Suncrest_Reactive_Power_Project_NAHC_Map2_v2.pdf

Dear Ms. Sanchez,

I am requesting a records search of the Sacred Lands File and a list of appropriate Native American contacts for the **32001: NEET Suncrest Reactive Power Project** located within **San Diego County**, California. The study area falls within the USGS 7.5-minute **Viejas Mountain, California quadrangle** approximately 6 miles south-southeast of the community of Alpine and 1 mile south of Interstate 8. Specifically, the project is located in **Township 15 South, Range 3 East, Section 34 and Township 16 South, Range 3 East, Sections 3 and 4**, Mount Diablo Base and Meridian (**see attached project vicinity and location maps**).

I am requesting the following information:

- Groups or individuals listed by the NAHC as contacts for San Diego County.
- Identification by the NAHC of any sacred lands in the area that are listed within the Sacred Lands File.

Please email the results to me at lhoffman@swca.com, referencing your email to "32001: NEET Suncrest Reactive Power Project, San Diego County, California." Please contact me with any questions or if you require additional information.

Thank you for your attention to this request.

Sincerely,

Laura E. Hoffman, M.A., RPA
Cultural Resources Project Manager

SWCA Environmental Consultants
150 South Arroyo Parkway, Second Floor
Pasadena, California 91105
P 626.240.0587 x6630 | C 310.418.4417

Kilometers	
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Miles	
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basedata from: http://server.arcgisonline.com/arcgis/services

SWCA
ENVIRONMENTAL CONSULTANTS
60 Stone Pine Road, Suite 201
Half Moon Bay, CA 94109

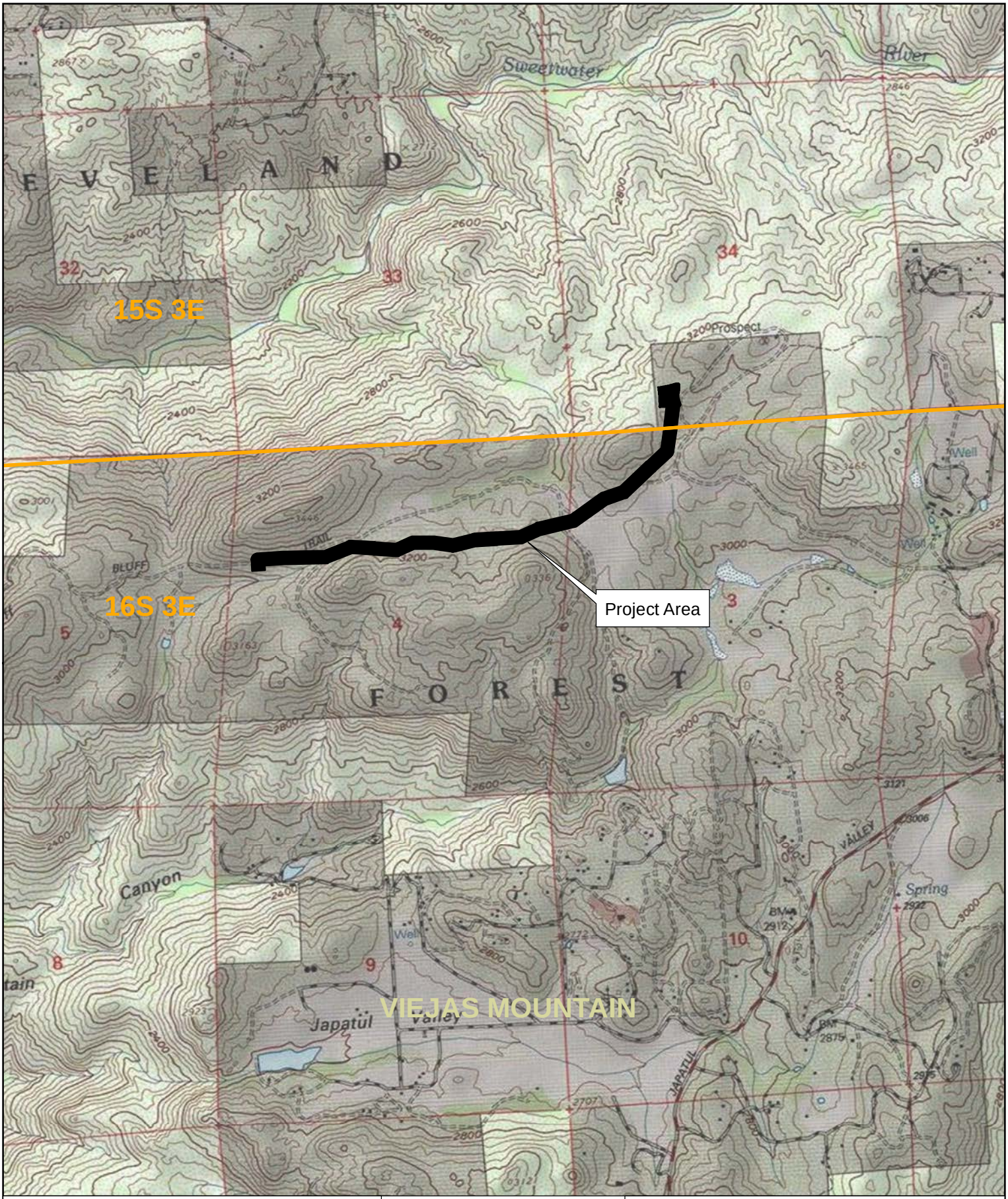
Project Vicinity Map

Suncrest Reactive Power Support Project

San Diego County — California

Project No.	Date	Scale	Figure/Drawing No.
32001	3-11-15	As Shown	1

Path: N:\Projects\032001_NEET Suncrest Reactive Power Project\032001_NEET_Suncrest_Reactive_Power_ Project_NAHC.mxd



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basedata from: http://server.arcgisonline.com/arcgis/services

SWCA ENVIRONMENTAL CONSULTANTS

60 Stone Pine Road, Suite 201
Half Moon Bay, CA 94109

Project Location Map

Suncrest Reactive Power Support Project

San Diego County California

Project No.	Date	Scale	Figure/Drawing No.
32001	3-11-15	1:24,000	2

Path: N:\Projects\032001_NEET Suncrest Reactive Power Project\032001_NEET_Suncrest_Reactive_Power_ Project_NAHC_2.mxd

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

April 20, 2015

Laura E. Hoffman
SWCA Environmental Consultants
150 South Arroyo Parkway, Second Floor
Pasadena, CA 91105

Sent by Fax: (626) 240-0607
Number of Pages: 3

Re: 032001 NEET Suncrest Reactive Power Project, San Diego County.

Dear Ms. Hoffman,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Government Program Analyst

Native American Contact List
San Diego County
April 20, 2015

Ewiiaapaayp Tribal Office
Robert Pinto Sr., Chairperson
4054 Willows Road Diegueno/Kumeyaay
Alpine , CA 91901
wmicklin@leaningrock.net
(619) 445-6315

(619) 445-9126 Fax

Jamul Indian Village
Raymond Hunter, Chairperson
P.O. Box 612 Diegueno/Kumeyaay
Jamul , CA 91935
Rhunter1948@yahoo.com
(619) 669-4785

Sycuan Band of the Kumeyaay Nation
Cody J. Martinez, Chairperson
1 Kwaaypaay Court Diegueno/Kumeyaay
El Cajon , CA 92019
ssilva@sycuan-nsn.gov
(619) 445-2613

(619) 445-1927 Fax

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas
P.O. Box 775 Diegueno-Kwaaymii
Pine Valley , CA 91962 Kumeyaay
(619) 709-4207

Viejas Band of Kumeyaay Indians
Anthony R. Pico, Chairperson
P.O. Box 908 Diegueno/Kumeyaay
Alpine , CA 91903
jhagen@viejas-nsn.gov
(619) 445-3810

(619) 445-5337 Fax

Kumeyaay Cultural Repatriation Committee
Steve Banegas, Spokesperson
1095 Barona Road Diegueno/Kumeyaay
Lakeside , CA 92040
sbanegas50@gmail.com
(619) 742-5587

(619) 443-0681 Fax

Kumeyaay Cultural Historic Committee
Ron Christman
56 Viejas Grade Road Diegueno/Kumeyaay
Alpine , CA 91901
(619) 445-0385

Viejas Band of Kumeyaay Indians
ATTN: Julie Hagen, Cultural Resources
P.O. Box 908 Diegueno/Kumeyaay
Alpine , CA 91903
jhagen@viejas-nsn.gov
(619) 445-3810
(619) 445-5337

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed 32001: NEET Suncrest Reactive Power Project, San Diego County.

Native American Contact List
San Diego County
April 20, 2015

Ewiiaapaayp Tribal Office
Will Micklin, Executive Director
4054 Willows Road Diegueno/Kumeyaay
Alpine , CA 91901
wmicklin@leaningrock.net
(619) 445-6315

(619) 445-9126 Fax

Inter-Tribal Cultural Resource Protection Council
Frank Brown, Coordinator
240 Brown Road Diegueno/Kumeyaay
Alpine , CA 91901
frbrown@viejas-nsn.gov
(619) 884-6437

Iipay Nation of Santa Ysabel
Clint Linton, Director of Cultural Resources
P.O. Box 507 Diegueno/Kumeyaay
Santa Ysabel, CA 92070
cjlinton73@aol.com
(760) 803-5694

Kumeyaay Cultural Repatriation Committee
Bernice Paipa, Vice Spokesperson
P.O. Box 937 Diegueno/Kumeyaay
Boulevard , CA 91905
bernicepaipa@gmail.com

Sycuan Band of the Kumeyaay Nation
Lisa Haws, Cultural Resource Manager
1 Kwaaypaay Court Diegueno/Kumeyaay
El Cajon , CA 92019
(619) 445-4564

Iipay Nation of Santa Ysabel
Virgil Perez, Chairperson
P.O. Box 130 Diegueno/Kumeyaay
Santa Ysabel, CA 92070
(760) 765-0845

(760) 765-0320 Fax

Kumeyaay Diegueno Land Conservancy
Mr. Kim Bactad, Executive Director
2 Kwaaypaay Court Diegueno/Kumeyaay
El Cajon , CA 92019
kimbactad@gmail.com
(619) 659-1008 Office

(619) 445-0238 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed 32001: NEET Suncrest Reactive Power Project, San Diego County.

June 22, 2015

Mr. Clifford LaChappa
Chairman
Barona Band of Mission Indians
1095 Barona Road
Lakeside, CA 92040

Subject: Proposed Suncrest Dynamic Reactive Power Support Project, San Diego County, CA

Dear Chairman LaChappa,

NextEra Energy Transmission (NextEra) is in the process of permitting the proposed Suncrest Dynamic Reactive Power (Static Var Compensator or SVC) Support Project in San Diego County, California. The Proposed Project consists of the SVC facility and an approximately one-mile-long, single-circuit 230-kilovolt (kV) underground transmission line.

Consistent with NextEra's policy to reach out to Tribes in the area of its projects, I wanted to provide you some initial information about the project and solicit your input concerning cultural resources in the area. The Proposed Project is located an unincorporated area of San Diego County approximately 29 miles east of San Diego and 5 miles southeast of the community of Alpine as shown below in Figure 1.

The project location will be within the Area of Interest depicted in Figure 2 below and found on the United States Geological Survey (USGS) Viejas Mountain, California 7.5-Minute quadrangle map within Section 34, Township 15 South, Range 3 East and Sections 3 and 4, Township 16 South, Range 3 East. The Area of Interest consists of predominantly undeveloped scrubland dominated by drought-tolerant species associated with chaparral communities. Topography in the vicinity is undulating with steep hills interspersed by narrow valleys and deep canyons. Surface waters in the vicinity of the Proposed Project area are typified by narrow, ephemeral washes.

The Proposed Project has two primary components, the SVC and an approximately one-mile-long single circuit, 230-kV underground transmission line that extends between the SVC and San Diego Gas and Electric Company's (SDG&E) existing Suncrest Substation. Both of the facilities will be located within the Area of Interest identified in Figures 1 and 2. The SDG&E 500/230 kV Suncrest Substation (Suncrest Substation), constructed circa 2012 as part of the SDG&E Sunrise Powerlink Transmission Project, is located at the western terminus of the Area of Interest.

Figure 1: Project Vicinity Map

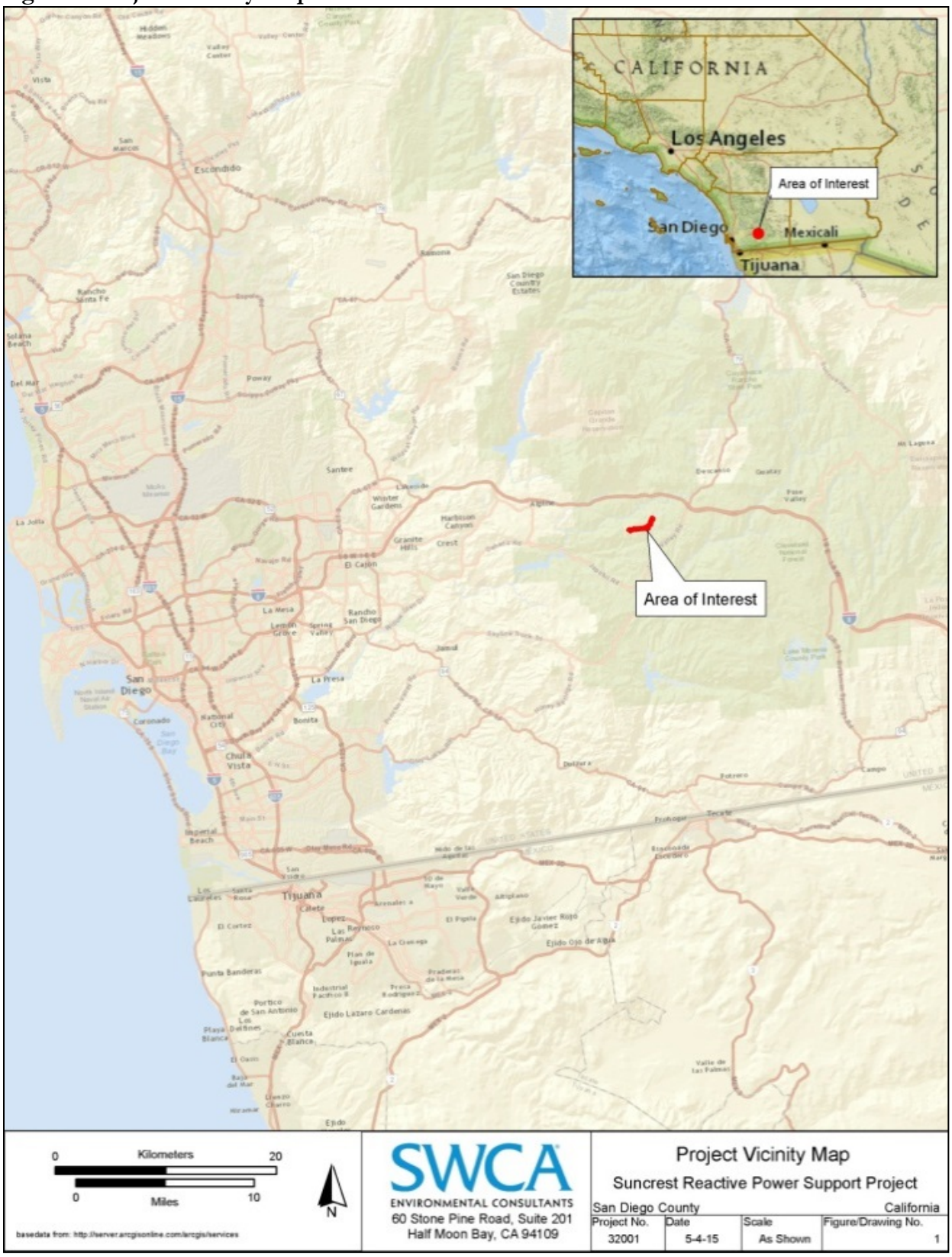
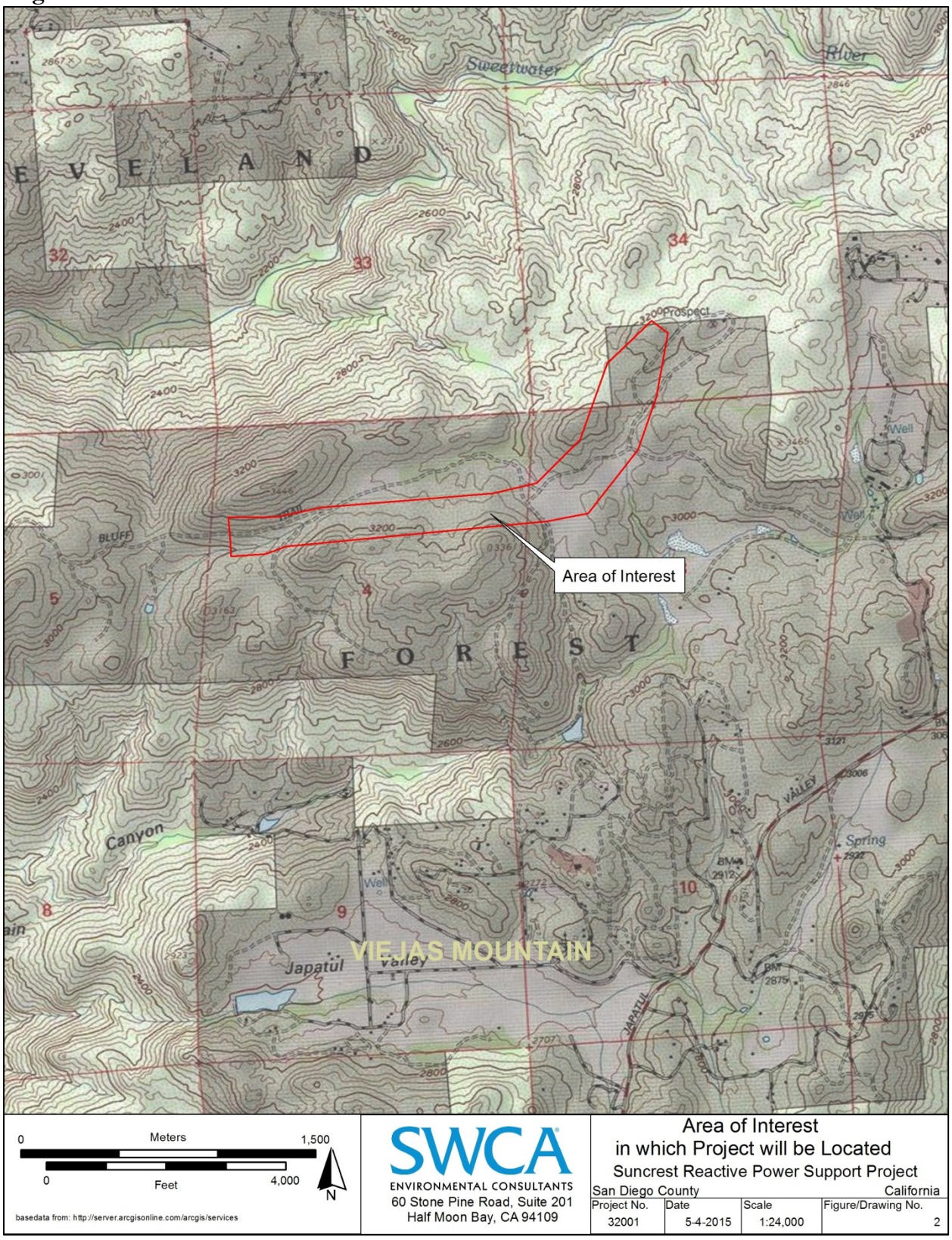


Figure 2: Area of Interest



In addition to the two main project components described above, the project will also include the following:

- Construction of a stormwater detention basin; and
- 12 kV electrical distribution feed to the SVC and associated telecommunications, utility and security infrastructure.

Once interconnected to the Suncrest Substation, the SVC will provide continuous reactive power response improving and maintaining the reliability of the transmission grid and increasing the deliverability of renewable power to the San Diego Area.

All facilities at the SVC will occupy a total area of approximately six acres within the Area of Interest. The area to be permanently occupied by the SVC will be within a fenced area of approximately two acres. The proposed transmission line will consist of a new 230 kV single-circuit underground electric transmission line that will be installed within the paved portion of Bell Bluff Truck Trail between the SVC site and Suncrest Substation. The new transmission line will be approximately one mile in length and will require a new permanent easement within the roadway for the entire length. Along the underground alignment splice vaults will be installed approximately every 700 feet within Bell Bluff Truck Trail to facilitate cable installation as well as operation and maintenance of the transmission line following construction. Permanent access to the proposed SVC and underground transmission line will occur along Bell Bluff Truck Trail, an existing private, approximately 30-foot-wide paved road, and a new graveled access driveway will be constructed to access to the SVC from the intersection with Bell Bluff Truck Trail.

Construction of the Proposed Project will follow a typical sequence beginning with pre-construction surveys and survey marking, site clearing, grubbing, grading for access and SVC construction, installation of SVC foundations and electrical equipment, and lastly, restoration. Construction of the underground transmission line will be concurrent with the SVC construction and begin with utility line locating, survey, saw-cutting of pavement, trench excavation, which may include rock removal and blasting, followed by installation of the duct bank, vaults, thermal backfill, installation of the conductor cables and OPGW, splicing, testing, and energization of the transmission line, and pavement restoration. Construction is targeted to start September 1, 2016 and is expected to be complete March 17, 2017 for a total of approximately 6.5 months of activity from initial site disturbance until the SVC is complete. Testing and commissioning of the Proposed Project will take approximately 2 months between March 17 through May 31, 2017, at which point the SVC will be energized and fully operational.

SWCA Environmental Consultants has been retained to provide cultural resources services in support of the proposed project. As part of the process of identifying cultural resources issues for this project, SWCA contacted the Native American Heritage Commission (NAHC) and requested a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations that may have knowledge of cultural resources in or near the project area. The SLF search "has failed to indicate the presence of Native American cultural resources in the immediate project area," but the NAHC recommends that we contact you directly regarding your knowledge of the presence of cultural resources that may be impacted by this project.

SWCA also requested a search of the California Historical Resources Information System (CHRIS) from the South Coastal Information Center (SCIC), located at San Diego State University. The search included any previously recorded cultural resources and investigations within the records search area. The SCIC records search results identified 21 previously recorded cultural resources within the records search area (Figure 3): three historic archaeological sites, 17 prehistoric archaeological sites, and one prehistoric isolate. The three historic archaeological sites consist of one refuse scatter and two sites comprising rock features. The prehistoric archaeological sites consist of four bedrock milling sites; five bedrock milling sites with associated lithic scatters; one bedrock milling site with an associated ceramic scatter; one ceramic scatter; five lithic scatters; and one lithic scatter and rock alignment. Details pertaining to resources identified in the records search are presented in Table 1.

Of the sites identified by the records search, two are within the Area of Interest: prehistoric sites P-37-031744/CA-SDI-20166, and P-37-029773/CA-SDI-19036 (which includes site P-37-029774/CA-SDI-19037). Site P-37-031744 is a bedrock milling station comprising one slick on a granite outcrop, and is located north of the recently paved Bell Bluff Truck Trail. Site P-37-029773 is a large site comprising a lithic scatter, ground stone, and numerous bedrock mortars; this site which is located within the San Diego Gas & Electric Sunrise Substation, was evaluated and determined not eligible for listing on the CRHR or the NRHP as part of the cultural resources studies for the Sunrise Powerlink project. Native American monitors and consulting parties identified a bedrock milling complex within the site as a sensitive resource; at their request, four of the boulders from this complex were moved from the site into an open space to the east, outside of the substation. The site was subject to extensive ground disturbance for construction of the Substation; archaeological and Native American monitoring were conducted during that construction.

In addition to the records search and Sacred Lands File search, SWCA has also completed an intensive pedestrian survey of all areas of potential ground disturbance and is preparing a technical report. The technical report will include management recommendations pertaining to cultural resources. After the report is finalized, NextEra will make the results available to you.

Figure 3. Previously Recorded Resources in the Records Search Area

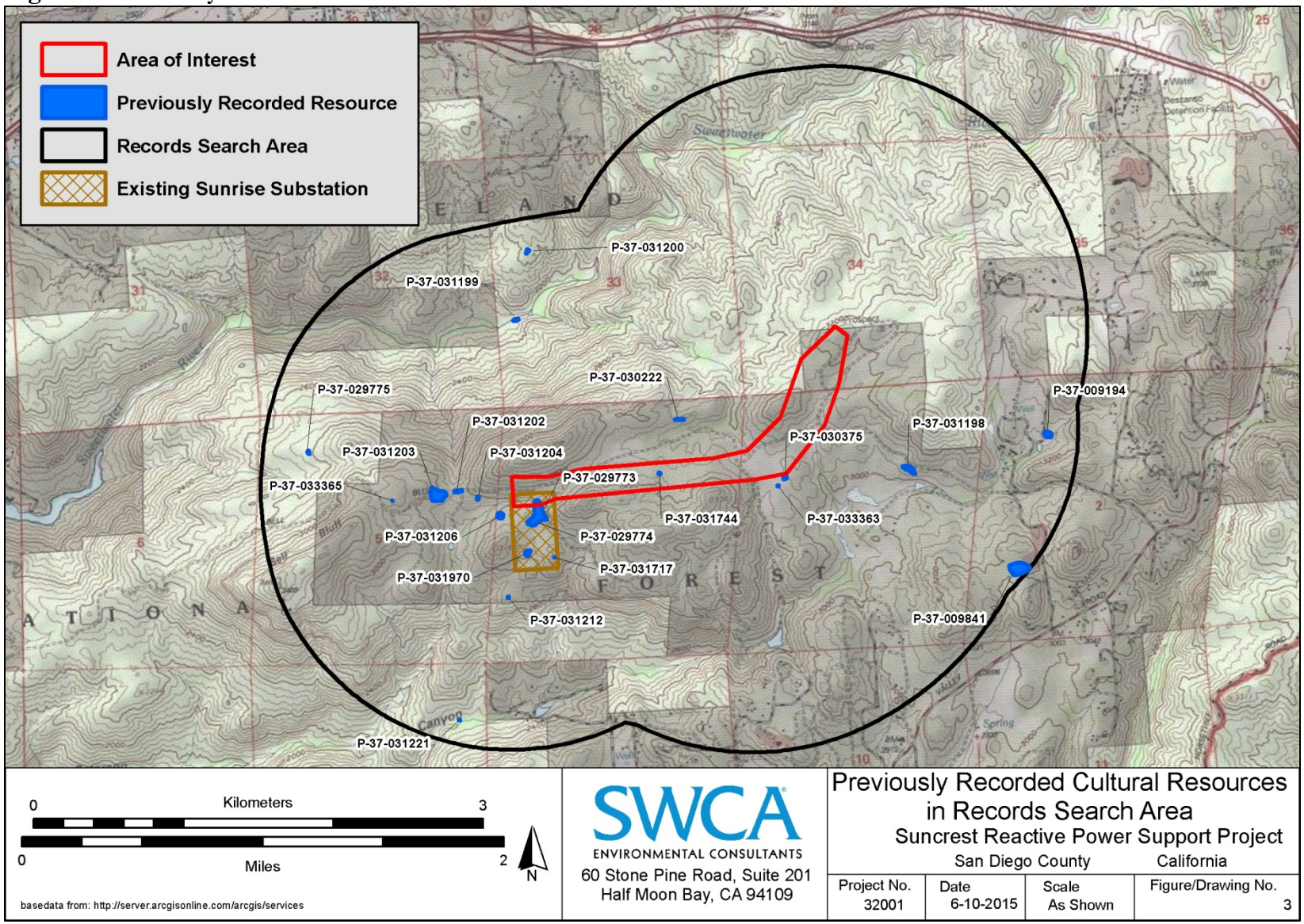


Table 1. Previously Recorded Cultural Resources in the Area of Interest

Primary Number	Trinomial	Type	Resource Description	CRHR/NRHP/ SHL Eligibility Status	Recorded By and Year	Proximity to Area of Interest
P-37-009194	CA-SDI-9194	Prehistoric site	Lithic scatter	Not evaluated	Brandoff, J. 1975	Outside
P-37-009841	CA-SDI-9841	Prehistoric site	Lithic scatter	Not evaluated	Noach, A. and R. Gadler 1984	Outside
P-37-029773	CA-SDI-19036	Prehistoric site (includes site P-37-029774/ CA-SDI-19037)	Bedrock milling features and lithic scatter	Recommended eligible for NRHP/CRHR	Bouscaren, C., P. Hanes, P. Shattuck, L. Burgos, M. Hares, and R. Pettus 2007; Williams, B. 2010; Williams, B. 2011	Within
P-37-029774	CA-SDI-19037	Prehistoric site (combined into P-37-029773/ CA-SDI-19036)	Bedrock milling features and lithic scatter	Not evaluated	Bouscaren, C., P. Hanes, P. Shattuck, L. Burgos, M. Hares, and R. Pettus 2007	Within
P-37-029775	CA-SDI-19038	Prehistoric site	Bedrock milling features and lithic artifact	Not evaluated	Bouscaren, C., P. Hanes, R. Pettus, L. Burgos, and M. Hares 2007; Comeau, B. 2009	Outside
P-37-030222	CA-SDI-19254	Prehistoric site	Lithic scatter	Not evaluated	Piek, L. 2007	Outside
P-37-030375	CA-SDI-19307	Prehistoric site	Bedrock milling feature and lithic scatter	Not evaluated	Doose, N, B. Spelts, R. Brooke, and C. Linton 2008; Williams, B. 2010	Outside
P-37-031198	CA-SDI-19771	Prehistoric site	Bedrock milling features and lithic scatter	Not evaluated	Williams, B., D. Mengers, W. Reed, and J. Herrera 2009	Outside
P-37-031199	CA-SDI-19772	Prehistoric site	Bedrock milling features	Not evaluated	Williams, B., W. Reed, and J. Herrera 2009	Outside
P-37-031200	CA-SDI-19773	Prehistoric site	Ceramic scatter	Not evaluated	Williams, B., W. Reed, and J. Herrera 2009	Outside
P-37-031202	CA-SDI-19775	Prehistoric site	Lithic scatter	Not evaluated	Williams, B., D. Mengers, S. Rochester, L. Piek 2010	Outside
P-37-031203	CA-SDI-19776	Prehistoric site	Lithic scatter and rock alignment	Not evaluated	Williams, B., D. Mengers, S. Rochester, L. Piek 2010	Outside
P-37-031204	CA-SDI-19777	Prehistoric site	Bedrock milling features and ceramic scatter	Not evaluated	Williams, B. 2010	Outside
P-37-031206	CA-SDI-19779	Historic site	Refuse scatter	Not evaluated	Comeau, B. 2009	Outside

Table 1. Previously Recorded Cultural Resources in the Area of Interest

Primary Number	Trinomial	Type	Resource Description	CRHR/NRHP/ SHL Eligibility Status	Recorded By and Year	Proximity to Area of Interest
P-37-031212	N/A	Historic site	Two rock cairns	Not evaluated	Williams, B., D. Mengers, W. Reed, and J. Herrera 2009	Outside
P-37-031221	CA-SDI-20166	Prehistoric site	Bedrock milling features	Not evaluated	Elliot, W., T. Hector-Rosen, J. Herrera, D. Iversen, D. Mengers, and J. Parada 2009	Outside
P-37-031717	–	Prehistoric isolate	Biface fragment	Not evaluated	Williams, B. 2010	Outside
P-37-031744	CA-SDI-20166	Prehistoric site	Bedrock milling feature	Unknown	Piek, L., B. Williams, and B. Comeau 2011	Within
P-37-031970	CA-SDI-20239	Prehistoric site	Lithic scatter	Unknown	Justus, S. 2011	Outside
P-37-033363	CA-SDI-20984	Prehistoric site	Bedrock milling feature	Not evaluated	Justus, S. 2011	Outside
P-37-033365	–	Historic site	Rock ring	Not evaluated	MacHardy, B. 2012	Outside

If you have any knowledge of additional cultural resources that may exist within or near the project area, and/or have an interest in meeting with me and other NextEra staff/contractors to discuss any concerns you may have about cultural resources within and near the project location please contact me via email at Carolyn.Stewart@NextEraEnergy.com or call me at (224) 251-7580.

We understand that the California Public Utilities Commission, acting as the CEQA lead agency, is responsible for formal government-to-government consultation with Native American Tribes for this project, and we do not intend for any discussions between the Tribe and NextEra to take the place of official consultation that has, or will be, conducted.

As we have further information about the site and results of completed cultural resource surveys, I will be in contact with you again. Thank you for your assistance.

Regards,

Carolyn Stewart
Director Tribal Relations

VIEJAS
TRIBAL GOVERNMENT

P.O Box 908
Alpine, CA 91903
#1 Viejas Grade Road
Alpine, CA 91901

Phone: 6194453810
Fax: 6194455337
viejas.com

June 29, 2015

Carolyn Stewart
700 Universe Blvd.
Juno Beach, FL 33408

RE: Suncrest Dynamic Reactive Power Support Project

Dear Ms. Stewart,

The Viejas Band of Kumeyaay Indians would like to request the cultural report to the above referenced project and site visit, in order to make an informed decision/recommendation on the matter.

Sincerely,

VIEJAS BAND OF KUMEYAAY INDIANS

From:	Laura Hoffman
To:	nahc@nahc.ca.gov
Cc:	Megan Peterson; Flajole, Andy (Andy.Flajole@nexteraenergy.com)
Subject:	Attention Katy Sanchez: SWCA request for Supplemental SLF search for Project 32001, NEET Suncrest Reactive Power Project in San Diego County
Date:	Wednesday, July 01, 2015 9:29:00 AM
Attachments:	032001_NEET_Suncrest_Reactive_Power_Project_NAHC_Location_SLF2.pdf 032001_NEET_Suncrest_Reactive_Power_Project_NAHC_Vicinity_SLF2.pdf

Dear Ms. Sanchez,

SWCA requested a search of the Sacred Lands Files and a list of appropriate Native American contacts for the **32001: NEET Suncrest Reactive Power Project** located within **San Diego County**, California in March of this year. There have been a few updates to the project, and we'd like to request a supplemental search and updated list of contacts for a slightly larger Area of Interest. The general location of the project has not changed: it is located within the USGS 7.5-minute **Viejas Mountain, California quadrangle** approximately 6 miles south-southeast of the community of Alpine and 1 mile south of Interstate 8. The Area of Interest is located in the same Township, Range and Section as the location of the original SLF search request: **Township 15 South, Range 3 East, Section 34 and Township 16 South, Range 3 East, Sections 3 and 4**, Mount Diablo Base and Meridian (**see attached project vicinity and location maps**).

I am requesting the following updated information for the expanded Area of Interest:

- Groups or individuals listed by the NAHC as contacts for San Diego County.
- Identification by the NAHC of any sacred lands in the area that are listed within the Sacred Lands File.

Please email the results to me at lhoffman@swca.com, referencing your email to "32001: NEET Suncrest Reactive Power Project, San Diego County, California." Please contact me with any questions or if you require additional information.

Thank you for your attention to this request.

Sincerely,

Laura E. Hoffman, M.A., RPA
Cultural Resources Project Manager

SWCA Environmental Consultants
150 South Arroyo Parkway, Second Floor
Pasadena, California 91105
P 626.240.0587 x6630 | C 310.418.4417

From: Laura Hoffman
Sent: Monday, March 16, 2015 2:22 PM
To: nahc@nahc.ca.gov
Cc: Megan Peterson; Flajole, Andy (Andy.Flajole@nexteraenergy.com)
Subject: Attention Katy Sanchez: SWCA request for SLF search for Project 32001, NEET Suncrest Reactive Power Project in San Diego County

Dear Ms. Sanchez,

I am requesting a records search of the Sacred Lands File and a list of appropriate Native American contacts for the **32001: NEET Suncrest Reactive Power Project** located within **San Diego County**, California. The study area falls within the USGS 7.5-minute **Viejas Mountain, California quadrangle** approximately 6 miles south-southeast of the community of Alpine and 1 mile south of Interstate 8. Specifically, the project is located in **Township 15 South, Range 3 East, Section 34 and Township 16 South, Range 3 East, Sections 3 and 4**, Mount Diablo Base and Meridian (**see attached project vicinity and location maps**).

I am requesting the following information:

- Groups or individuals listed by the NAHC as contacts for San Diego County.
- Identification by the NAHC of any sacred lands in the area that are listed within the Sacred Lands File.

Please email the results to me at lhoffman@swca.com, referencing your email to "32001: NEET Suncrest Reactive Power Project, San Diego County, California." Please contact me with any questions or if you require additional information.

Thank you for your attention to this request.

Sincerely,

Laura E. Hoffman, M.A., RPA
Cultural Resources Project Manager

SWCA Environmental Consultants
150 South Arroyo Parkway, Second Floor
Pasadena, California 91105
P 626.240.0587 x6630 | C 310.418.4417

SWCA ENVIRONMENTAL CONSULTANTS
60 Stone Pine Road, Suite 201
Half Moon Bay, CA 94109

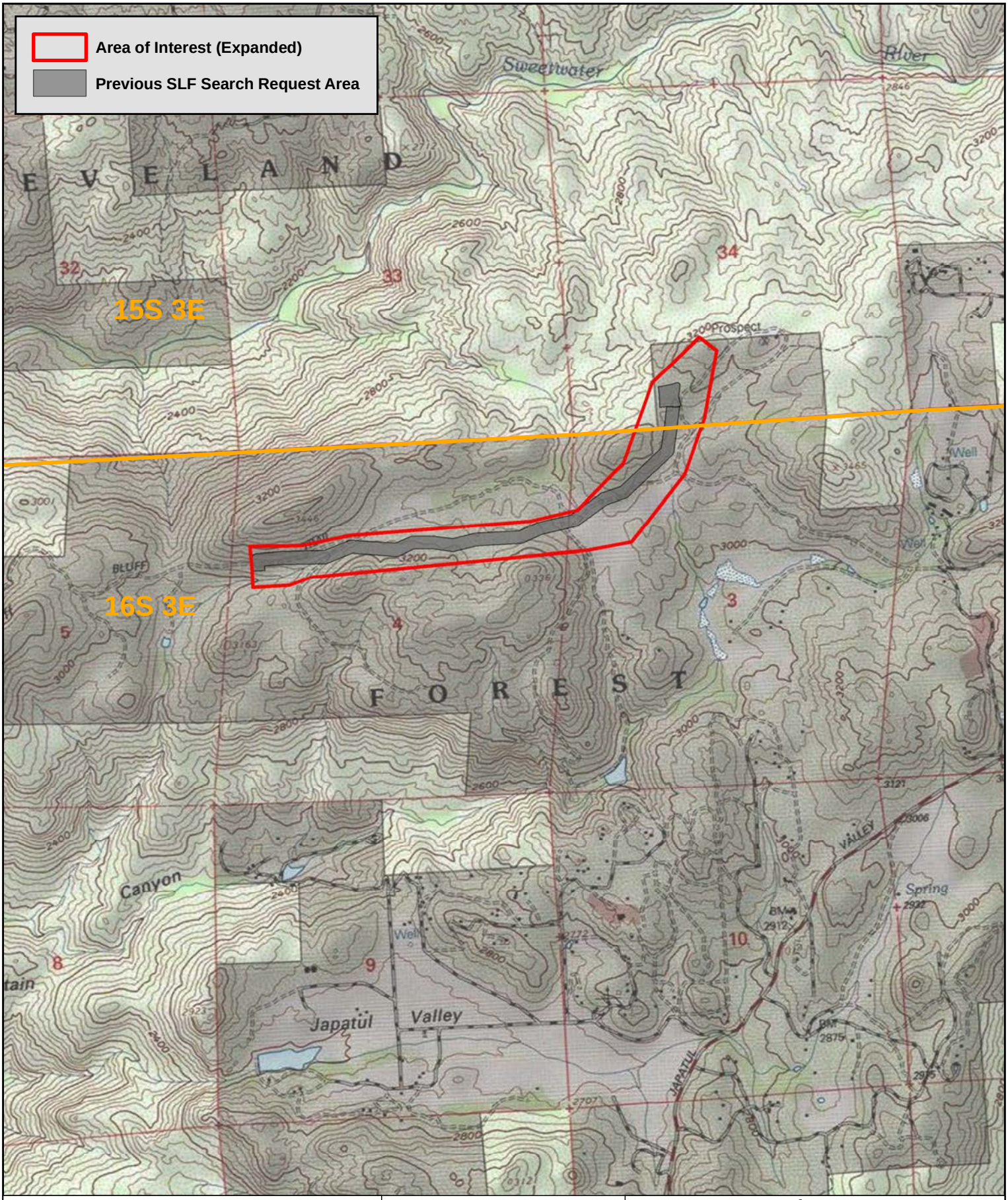
Project Vicinity Map

Suncrest Reactive Power Support Project

San Diego County — California

Project No.	Date	Scale	Figure/Drawing No.
32001	6-22-15	As Shown	1

Path: N:\Projects\032001_NEET Suncrest Reactive Power Project\MXD\CRPR\032001_NEET_Suncrest_Reactive_Power_ Project_NAHC_Vicinity_SLF2.mxd



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basedata from: http://server.arcgisonline.com/arcgis/services

SWCA ENVIRONMENTAL CONSULTANTS

60 Stone Pine Road, Suite 201
Half Moon Bay, CA 94109

Area of Interest in which Project will be Located

Suncrest Reactive Power Support Project

San Diego County California

Project No.	Date	Scale	Figure/Drawing No.
32001	6-22-15	1:24,000	2

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CARMEN LUCAS
P.O. Box 775
Pine Valley, California 91962

6 July 2015

Carolyn Stewart Director Tribal Relations
NexEra Energy Transmission, LLC
700 Universe Blvd.
Juno Beach, Florida 33408

Reference: Your letter dated 22 June 2015; Subject: Proposed Suncrest Dynamic Reactive Power Support Project, San Diego County, California

Dear Carolyn,

Thank you for the referenced letter and the information contained there in. Just for your information, I was one of a number of Native American monitors on the SDG&E Sub Station in Alpine and am familiar with some of the issues that arose during the Archeological testing phase, prior to the ground disturbance and construction of that Sub Station.

A site visit for me will not be necessary; I will however like to review the SWCA technical report to include their management recommendations pertaining to the cultural resources when it becomes available. Additionally, if you have not already contacted the Viejas Band of Indians, I would like to recommend that the Viejas Cultural monitors be the Native monitors for the Suncrest Dynamic Reactive Power Support Project.

Thank you for your interest; if I can be of any assistance, please feel free to contact me.

Best Regards,

CARMEN LUCAS
Kwaaymii Laguna Band of Indians
Laguna Mountain, California

Copy to:
Viejas Band of Indians

Appendix D.
Confidential California Department of Parks and Recreation 523 Series Forms

This appendix has been redacted from the public version of this report because it contains confidential site information.

Appendix F:

Paleontological Resources Technical Report

SUNCREST DYNAMIC REACTIVE POWER SUPPORT PROJECT PALEONTOLOGICAL IMPACT EVALUATION REPORT

FINAL

August 2015

SUBMITTED TO

NextEra Energy Transmission, West LLC
700 Universe Boulevard
Juno Beach, Florida 33408

SUBMITTED BY

SWCA Environmental Consultants
60 Stone Pine Road, Suite 201
Half Moon Bay, California 94019

Suncrest Dynamic Reactive Power Support Project
Paleontological Resource Impact Evaluation Report
San Diego County, California

Prepared for

NextEra Energy Transmission, West LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Andy Flajole

Prepared by

Lee Hall, B.S.,
Alyssa Bell, Ph.D.

Contact: Megan Peterson, Project Manager

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SWCA Project No. 32001

SWCA Paleontological Resources Report No. CA15-32001-004

August 2015

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1 INTRODUCTION

This Paleontological Resource Impact Evaluation Report presents the results of the paleontological records search, literature review, and resource assessment completed for the proposed NextEra Energy Transmission, West LLC (NEET West) Suncrest Dynamic Reactive Power (Static VAr Compensator [SVC]) Support Project (Proposed Project). Environmental Consultants (SWCA) was retained by NEET West to conduct a paleontological resource study for the development phase of the Proposed Project. This review was performed to evaluate the paleontological sensitivity of the Proposed Project footprint, assess potential project-related impacts to paleontological resources, and provide initial recommendations for project-specific mitigation measures. This study was conducted in accordance with professional guidelines established by the Society of Vertebrate Paleontology (SVP) (1995; 2010).

2 DEFINITION AND SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are any remains, imprints, or traces of once-living organisms preserved by natural processes in the geologic record. These include mineralized or un-mineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Paleontological resources include not only fossils themselves, but also the associated rocks or organic matter and the physical characteristics of the fossils' associated sedimentary matrix. The geologic character of the rock record preserves the ecological, geographic, and evolutionary context of past life represented by fossils themselves. Scientific importance may be attributed to the actual fossil specimen, fossil context (e.g., location in time and space, intimate association with other evidence of scientific significance), or fossil preservation. Paleontological resources are deemed significant by meeting any one of the following criteria:

Specimen-based criteria:

- Represents an unknown or undescribed/unnamed taxon;
- Represents a rare taxon, or rare morphological/anatomical element or feature (rareness criterion comprises either absolute rareness in the fossil record, or contextual rareness as described in the following section);
- Represents a vertebrate taxon (as per the 2009 Paleontological Resources Preservation Act [PRPA]), though this has no bearing on potential significance of plant and invertebrate fossils;
- Exhibits a remarkable type or quality of preservation (unaltered hard parts, evidence or preservation of soft tissue, preservation in amber or ice);

Context-based criteria:

- Intimate association with other evidence of scientific significance, providing new ecological, environmental, or behavioral information; or,
- Evidence that extends or constrains the geographic or temporal distribution of a species or higher-level taxonomic group, providing new information about evolution (U.S. Forest Service [USFS] 2005).

The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms they represent no longer exist and their

value may be greatly diminished or lost entirely in the absence of proper management. Thus, once destroyed, a fossil can never be replaced (Murphey and Daitch 2007). Paleontological resources are objects of national significance that are worthy of preservation for the inspiration and interpretive opportunities they offer. Fossils are important scientific and educational resources and can be used to:

- study the phylogenetic relationships amongst extinct organisms, as well as their relationships to modern groups;
- elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including the biases inherent in the fossil record;
- reconstruct ancient environments, climate change, and paleoecological relationships;
- provide a measure of relative geologic dating which forms the basis for biochronology and biostratigraphy, and which is an independent and corroborating line of evidence for isotopic dating;
- study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time;
- study patterns and processes of evolution, extinction, and speciation; and,
- identify past and potential future human-caused effects to global environments and climates (Murphey and Daitch 2007).

3 REGULATORY FRAMEWORK

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under federal (PRPA), state (California Environmental Quality Act [CEQA]; California Public Resources Code [PRC]), and county (County of San Diego) laws, ordinances, and regulations (LORS). This study satisfies project requirements in accordance with CEQA (Title 14, Division 6, Chapter 3, California Code of Regulations [CCR] Section 1500 *et seq*.) and PRC (Chapter 1.7) Sections 5097.5 and 30244. The Society of Vertebrate Paleontology (1995; 2010) has established professional standards for the assessment and mitigation of adverse impacts to paleontological resources. This analysis also complies with these guidelines.

3.1 Federal Authorities

Federal legislative protection for paleontological resources stems from the Antiquities Act of 1906 (Public Law [PL] 59-209; 16 United States Code [U.S.C.] 431 et seq.; 34 Stat. 225) which calls for protection of historic landmarks, historic and prehistoric structures, as well as other objects of historic or scientific interest on federally administered lands, and the Omnibus Public Lands Management Act of 2009 (PL 111-11; 16 U.S.C. 470 et seq.; 123 Stat. 995) which calls for protection and preservation of paleontological resources on federally administered lands. Federal protection for significant paleontological resources would apply to the Proposed Project if any construction or other related impacts occurred on federally owned or managed lands. No federal protection of paleontological resources pertains to this study.

3.2 State of California Authorities

3.2.1 California Environmental Quality Act

State guidelines for the implementation of CEQA, as amended March 29, 1999 (Title 14, Division 6, Chapter 3, CCR 15000 et seq.), define procedures, types of activities, persons, and public agencies required to comply with CEQA. The guidelines include, as one of the questions to be answered in the Environmental Checklist (Appendix G, Section V, Part c), the following: "*Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*"

3.2.2 California Public Resources Code

Other state 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. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

3.3 Local Authorities

3.3.1 County of San Diego General Plan

The Conservation and Open Space Element (COSE) of the County of San Diego General Plan (County of San Diego 2009), Chapter 5 (p. 5-2), provides guidelines for the assessment, treatment, and public awareness of the County's natural resources:

> *"The primary focus of the Conservation and Open Space Element is to provide direction to balance the accommodation of future growth and development in the County of San Diego with the following:*
>
> - *the conservation, management, and utilization of natural resources;*
> - *the protection and preservation of open space; and*
> - *the provision of park and recreation resources."*

The COSE also addresses the County's goals for management of paleontological resources and unique geological features:

> *"Preserve the County's rich geologic and paleontological history by establishing achievable land-use-based goals and policies that balance conservation with appropriate and necessary development."*

The Paleontological Resources and Unique Geologic Features Element of the COSE (p. 5-20) includes the following policies:

- **COS-9.1, Preservation:** Require the salvage and preservation of unique paleontological resources exposed to the elements during excavation or grading activities or other development processes.

- **COS-9.2, Impacts of Development:** Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.

Table 1. Summary of Paleontological Laws, Ordinances, and Regulations

Agency/Owner	Pertinent Paleontological LORS
Federal	None
State (California)	CEQA
County (San Diego)	County of San Diego General Plan: Conservation and Open Space Element, Ch 5

3.4 Professional Standards

3.4.1 Society of Vertebrate Paleontology

The SVP has established standard guidelines (SVP 1995; 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as described in the standard guidelines of the SVP. Typically, state regulatory agencies accept and use the professional standards set forth by the SVP.

As defined and revised by the SVP (1995:26, 2010:11), significant nonrenewable paleontological resources are defined as follows:

> *"[f]ossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."*

As defined by the SVP (1995:26), significant fossiliferous deposits are defined as follows:

> *"A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [Before Present]."*

Based on the significance definitions of the SVP (1995; 2010), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in

association with vertebrate fossils or if defined as uncommon or significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be "sensitive" and vulnerable to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either disturb or destroy fossil remains directly or indirectly. This definition of sensitivity differs fundamentally from that for archaeological resources as follows:

> *"It is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units. The boundaries of archaeological sites define the areal extent of the resource. Paleontologic sites, however, indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontologic potential in each case."* (SVP 1995:23)

Fossils are contained within subsurface sediments or bedrock and are therefore not observable or detectable unless exposed by erosion or human activity. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken to prevent adverse impacts to these resources.

4 RESOURCE ASSESSMENT GUIDELINES

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts on paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to below a significant level through the implementation of paleontological mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to "*directly or indirectly destroy a significant paleontological resource or unique geologic feature*." In general, for project areas that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For project areas that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units that underlie the non-sensitive unit are also affected.

5 PALEONTOLOGICAL SENSITIVITY

Paleontological sensitivity is defined as the potential for a geologic unit 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. Occurrences of paleontological resources are closely related to the geologic units in which they are contained, and the potential for finding scientifically important paleontological resources can be broadly predicted by the presence of the pertinent geologic units at or near the surface. Therefore, geologic mapping can be used as a proxy for assessing the potential for occurrences of important paleontological resources. The potential for a geologic unit to produce scientifically important fossils is determined by rock type, past history of the

geologic unit in producing important fossils, and fossil localities recorded from that unit within and near the Proposed Project footprint.

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 Paleontologic Resources*, the SVP (1995:23, 2010) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential**. Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources are included in this category. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both: a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and; b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant.

- **Low Potential**. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.

- **Undetermined Potential**. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.

- **No Potential**. Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontologic potential of the rock units present within the study area.

6 PROPOSED PROJECT LOCATION AND DESCRIPTION

6.1 Proposed Project Location

The Proposed Project is located in the south central portion of San Diego County, approximately 33 miles east of the Pacific Coast. Specifically, the Proposed Project is located in the northern half of Sections 3 and 4 of Township 16 South, Range 3 East, and the southwestern quarter of Section 34, Township 15 South, Range 3 East of the Viejas Mountain, CA 7.5 minute USGS quadrangle (photorevised 1988) (See Figure 1).

The Proposed Project area consists of predominantly undeveloped scrubland dominated by drought tolerant species associated with chaparral communities. Topography in the vicinity of the Proposed Project area is undulating with steep hills interspersed by narrow valleys and deep canyons. Elevations in the Proposed Project area range between approximately 3,000 and 3,200 feet above mean sea level. Surface waters in the vicinity of the Proposed Project area are typified by narrow, ephemeral washes.

Figure 1. Proposed Project location map.

The Proposed Project is in an unincorporated area of San Diego County, on private land within the Cleveland National Forest (CNF). The Proposed Project is situated west of Japatul Valley Road and south of Interstate 8, approximately 0.7 mile northeast of Bell Bluff overlooking the Sweetwater River. Nearby communities include Descanso, approximately 3.78 miles to the northeast, and Alpine, approximately 3.36 miles to the northwest. The city of El Cajon is approximately 13.36 miles to the west. The SVC will be constructed on part of a parcel that is privately owned, and immediately east of and adjacent to the CNF.

The Proposed Project area is immediately bound in all directions by undeveloped vegetated lands. Low-density rural residential developments are present approximately 0.75 mile to the east and 1 mile to the south. Interstate 8 is located approximately 1.75 miles to the north and Japatul Valley Road (State Highway 79) is located approximately 1.66 miles to the west. Several features of the built environment are present in the vicinity of the Proposed Project area. The San Diego Gas and Electric Company (SDG&E) Suncrest Substation, constructed circa 2012, is located at the western terminus of the SVC tie-line. Several localized development improvements were made within the area associated with construction of the Suncrest Substation and the larger SDG&E Sunrise Powerlink Transmission Project (Sunrise Powerlink). Bell Bluff Truck Trail, a historically dirt road, was widened and paved to provide access to the Suncrest Substation. Several drainage improvements were made along Bell Bluff Truck Trail to provide stormwater drainage and conveyance.

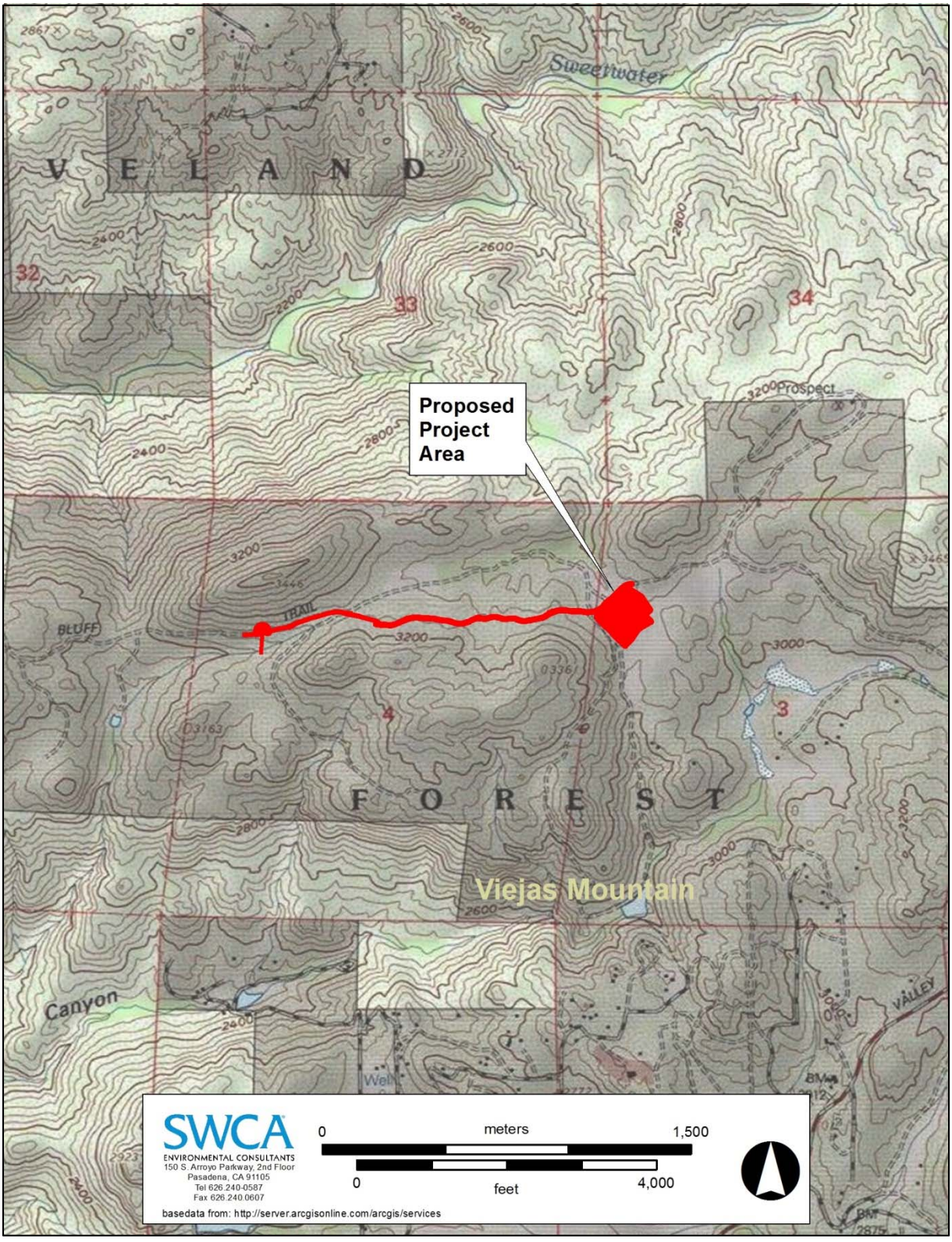
The Proposed Project is located within privately owned lands within the administrative boundary of the USFS CNF. The SVC will be constructed within an approximately 6-acre portion of Assessor's Parcel Number (APN) 523-040-080 that was the site of a laydown yard associated with the construction of the SDG&E Suncrest Substation. This parcel is currently owned by a private landowner. NEET West has an Option Agreement for this parcel and prior to construction will obtain fee ownership of the approximately 6-acre area containing the entirety of the SVC. The SVC is located immediately south of lands owned by the USFS that are part of CNF (see Figure 2).

The Proposed Project has two primary components, the SVC and an approximately 1-mile long 230-kilovolt (kV) single-circuit underground transmission line connecting the SVC to the existing Suncrest Substation, which is owned and operated by SDG&E. An approximately 300-foot-long overhead span will connect into the existing Suncrest Substation's 230 kV bus.

In addition to the two primary components, the Proposed Project will also include:

- Construction of two new access drives to facilitate construction, operation, and maintenance of the SVC;
- Installation of fiber optic cable within the same underground duct bank as the 230 kV cable to provide communications for line relaying, Supervisory Control and Data Acquisition (SCADA), and other devices as required;
- Installation of up to five splice vaults to facilitate installation of the new underground cable and operation and maintenance of the transmission line; and,
- Installation of a 12 kV underground electrical distribution feed to the SVC.

Figure 2. Proposed Project area map.



The proposed SVC will be constructed immediately south of Bell Bluff Truck Trail (an existing paved private road which is approximately 30 feet wide curb-to-curb near the SVC site and 12 feet curb-to-curb closer to the Suncrest Substation), in an area that was previously used as a materials storage and laydown area for Sunrise Powerlink. The proposed underground transmission line will exit the SVC on the north side and then turn westward along the north side of Bell Bluff Truck Trail for approximately 0.95 mile to a point where the transmission line will transition to a riser pole structure. The riser pole structure will serve as the change of ownership pole between NEET West and SDG&E. SDG&E will then string the conductor overhead with a single, approximately 300-foot-long overhead span to enter the Suncrest Substation and make the interconnection.

With the exception of the riser pole structure and some temporary work areas (to facilitate installation of the vault structures), the majority of the proposed underground transmission line will be located within the paved roadbed of Bell Bluff Truck Trail. Duct bank installation and equipment and material staging will be limited to either the north or south side of the road centerline, depending on the location of other utilities in the roadway, to maintain an unobstructed single lane of travel on the 30-foot-wide road section so as not to impede access to Suncrest Substation. Up to five splice vaults will be installed underground along the transmission line alignment approximately every 900 feet to facilitate installation of the underground cable and operation and maintenance of the transmission line following construction. Access to the proposed SVC area will be immediately off of Bell Bluff Truck Trail via two new approximately 20-foot-wide by 95-foot-long access drives. The roadway aprons of these access drives will be paved while the remainder of the access drives will be graveled.

Construction of the SVC (e.g., limit of grading and associated site improvements based on current information) will occupy a total area of approximately 261,360 square feet (6.00 acres). The SVC will be contained within a fenced area of up to approximately 112,000 square feet (2.58 acres). An approximately 12-foot-wide permanent easement will be obtained from SDG&E and the private landowner to operate and maintain the underground transmission line on their respective properties. New temporary disturbance associated with the underground transmission line will be approximately 0.48 acre. The remaining 3.13-acre temporary work area will be within the paved portion of Bell Bluff Truck Trail. Permanent disturbance totals 0.01 acre as the majority of the underground line will be installed within the existing roadway.

Construction of the Proposed Project will follow a typical sequence beginning with pre-construction surveys and survey staking; then site preparation and grading for the SVC pad, transmission structure work areas, and access road construction; followed by installation of SVC structures, transmission structure foundations, pole installation, laying of conductor; and lastly installing and testing of electrical equipment, energization, and site restoration. Site preparation will involve clearing, grubbing, and grading of the SVC footprint, transmission structure work areas, and access roads, as well as installing security fencing. Underground equipment, if necessary, will be installed in trenches, backfilled with suitable material (e.g., excavated soil or clean fill). SVC equipment will be installed on concrete foundations. After clearing and grading, transmission line and SVC construction activities will occur simultaneously. Construction is targeted to start September 1, 2016, and is expected to be complete March 10, 2017, at total of approximately 6.5 months from initial site disturbance until the SVC is ready for testing. Testing and commissioning of the Proposed Project will take approximately 2.5 months between March 11 and May 30, 2017, at which point the SVC will be fully operational and ready for energization. Restoration and cleanup will take another 2 months following energization.

7 METHODS

7.1 Project Personnel

Project oversight was provided by SWCA Paleontology Team Lead Sara Dietler, B.A. This report was authored by SWCA paleontologists Lee Hall, B.S., and Alyssa Bell, Ph.D. Alyssa Bell served as paleontological Principal Investigator and provided quality assurance and quality control of this report. Laura Hoffman, M.A., served as Paleontological Task Manager and produced the maps for this report. Technical editing services were provided by Jaime Jones.

7.2 Analysis of Existing Data Methods

Geologic units (bedrock formations and surficial sedimentary deposits) were assigned resource potential rankings based on unpublished data by the Department of PaleoServices (DPS) at the San Diego Natural History Museum (SDNHM) (Deméré 2010). The Proposed Project footprint was then the subject of thorough background research and analysis, including geologic map and literature reviews, and requests for paleontological record searches from the SDNHM in San Diego, California. The purpose of the review was to evaluate the paleontological sensitivity of the Proposed Project area in order to identify known fossil resources within it or nearby in the same geologic formations. If any previously recorded fossil localities occur in the Proposed Project footprint, the potential for disturbance of these localities during construction would be assessed.

7.3 Distribution of Data

Copies of this study will be submitted to NEET West. An electronic copy of the report as well as relevant communications and literature will be retained at SWCA's Pasadena office.

8 RESULTS

8.1 Literature Search Results

8.1.1 Geologic Setting

California comprises the following twelve geomorphic provinces, each distinguished from one another by having unique topographic features and geologic formations: (1) the Sierra Nevada; (2) the Klamath Mountains; (3) the Cascade Range; (4) the Modoc Plateau; (5) the Basin and Range; (6) the Mojave Desert; (7) the Colorado Desert; (8) the Peninsular Ranges; (9) the Transverse Ranges;, (10) the Coast Ranges; (11) the Great Valley; and (12) the Offshore area (Norris and Webb 1990). The Proposed Project area is located within the north central Peninsular Ranges province, which is bounded to the north by the Transverse Ranges, to the east by the Colorado Desert, and extends far southward to Baja California (Weber 1963; Norris and Webb 1990). The Peninsular Ranges occupy the majority of area in San Diego County, which is divided into three topographic regions: the narrow strip of Coastal Plain; the vast Interior Upland (Penninsular Ranges); and the arid Salton Basin (Colorado Desert) (Weber 1963). The interior upland is largest of the three regions and is characterized by ranges of steeply-sloped, boulder-covered mountains and intermediate valleys carved from the Peninsular Ranges Batholith (PRB) (Weber 1963; Walawender 1999).

The interior upland is composed largely of metamorphic and igneous rocks associated with a once active subduction zone off the ancient west coast. These rocks represent several phases of continent building, including island arc collisions, volcanic eruptions, and the emplacement of the voluminous, structurally complex PRB. The PRB is an enormous mass of crystalline rock formed by the episodic invasion of molten magma into the crust of San Diego County between the Late Jurassic and Early Cretaceous

(Weber 1963; Todd 1978; Walawender 1999; Todd et al. 2004). The PRB is colossal in size, stretching a distance of nearly 1,000 miles from Riverside, California, to the southern tip of Baja California. In San Diego County, the PRB is up to 70 miles wide, covers an area of nearly 1,900 square miles (Weber 1963), and is divided into two zones: the Eastern PRB and the Western PRB. The Proposed Project area is located within the Western PRB, which is composed mainly of a suite of gabbros, tonalites, and granites which were emplaced during the Early Cretaceous, between 120 and 100 million years ago (Walawender 1999).

According to mapping by Todd (1978) and Todd et al. (2004), the Proposed Project area is underlain by four geologic units: metasedimentary and metavolcanic rocks; Cuyamaca Reservoir Granodiorite; Corte Madera Monzogranite; and Cuyamaca Gabbro. These geologic units and their paleontological resource potential are discussed in more detail below.

8.1.2 Geology and Paleontology

More than 200 million years of time are recorded in the geologic formations of the Proposed Project area. It is directly underlain by four mapped geologic units (Todd 1978; Todd et al. 2004) (see Figure 3). In approximate ascending sequence, from oldest to youngest, these units are: Triassic to Jurassic-age metasedimentary and metavolcanic rocks equivalent to the Julian Schist; Middle to Late Jurassic Cuyamaca Reservoir Granodiorite; Early Cretaceous Corte Madera Monzogranite; and Early Cretaceous Cuyamaca Gabbro. General geology and paleontologic content of these units are described below.

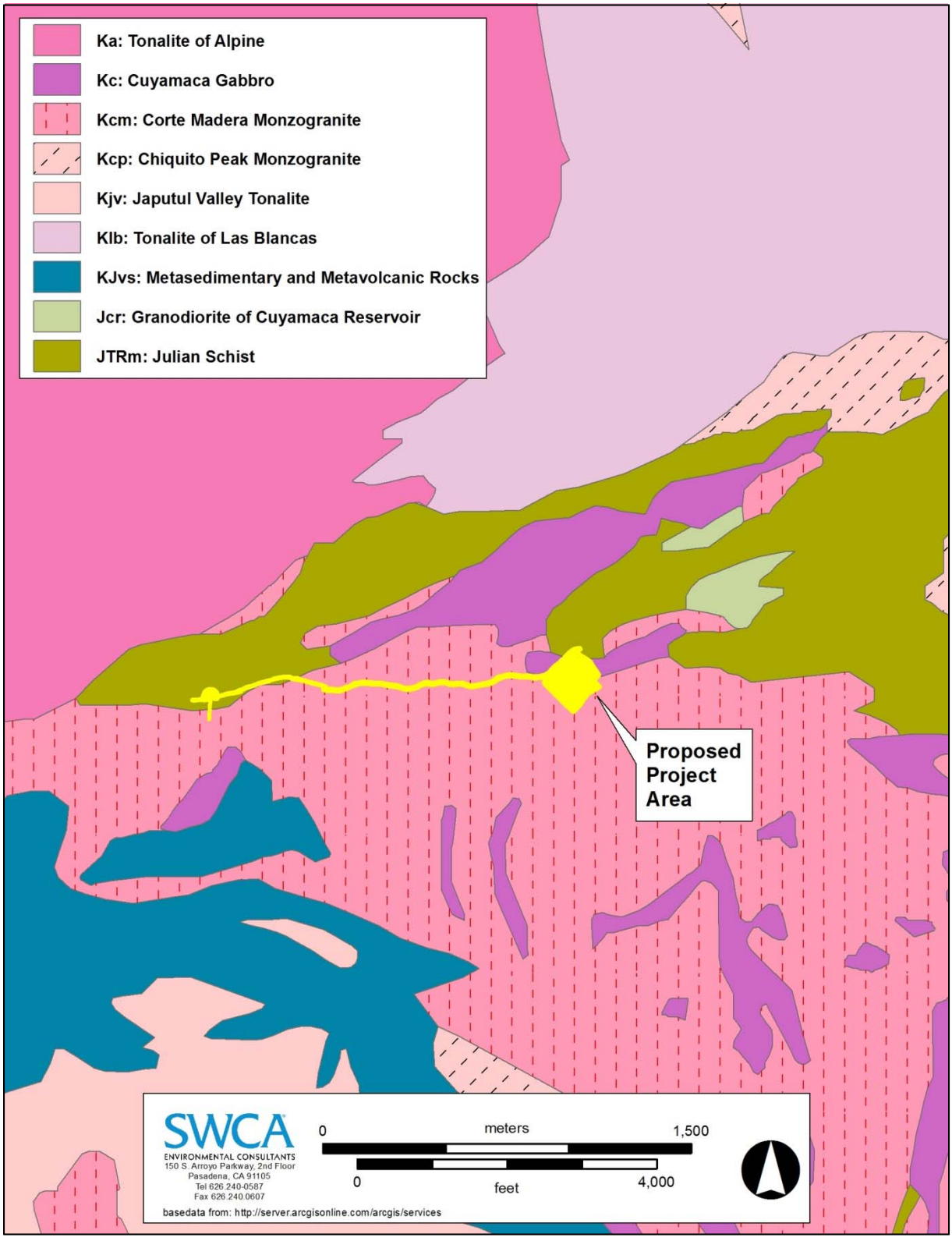
These rocks are Triassic and Jurassic in age and include several types of schist, metaquartzite, and metaconglomerate, as well as layers of mudstone, sandstone, and pebble conglomerate (Todd 1978; Todd et al. 2004). This unit has been interpreted as the metamorphosed remains of submarine fan deposits and interspersed volcanic flows (Todd 1978; Todd et al. 2004). Due to the metamorphosed nature of the sedimentary deposits, they are not likely to contain paleontological resources. This unit is considered to have no sensitivity for paleontological resources.

The Granodiorite of Cuyamaca Reservoir is Middle to Late Jurassic in age and occurs in the eastern-most portion of the Proposed Project area. This unit includes tonalite and granodiorite, which are silica and aluminum-rich, coarse-grained, intrusive igneous rocks that contain high composition percentages of plagioclase feldspars and amphiboles (Todd 1978; Todd et al. 2004). This unit occurs regionally as sheet-like intrusions wrapped around older plutons and interlayered and cross-cut by younger intrusive rocks (Todd 1978). Because this unit consists of crystalline igneous rock, there is no potential for fossils within. Therefore, this unit is considered to have no sensitivity for paleontological resources.

The Early Cretaceous Corte Madera Monzogranite (CMM) underlies much of the central portion of the Proposed Project area. It is an intrusive igneous mass, medium to coarse-grained in texture, and contains subunits of biotite-bearing leucomonzogranite, leucogranodiorite, and syenogranite (Todd 1978; Todd et al. 2004). The CMM occurs as sheets wrapped around older plutons and contains small traces of the Pine Valley Monzogranite (PVM). The PVM and CMM are of similar age, appearance, and composition, but the CMM exhibits a lower overall color index. Regionally, the CMM exhibits gradational contacts with the PVM. This unit is crystalline igneous rock and is considered to have no sensitivity for paleontological resources.

The Early Cretaceous Cuyamaca Gabbro is the most mafic rock unit in the Proposed Project area. It occurs in limited parts of the central SVC tie-line, and again in the northeastern-most portion of the Proposed Project area beneath the SVC. This unit consists of several bodies containing gabbronorite, hornblende gabbro, and troctolite, as well as olivine-bearing gabbronorite (Todd et al. 2004).

Figure 3. Geologic map of bedrock units underlying the Proposed Project area (Todd et al. 2004).



The Cuyamaca Gabbro contains evidence of secondary melting and recrystallization, along with foliations from post-emplacement deformation (Todd 1978). Due to the formative conditions of this unit occurring at depth within the crust, it is not possible for fossils to form or preserve within. Therefore, this unit is considered to have no sensitivity for paleontological resources.

8.2 Records Search Results

A records search request was submitted to the SDNHM with the stipulations of including the area within 1 mile of the Proposed Project area. No previously recorded paleontological localities were reported by the SDNHM within the Proposed Project area or within one mile of the Proposed Project footprint (Randall 2015).

8.3 Resource Potential Classification

The literature search revealed that none of the rock units underlying the Proposed Project area are known to be fossiliferous and none have produced scientifically important localities in the past, nor are there any known fossil localities within a 1-mile radius of the Proposed Project footprint (Deméré 2010; Randall 2015).

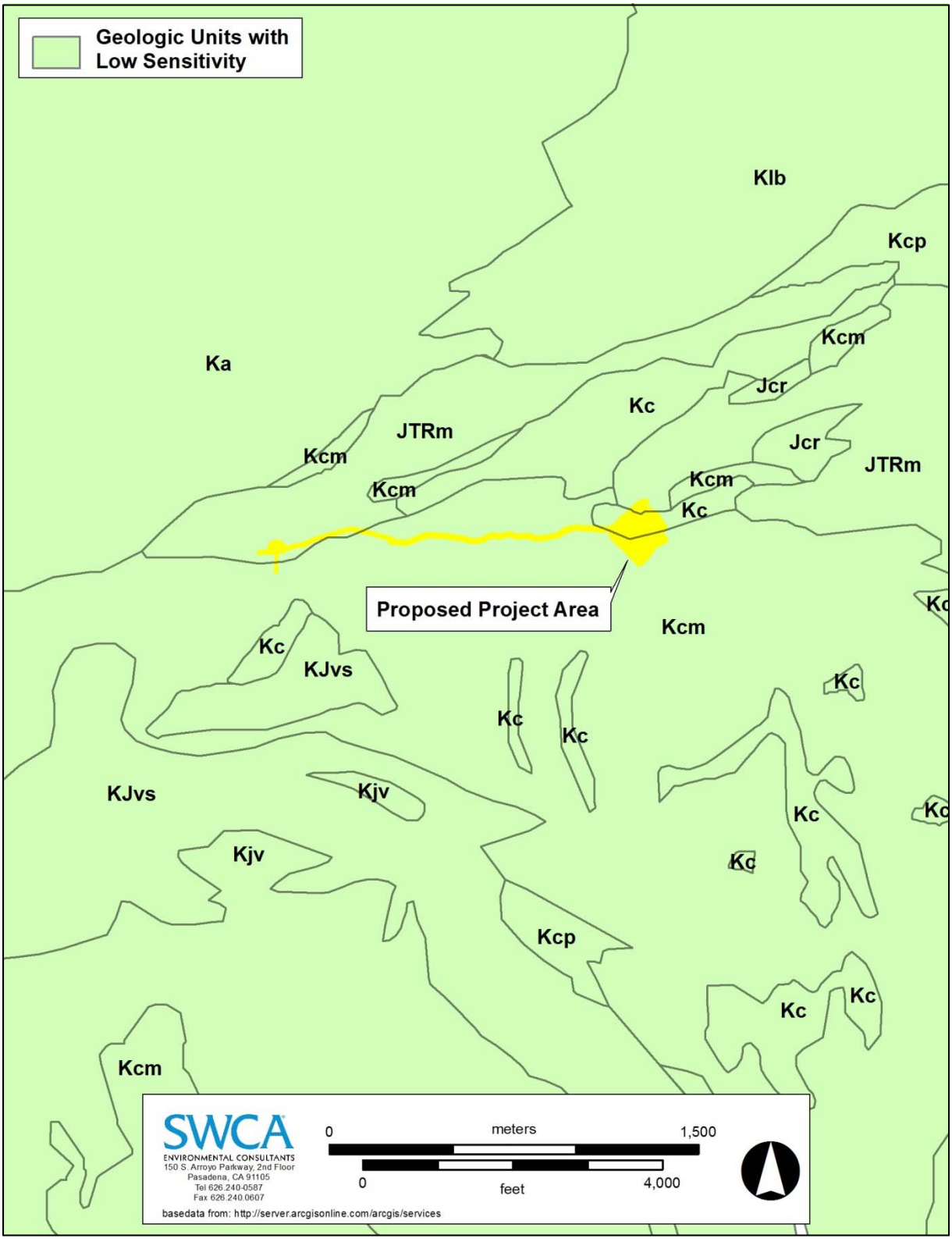
The four geologic units (Cuyamaca Gabbro, Corte Madera Monzogranite, Granodiorite of Cuyamaca Reservoir, metasedimentary and metavolcanic rocks equivalent to the Julian Schist) underlying the Proposed Project area were classified based on unpublished data from a SDNHM DPS report which included the existing Suncrest Substation (see Table 2) (Deméré 2010). According to these classifications, none of the geologic units underlying the Proposed Project area have the potential for or have confirmed occurrences of paleontological resources (see Figure 4).

Table 2. Paleontological Resource Potential of the Geologic Units Underlying the Proposed Project Area

Geologic Unit	Map Symbol	Age	Resource Potential	Lithology
Cuyamaca Gabbro	Kc	Early Cretaceous	None	*Igneous*: plutonic gabbronorite, hornblende gabbro, and troctolite, as well as olivine-bearing gabbronorite
Corte Madera Monzogranite	Kcm	Early Cretaceous	None	*Igneous*: plutonic biotite-bearing leucomonzogranite, leucogranodiorite, and syenogranite
Granodiorite of Cuyamaca Reservoir	Jcr	Late and Middle Jurassic	None	*Igneous*: plutonic:biotite and hypersthene-biotite granodiorite and tonalite; actinolitic amphibole
Metasedimentary and metavolcanic rocks	JTrm	Jurassic and Triassic	None	*Metamorphic*: schist, metaquartzite, and metaconglomerate; mudstone, sandstone, and pebble conglomerate

NOTE: Data provided in *Geologic Unit*, *Map Abbreviation* and *Age* are from the El Cajon 30' x 60'Quadrangle geologic map (Todd et al. 2004); the data in *Resource Potential* from Deméré (2010); the data provided for *Lithology* is from Todd (1978) and Todd et al. (2004).

Figure 4. Paleontological resource potential of units within the Proposed Project area (potentials from Deméré [2010]).



9 CONCLUSIONS

Based on results of this study, a pedestrian field survey for paleontological resources is not recommended. The four geologic units which underlie the Proposed Project area (Cuyamaca Gabbro, Corte Madera Monzogranite, Granodiorite of Cuyamaca Reservoir, metasedimentary and metavolcanic rocks equivalent to the Julian Schist) are igneous and metamorphic rocks. These rock types form at considerable depth beneath the surface under extreme heat and pressure; these conditions are not conducive to fossil preservation.

Searches of the available literature and museum records have revealed that all units mapped within the Proposed Project area are unlikely to contain paleontological resources. It is therefore unlikely that Proposed Project construction activities will encounter or impact paleontological resources.

10 RECOMMENDATIONS

In order to demonstrate CEQA compliance, a response to the following question in the Environmental Checklist based on the results of the paleontological analysis is required: "*Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*"

The following Applicant Proposed Measures (APMs) have been developed in accordance with the SVP (1995; 2010) standards and meet the paleontological requirements of CEQA. These measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction.

Error! Reference source not found. presents recommendations for further evaluation and proposed measures for the Proposed Project based on the findings of the paleontological assessment. The intent of the recommendations is to ensure that potential adverse impacts to paleontological resources as a result of project implementation are reduced to a less than significant level.

Table 3. Applicant Proposed Measures

APM No.	Description
APM-PR-1	**Inadvertent Fossil Discovery**. Should any paleontological resources be found within the Proposed Project footprint prior to or during construction: ▪ Surface-disturbing work will be halted in the immediate area (within 50 feet) of the find and project paleontologist notified immediately so the find can be evaluated No operations will resume in the immediate area of the find until written authorization to proceed is issued by the appropriate agency personnel.

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Appendix G:

Phase I Environmental Site Assessment

SUNCREST DYNAMIC REACTIVE POWER SUPPORT PROJECT PHASE I ENVIRONMENTAL SITE ASSESSMENT

FINAL

August 2015

SUBMITTED TO

NextEra Energy Transmission, West LLC
700 Universe Boulevard
Juno Beach, Florida 33408

SUBMITTED BY

SWCA Environmental Consultants
60 Stone Pine Road, Suite 201
Half Moon Bay, California 94019

Suncrest Dynamic Reactive Power Support Project
Phase I Environmental Site Assessment
Alpine, San Diego County, California

Prepared for

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SWCA Project No. 32001

July 17, 2015

EXECUTIVE SUMMARY

This executive summary presents the results of a Phase I Environmental Site Assessment (Phase I ESA) for the proposed Suncrest Dynamic Reactive Power (Static Var Compensator or SVC) Support Project, an approximately 6-acre proposed SVC site and approximately 1-mile-long proposed transmission line right-of-way (the "subject property"), near the western end of Bell Bluff Truck Trail, near the community of Alpine, in San Diego County, California. The purpose of this Phase I ESA is to meet due diligence requirements under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 prior to occupying the property.

NextEra Energy Transmission West, LLC provided a description of the boundaries of the subject property, and this description was taken as an accurate and true representation of the site. Independent verification of the subject property boundaries was not conducted by SWCA Environmental Consultants (SWCA) as part of this Phase I ESA.

The following list presents selected findings of this Phase I ESA:

- SWCA's review of historical aerial photographs and topographic maps did not identify any past uses of the subject property considered to be recognized environmental conditions (RECs) for the subject property.

- SWCA's review of a 2010 addendum to a 2009 Phase I ESA for the subject property found that the report did not identify any RECs or "indications of environmental conditions which may present an elevated potential to affect construction of the proposed Sunrise Powerlink" (Geosyntec Consultants 2010:4).

- SWCA's review of the Environmental Data Resources, Inc., environmental database report and supplemental records from the California State Water Resources Control Board and the California Department of Toxic Substances Control did not identify any relevant nearby sites or facilities.

- SWCA did not identify potential sources of vapor intrusion or vapor encroachment that would be considered to be RECs for the subject property.

- SWCA's reconnaissance of the subject property found that it primarily consists of undeveloped densely vegetated land that was previously used for grazing. The subject property also includes paved roadway and associated storm drains, culverts, and utility infrastructure; an abandoned garage; and a vegetation restoration project with water tanks and irrigation lines. A short span of the subject property enters an electrical substation where an overhead connection is planned. No soil staining, odors, or other evidence of leaks or spills was observed on the subject property.

- SWCA's reconnaissance of the subject property identified the existing San Diego Gas and Electric Suncrest Substation, an electrical substation, at the western end of the subject property. No soil staining, odors, or other evidence of leaks or spills was observed at or in the vicinity of the substation.

- No wells, evidence of underground storage tanks, or evidence of spills, staining, or leaking of hazardous materials or petroleum products were observed within the subject property.

SWCA has completed a Phase I ESA of the subject property based on information obtained during the site investigation conducted on March 25, 2015, and the information obtained through the activities of this Phase I ESA, excluding the limitations.

We have performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527 of the Suncrest Dynamic Reactive Power Support Project, an approximately six-acre proposed SVC site and approximately one-mile-long proposed transmission line right-of-way, near the western end of Bell Bluff Truck Trail, near Alpine, in San Diego County, California, the *property*. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this *report*. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the *property*.

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Appendices

1 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (Phase I ESA) for the proposed Suncrest Dynamic Reactive Power (Static Var Compensator or SVC) Support Project, an approximately six-acre proposed SVC site and approximately one-mile-long proposed transmission line right-of-way (the "subject property"), near the western end of Bell Bluff Truck Trail, near the community of Alpine, in San Diego County, California. SWCA Environmental Consultants (SWCA) completed this Phase I ESA for NextEra Energy Transmission West, LLC (NEET West), in accordance with the March 5, 2015, proposed scope of work. A copy of the scope of work is included in Appendix A.

1.1 Purpose

The purpose of this Phase I ESA is to meet due diligence requirements under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 prior to occupation of the property.

The Phase I ESA followed the standards described in the American Society for Testing and Materials (ASTM) Standard E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM 2013). Deletions or deviations from ASTM Standard E 1527-13 are documented in this report. The goal of the processes established by this practice is to assess the property, to the extent practical, for the potential presence of recognized environmental conditions (RECs), defined in the ASTM standard as "the presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*: (1) due to any *release* to the *environment*; (2) under conditions indicative of a *release* to the *environment*; or (3) under conditions that pose a *material threat* of a future *release* to the *environment*." De minimis conditions, which generally do not present risks of harm to public health or the environment and which generally would not be the subject of enforcement actions if brought to the attention of appropriate regulating agencies, are not RECs.

This Phase I ESA did not include activities such as inspections or sampling for the presence of asbestos-containing materials, radon, other radioactive substances, vapor intrusion, lead-based paint, non-hazardous wastes and materials, mold, or biological and medical wastes. No soil, air, or water samples were collected for this Phase I ESA.

1.2 Scope of Work

To achieve the objective referenced above, SWCA completed the following tasks:

- Reviewed intermittent topographic maps and/or aerial photographs.
- Surveyed relevant documents in order to assess the subject property's physiography, including a review of the local hydrogeology and geology of the surrounding area.
- Reviewed available federal and state regulatory databases.
- Visually surveyed the subject property by walking on and driving around the subject property and visually surveyed the surrounding properties from the subject property perimeter.

1.3 Limitations

SWCA warrants that qualified professionals in conformance with ethical business practices and industry standards prepared this report. Credentials of the individuals involved in preparing this report are included in Appendix B.

Some standard historical sources are not readily available and thus were not used to prepare this Phase I ESA. Based on our professional experience, Sanborn fire insurance maps and city directories were assumed to not be available for the subject property because of its rural nature and because it remained undeveloped until recent years. SWCA was not provided with a chain-of-title report or judicial records of environmental liens and activity and use limitations (AULs). Because they were disturbed or obscured by vegetation, compacted earth, or pavement, not all land surfaces within the subject property were able to be observed. On the parcels of the subject property owned by San Diego Gas & Electric Company (SDG&E) (see Table 1 below), SWCA's access was restricted to established roads plus 10 feet on either side of the road. SWCA was not provided access inside the SDG&E Suncrest Substation, so observations were limited to visual observation from a distance. SWCA was not provided with landowner contact information to conduct interviews, and a Phase I ESA User Questionnaire was not completed for the subject property. Because of the lack of available aerial photographs and U.S. Geological Survey (USGS) topographic maps, the commonly used 5-year interval between photographs and topographic dates could not be followed for all photographs and maps reviewed. Standard historical sources dating back to 1940 were not reasonably attainable for the subject property. Because supplemental data sources provided sufficient information, this gap in the data is not thought to have affected SWCA's ability to identify RECs on the subject property. SWCA's findings and conclusions within this assessment do not take into consideration the limitations identified in this report.

The information contained in this report relates only to the subject property and adjacent properties and should not be extrapolated or construed to apply to any other site. The description of the subject property as provided herein represents the conditions of the subject property as it existed on the date of the site reconnaissance. The contents of this report are valid as of the date shown on the report cover. The information presented in this report is intended for the exclusive use of NEET West and its affiliates, underwriters, and lenders. Reliance of any other parties on the information presented herein is the sole responsibility of said parties.

2 PROPERTY DESCRIPTION

The subject property is an approximately 6-acre area at the eastern end of an approximately one-mile-long, 70-foot-wide proposed transmission line right-of-way, near the western end of Bell Bluff Truck Trail, near the community of Alpine, in San Diego County, California. It runs from inside the existing SDG&E Suncrest Substation at its western end, eastward along Bell Bluff Truck Trail for approximately one mile to the 6-acre location of the proposed SVC site. The subject property is vacant and undeveloped except for the existing roadway and the existing SDG&E Suncrest Substation. Parcel mapping from 2015 indicates that the subject property crosses though three parcels: two owned by SDG&E and one owned by Dean R. and Deborah S. Wilson (San Diego Geographic Information Source 2015). Ownership of the parcels is provided in Table 1, and the subject property is depicted in Figures 1 and 2.

Table 1. Ownership of Subject Property

Parcel # (APN*)	Owner
523-030-13-00	San Diego Gas & Electric Company
523-030-09-00	San Diego Gas & Electric Company
523-040-08-00	Dean R. and Deborah S. Wilson

*Assessor's Parcel Number

Figure 1. Subject property location.

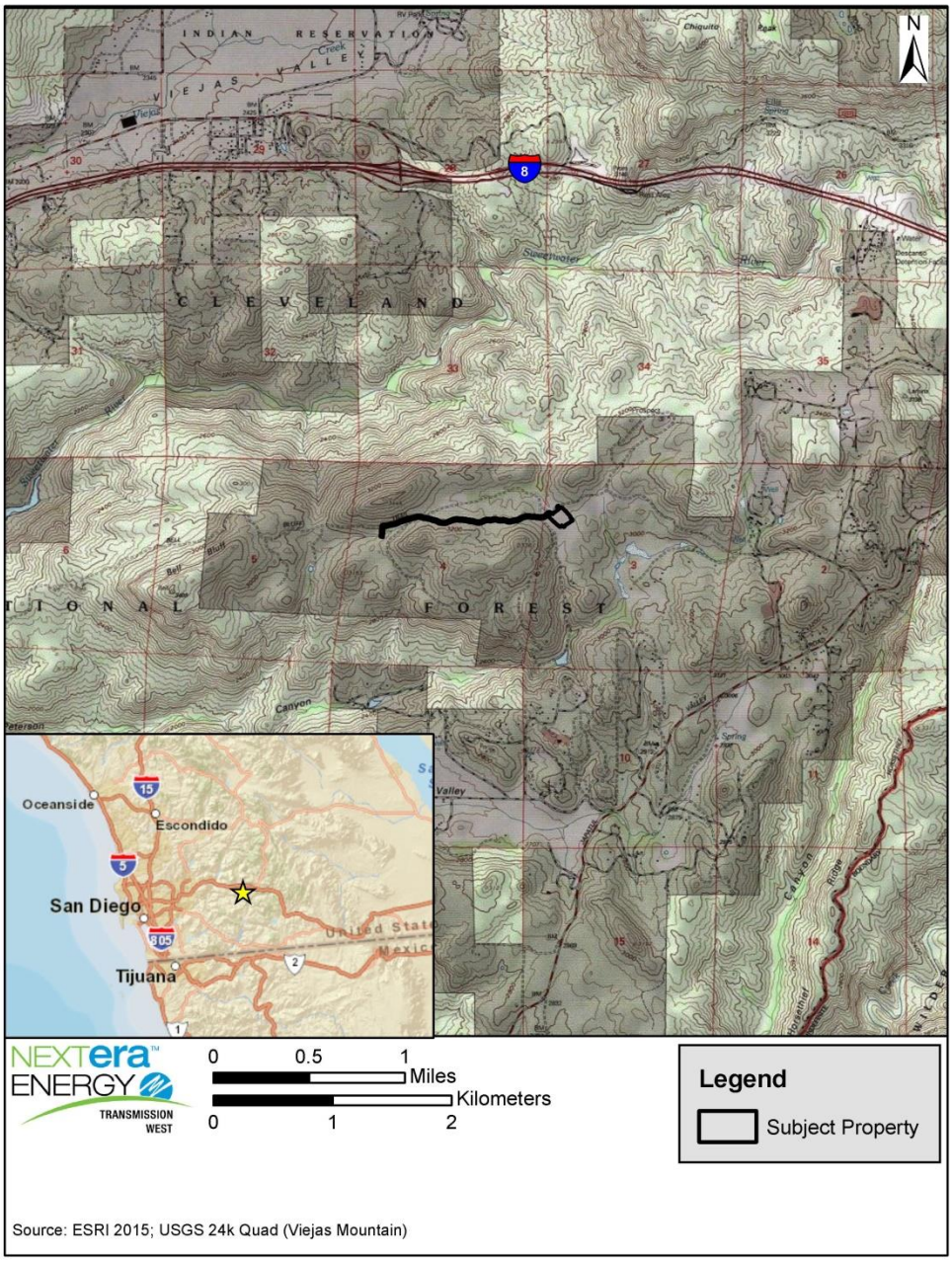
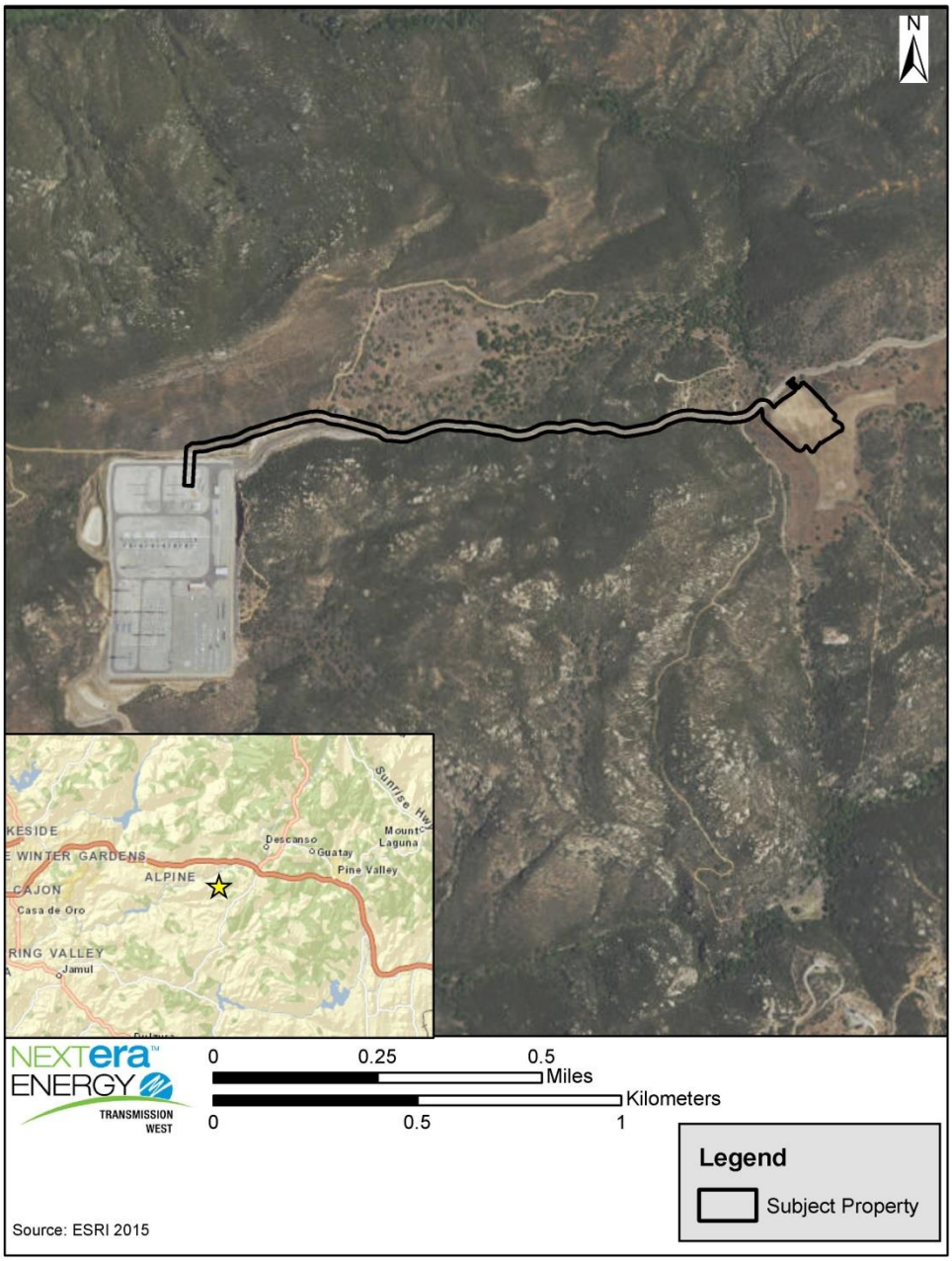


Figure 2. Subject property and surrounding properties.



3 PHYSICAL SETTING ANALYSIS

The following sections present physical characteristics of the subject property, as obtained from available natural history information sources.

3.1 Topography

The USGS 1997 Alpine, California, 7.5-minute quadrangle indicates that the subject property is along a ridge that leads to Bells Bluff west of the subject property. The vicinity is hilly with moderate to steep slopes, and appears to consist of hills and ridges dissected by washes and canyons. In a larger context, the subject property is located approximately midway up the mountains east of San Diego, approximately 33 miles from the coast. Though the mountains reach heights of 6,000 feet or more east of the subject property, the subject property is located at approximately 3,150 feet above mean sea level.

3.2 Geology

The subject property is mapped within an area called the Mesozoic granitic rocks, unit 2 (Peninsular Ranges). This mapping unit is from the Middle Jurassic to Late Cretaceous geologic age, and is composed primarily of tonalite, granodiorite, and minor quartz monzonite and granite (Rogers 1967; USGS 2015).

3.3 Soils

A review of soils data from the Natural Resources Conservation Service (NRCS) (2015a) indicates that the subject property is mapped within areas of Cieneba coarse sandy loam and very rocky coarse sandy loam, and Fallbrook sandy loam. The Cieneba series consists of very shallow and shallow, somewhat excessively drained soils that formed in material weathered from granitic rock. Cieneba soils are found on hills and mountains, and have slopes ranging from 9 to 85 percent. Runoff ranges from low to high. They exhibit moderately rapid permeability in the soil and much slower permeability in the weathered bedrock. Areas with these soils are used for wildlife, recreation, watersheds, and incidental grazing. Typical vegetation is mainly chaparral and chemise with widely spread foothill pine or oak tree. There are small area of thin annual grasses and weeds. This soil is common in coastal mountain ranges in central and southern California, and the foothills of the Sierra Nevada.

The Fallbrook series consists of deep, well-drained soils that formed in material weathered from granitic rocks. Fallbrook soils are found on rolling hills and have slopes ranging from 5 to 75 percent. They exhibit medium to very rapid runoff and moderately slow permeability. Extensive areas with this soil are used for grazing and also production of irrigated avocados, citrus, truck crops, and non-irrigated small grain and hay. Uncultivated areas are typically annual grasses and forbs with considerable chaparral, chamise, flattop buckwheat, and other shrubs. This soil is common in foothills on the east side of the San Joaquin Valley and foothills in the west part of southern California (NRCS 2015b).

3.4 Hydrogeology

Drainage in the vicinity of the subject property has been somewhat affected by development, and some drainage follows human-made channels or diversions. The subject property appears to primarily drain towards the south, where it would enter unnamed tributaries to Peterson Canyon via unnamed washes, then into the Sweetwater River, which leads to San Diego Bay. Because the subject property is located on a ridge, groundwater is not believed to flow towards the subject property, only away from it.

The subject property is mapped within the South Coast hydrologic region, which covers approximately 10,600 square miles of the southern California watershed that drains to the Pacific Ocean. The region is bounded on the west by the Pacific Ocean and the watershed divide near the Ventura-Santa Barbara County line. The northern boundary corresponds to the crest of the Transverse Ranges through the San

Gabriel and San Bernardino Mountains. The eastern boundary lies along the crest of the San Jacinto Mountains and low-lying hills of the Peninsular Range that form a drainage boundary with the Colorado River hydrologic region. The southern boundary is the international boundary with Mexico. Significant geographic features include the coastal plain, the central Transverse Ranges, the Peninsular Ranges, and the San Fernando, San Gabriel, Santa Ana River, and Santa Clara River valleys.

The South Coast hydrologic region has 56 delineated groundwater basins. The San Diego subregion overlies 27 groundwater basins, encompasses most of San Diego County, and includes parts of Orange and Riverside Counties. Groundwater basins underlie approximately 11% of the surface of the San Diego subregion. The subject property is not located within a mapped groundwater basin or subbasin, nor a state or private water district. Many of the subbasin boundaries were developed or modified with public input, but little physical data. Because they should not be considered precise boundaries, a detailed local study should determine whether any specific area lies within a groundwater basin boundary.

Groundwater is found in unconfined alluvial aquifers in most of the basins of the San Diego subregion and the inland basins of the Santa Ana and Los Angeles subregions. In some larger basins, typified by those underlying the coastal plain, groundwater occurs in multiple aquifers separated by aquitards that create confined groundwater conditions.

Groundwater in basins of the San Diego subregion has mainly calcium and sodium cations, and bicarbonate and sulfate anions. Local impairments by nitrate, sulfate, and dissolved solids are known to occur. Camp Pendleton Marine Base, in the northwestern part of this subregion, is on the U.S. Environmental Protection Agency's National Priorities List for soil and groundwater contamination by many constituents (California Department of Water Resources [CDWR] 2003).

A few water wells were mapped on properties northeast of the subject property; however, water level data were not available for any of the nearby wells (CDWR 2015).

4 HISTORICAL PROPERTY USES AND RECORDS REVIEW

The history of the subject property and adjacent properties was reviewed in accordance with the applicable ASTM standards, except as noted in Section 1.3. Historical uses of the subject property were determined based on a review of readily available, reasonably ascertainable historical data, including historical topographic maps and aerial photographs. Sanborn fire insurance maps and city directories were created for urbanized areas; therefore, they were assumed to not be available for the subject property because of its rural nature and because it remained undeveloped until recent years.

4.1 Historical Map Review

SWCA reviewed USGS topographic maps of the area dated from 1903 to 1997 (see Appendix C). A summary of SWCA's evaluation of the reviewed topographic maps is provided in Table 2.

Table 2. Summary of Historical Topographic Map Interpretation

Date of Topographic Map	Observations
1903 Cuyamaca, California USGS 30-series 1:125,000 and 1904 Southern California Sheet 2 USGS 60-series 1:250,000	The subject property and vicinity are depicted as primarily vacant and undeveloped in this map, except for some dirt roads. Bell Bluff Truck Trail appears to be present, with one structure depicted on its western end, south of the subject property.

Date of Topographic Map	Observations
1944 Cuyamaca Peak, California USGS 15-series 1:62,500	The subject property and surrounding properties do not appear to have changed significantly since the previous map. Bell Bluff Truck Trail appears to have extended to the west.
1960 Viejas Mountain, California USGS 7.5-series 1:24,000	The subject property and surrounding properties do not appear to have changed significantly since the previous map. A mining prospect is depicted on what is currently disturbed earth approximately 0.65 mile northeast of the subject property. A side trail branches to the south of Bell Bluff Truck Trail. It appears to run to a small pond that is still present approximately 0.35 mile southwest of the subject property.
1982, 1988, and 1997 Viejas Mountain, California USGS 7.5-series 1:24,000	The subject property and surrounding properties do not appear to have changed significantly since the previous map.

4.2 Historical Aerial Photograph Review

SWCA reviewed available historical aerial photographs of the subject property dating from 1953 to 2014. A summary of SWCA's evaluation of the reviewed aerial photography is provided in Table 3.

Table 3. Summary of Historical Aerial Photograph Interpretation

Date of Aerial Photograph	Observations
1953, 1963, 1975, 1989 EDR aerial photographs Various scales	The subject property and most surrounding properties appear to be vacant and undeveloped scrubland with a few dirt roads. An area adjacent to the southwest appears as if it may have been cleared for grazing. The subject property and surrounding area does not appear to have changed significantly during this time period.
1994, 1996, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2010 EDR and Google Earth aerial photographs Various scales	By 1994, the subject property and adjacent land still appear to be undeveloped and vacant. No significant changes are evident in the 1996 photograph, except that what appears to be a square-shaped residence is present on or adjacent to the north of the right-of-way, approximately 0.77 mile east of the area where the SDG&E Suncrest Substation exists today. In 2003, another structure, possibly a gate, is evident north of the right-of-way, approximately 900 feet east-northeast of the location of the proposed SVC. No additional significant changes are evident during this time period.
2012, 2013, 2014 Google Earth aerial photographs Variable scales	By 2012, the SDG&E Suncrest Substation at the western end of the subject property has been constructed. It appears that the roadway has been improved and paved, and stormwater controls are in place along the road. A tank, probably a water tank, is present approximately 1,000 feet northeast of the substation. A smaller tank has been added approximately 0.7 mile east of the substation, north of the road. A large portion of the location of the proposed substation has been graded. In 2013, another smaller tank has been added, approximately 275 feet southeast of the large tank. The surrounding area appears to remain undeveloped and unoccupied, except as described above.

4.3 Adjacent Properties

Adjacent land remained primarily undeveloped until the SDG&E Suncrest Substation was constructed between 2010 and 2012, at the western end of the subject property. Other adjacent land remains undeveloped today except for a garage and some water tanks.

4.4 Previous Phase I ESA Reports

SWCA was provided with a January 2010 addendum to a Phase I ESA report that was completed in 2009 by Geosyntec Consultants (Geosyntec). The subject of the addendum is "Addendum No. 10 to the Sunrise Powerlink Phase I ESA" "Lightner Parcels – APNs [Assessor's Parcel Numbers] 523-020-01, 523-020-06, 523-03-07, 523-030-09, 523-030-12, 523-030-13, and 523-030-14." The original report and previous addendums were not provided to SWCA for review. The original Phase I ESA was for a 120-mile-long transmission corridor, and this addendum was to further evaluate the stated parcels. Geosyntec did not identify any RECs or "indications of environmental conditions which may present an elevated potential to affect construction of the proposed Sunrise Powerlink" (Geosyntec 2010:4). SWCA was not provided with additional previous Phase I ESA reports or other environmental reports for review that are relevant to this Phase I ESA.

4.5 Interviews

SWCA was not provided with contact information to interview the owners of the subject property. SWCA sent a Phase I ESA User Questionnaire for the subject property to NextEra Energy Resources, LLC. A completed questionnaire was not returned to SWCA by the time of this report. However, if a completed questionnaire is returned and the answers would alter the conclusions of this report, SWCA will prepare an addendum to this report. SWCA will retain the returned questionnaire in its files, regardless of the answers within.

4.6 Environmental Liens and Activity and Use Limitations

SWCA was not provided with a chain-of-title report or judicial records of environmental liens or AULs to review.

5 ENVIRONMENTAL REGULATORY REVIEW

SWCA conducted an environmental regulatory review to establish the environmental history of the subject property and surrounding area to ascertain whether hazardous waste or hazardous material management, handling, treatment, or disposal activities have occurred on or near the subject property.

5.1 Federal and State Environmental Records

An environmental database report generated by Environmental Data Resources, Inc. (EDR) on March 12, 2015, was used to access environmental records for the subject property and the surrounding properties. No nearby sites or facilities were listed in the databases searched by EDR. The proximity of listed facilities would have been reviewed to determine the potential effect, if any, these facilities may have on the subject property. The databases searched by EDR include those specified by ASTM Standard E 1527-13, as well as several additional federal and state databases and databases proprietary to EDR. EDR updates its records in accordance with ASTM Standard E 1527-13 guidelines. Additional listed facilities that EDR has not identified may exist within a 1-mile radius of the subject property.

SWCA also reviewed supplemental records from the California State Water Resources Control Board's (SWRCB's) GeoTracker website (SWRCB 2015), which contains environmental data for regulated facilities in California including cleanup sites and hazardous waste facilities, and the California

Department of Toxic Substances Control's (DTSC's) EnviroStor website (DTSC 2015), which includes data for leaking underground storage tank and other cleanup sites, land disposal sites, and hazardous waste permitted facilities. No relevant nearby sites or facilities were listed in the supplemental databases searched by SWCA. Appendix C provides copies of the EDR reports and mapping from the State agencies.

SWCA considered the potential for contaminant migration; however, SWCA did not identify any off-site potential sources of vapor intrusion or vapor encroachment to the subject property.

5.1.1 Orphan Sites

In addition to the sites/facilities listed in the EDR report, EDR provides a list of sites or facilities that are listed in one or more regulatory agency databases but could not be mapped because of incomplete address or location information; these are called orphan sites. This EDR report identified no orphan sites.

6 PROPERTY RECONNAISSANCE

Ms. Laura Hoffman of SWCA completed the Phase I ESA site investigation for the subject property on March 25, 2015. The subject property was accessed from paved and unpaved access roads. The eastern part of the subject property is privately owned, with unrestricted access for SWCA. The western part is owned by SDG&E, and allowed access was restricted to established roads plus 10 feet on either side. SWCA was not provided access inside the SDG&E Suncrest Substation, so observations were limited to visual observation from a distance. The property reconnaissance consisted of walking and driving through the subject property on maintained access roads and walking on unpaved access roads in areas inaccessible to vehicles on the privately owned portion. Photographs taken during the property reconnaissance are included in Appendix D.

6.1 Property Inspection

The subject property primarily consists of undeveloped land that was previously used for grazing. The undeveloped portion is densely vegetated with various shrubs and trees, including chemise, manzanita, scrub oaks, and sage. Grasses, such as buckwheat and red brome, are found in recently disturbed areas.

One building, a garage built by the former property owner, is located in the approximate center of the subject property. The building is located on SDG&E -owned land and is approximately 80 feet north of the road. Therefore, observation was limited to a view from the road. The building appeared to be abandoned, though it likely had electricity at one point; a utility pole that has been removed and cut into several pieces is located near the garage. A catch basin is attached to the roof to collect rainwater. Several old barbed wire and wood fences are present within the subject property.

All of the remaining development in the subject property is associated with the adjacent Suncrest Substation. The substation itself appears fairly typical. It is a fenced area measuring approximately 37 acres in size and contains various electrical equipment and related structures, and three or more buildings. The subject property extends approximately 235 feet into the northeast of the substation. No soil staining, odors, or other evidence of leaks or spills was observed within this or any part of the substation.

Bell Bluff Truck Trail is an east-west-trending, paved access road from the east measuring approximately 30 feet wide, decreasing to 12 feet wide approximately 1,200 feet east-northeast of the Suncrest Substation. It is unpaved west of the Suncrest Substation. A paved access road connects the Suncrest Substation to Bell Bluff Truck Trail. Numerous culverts, gutters, and storm drains and one new, metal gate are located along the roads. One circular pad composed of gravel and lined with metal is located adjacent to Bell Bluff Truck Trail on the north side; it is outside of the area SWCA had access to and thus

inspection was limited. Two series of manholes are located within the road: one marked "AT&T," likely for fiber-optic telecommunication lines; and one marked "SDG&E," likely for electrical lines.

The 6-acre proposed SVC is adjacent to the south of Bell Bluff Truck Trail and is situated on what was the Wilson Laydown Yard for the SDG&E Sunrise Powerlink Project. This area was graded and compacted for use as the laydown yard. Since the completion of the Suncrest Substation, the area has been the site of a habitat restoration project, including efforts to loosen the compacted earth and replant native vegetation. This includes aboveground irrigation infrastructure such as PVC pipes and sprinklers. A temporary nursery and two plastic, temporary water tanks are associated with the restoration effort. One large, permanent water tank is situated on a graded, paved pad and surrounded by a chain-link fence near the western end of the subject property. A fire hydrant and three electrical boxes are located immediately outside of the fenced area. No soil staining, odors, or other evidence of leaks or spills was observed on the subject property.

Numerous unnamed drainages are located throughout the subject property. Culverts, gutters, and storm drains associated with Bell Bluff Truck Trail feed into the drainages. The Suncrest Substation, an electrical substation, is located adjacent to the south of the western end of the subject property. One large, open-air catch basin is located south of the subject property adjacent to the Suncrest Substation; several storm drains appear to feed water from the subject property into this catch basin. No soil staining, odors, or other evidence of leaks or spills was observed at or in the vicinity of the Suncrest Substation.

7 PHASE I ESA FINDINGS

The following list presents selected findings of this Phase I ESA:

- SWCA's review of historical aerial photographs and topographic maps did not identify any past uses of the subject property considered to be RECs for the subject property.
- SWCA's review of a 2010 addendum to a 2009 Phase I ESA for the subject property found that the report did not identify any RECs or "indications of environmental conditions which may present an elevated potential to affect construction of the proposed Sunrise Powerlink" (Geosyntec Consultants 2010:4).
- SWCA's review of the EDR environmental database report and supplemental records from the California SWRCB and the California DTSC did not identify any relevant nearby sites or facilities.
- SWCA did not identify potential sources of vapor intrusion or vapor encroachment that would be considered to be RECs for the subject property.
- SWCA's reconnaissance of the subject property found that it primarily consists of undeveloped densely vegetated land that was previously used for grazing. The subject property also includes paved roadway and associated storm drains, culverts, and utility infrastructure; an abandoned garage; and a vegetation restoration project with water tanks and irrigation lines. A short span of the subject property enters an electrical substation where an overhead connection is planned. No soil staining, odors, or other evidence of leaks or spills was observed on the subject property.
- SWCA's reconnaissance of the subject property identified the existing SDG&E Suncrest Substation, an electrical substation, at the western end of the subject property. No soil staining, odors, or other evidence of leaks or spills was observed at or in the vicinity of the substation.

- No wells, evidence of underground storage tanks, or evidence of spills, staining, or leaking of hazardous materials or petroleum products were observed within the subject property.

8 PHASE I ESA CONCLUSIONS

SWCA has completed a Phase I ESA of the subject property based on information obtained during the site investigation conducted on March 25, 2015, and the information obtained through the activities of this Phase I ESA, excluding the limitations.

We have performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E 1527 of the Suncrest Dynamic Reactive Power Support Project, an approximately 6-acre proposed SVC site and approximately 1-mile-long proposed transmission line right-of-way, near the western end of Bell Bluff Truck Trail, near the community of Alpine, in San Diego County, California, the *property*. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this *report*. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the *property*.

9 LITERATURE CITED

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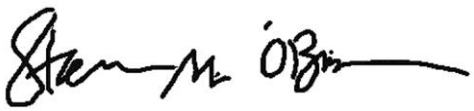
10 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312. Our qualifications are presented in Appendix B of this report.



07/17/15

Steven M. O'Brien
Environmental Specialist

Date

07/17/15

DeAnne Rietz
Environmental Specialist

Date

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Appendix A.
Phase I ESA Scope of Work

SWCA ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.®

SCOPE OF WORK

Phase I Environmental Site Assessment for the Suncrest Reactive Power Support Project, San Diego County, California

TASK 1. PHASE I ENVIRONMENTAL SITE ASSESSMENT

SWCA Environmental Consultants (SWCA) will complete a Phase I Environmental Site Assessment (ESA) for an approximately 3-acre dynamic reactive power support facility site and approximately 1.8-mile 230kV transmission line right-of-way, near the western end of Avenue de Los Arboles, in San Diego County, California, in accordance with the standards described in American Society for Testing and Materials (ASTM) Standard E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (2013). It is our understanding that the proposed project requires a Phase I ESA to support the Proponent's Environmental Assessment and application for Certificate of Public Convenience and Necessity.

The goal of the Phase I ESA is to assess the subject *property*, to the extent practical, for the potential presence of recognized environmental conditions (RECs), defined in ASTM Standard E 1527-13 as "the presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*: (1) due to any *release* to the *environment*; (2) under conditions indicative of a *release* to the *environment*; or (3) under conditions that pose a *material threat* of a future *release* to the *environment*. *De minimis* conditions are not *recognized environmental conditions*." The following scope of work applies to a Phase I ESA, and consists of five subtasks.

1.1 Records Review

SWCA will review available historical documents, including aerial photographs and other land-use documents (if available), in order to identify past operations or activities that may have caused the release of hazardous substances into the environment. SWCA also will review copies of environmental reports previously prepared for the site (e.g., Sunrise Powerlink EIR/EIS and associated reports), environmental compliance audits, environmental permits, environmental liens and activity and use limitations (AULs), and any other available environmental documents relating to the site. If provided by the client or landowner, specialized knowledge of or experience relating to the property or nearby properties will be reviewed by SWCA. As part of the review process, site location, hydrogeological characteristics, geographic setting, and physiography also will be summarized. SWCA assumes that Sanborn fire insurance maps and city directories are not available for the subject property because of its rural nature and because it has remained undeveloped until recently.

Additionally, available state and federal regulatory databases will be reviewed to determine whether the subject property or nearby facilities have been subject to environmental actions or review. The regulatory database review will, at a minimum, include the databases required to satisfy the ASTM standard. If the subject property or an adjoining property appears on a federal, state, or tribal database, the ASTM standard requires additional in-person regulatory file review unless the environmental professional determines that a file review is unnecessary and/or that the records cannot be obtained within a reasonable time (20 calendar days from the date of request) for a reasonable cost. SWCA will review regulatory files for up to three adjacent sites, if deemed necessary, provided that such files are publicly and readily available.

The ASTM standard requires that the user of the Phase I ESA report (the client for whom the report is prepared) must search recorded land-title records and judicial records for environmental liens and AULs and report this information to the environmental professional. A 50-year chain-of-title report and a lien search will not be obtained by SWCA under this scope of work. SWCA will, however, review a chain-of-title report and lien search if supplied by the client, or we will obtain these data at an additional cost to this scope of work, if requested by the client.

1.2 Interviews

If site contact and/or property owner contact information is made available by the client, SWCA personnel will attempt to interview those individuals who are knowledgeable about the history of the site (typically, a past or current owner, operator, manager, or occupant of the site). Reasonable attempts will be made to interview at least one staff member of state or local government agencies regarding information that indicates RECs in connection with the property.

1.3 Site Reconnaissance

SWCA personnel will conduct a reconnaissance of the project area and vicinity to visually identify and photograph areas with potential RECs and to document current site conditions. This scope of work does not include activities such as collecting or analyzing soil, air, water, or other environmental samples and will not address issues such as radon, asbestos, lead, or radioactivity. SWCA personnel will visually inspect the property and the interiors of buildings where hazardous chemicals and petroleum products are stored or used. SWCA personnel will require access to all areas of the subject property on the day of the site reconnaissance. It is assumed that the client will assist with access arrangements for SWCA personnel to visit the site.

1.4 User-Provided Information

User-provided information is an essential component of the Phase I ESA and includes items such as copies of any previous Phase I ESAs or other relevant environmental documents, a completed Phase I ESA User Questionnaire, the reason why the Phase I ESA is being performed, access to the subject property, and contact information for current or past owners or land users. The user of the report is defined as the party seeking to use ASTM Standard E 1527-13 to complete a Phase I ESA of the property.

The ASTM standard also requires that the user of the Phase I ESA report must search recorded land-title records and judicial records for environmental liens and AULs and must report this information to SWCA, as the environmental professional writing the Phase I ESA report. Environmental liens and AULs can commonly be found within recorded land title records (e.g., County Recorder/Registry of Deeds). The types of title reports that may disclose environmental liens and AULs include Preliminary Title Reports, Title Commitments, Condition of Title, and Title Abstracts. In jurisdictions where environmental liens or AULs are only recorded or filed in judicial records, the judicial records must be searched for environmental liens and AULs. The user may wish to engage a title company, real estate attorney, or title professional to undertake a review of reasonably ascertainable recorded land-title records and lien records for environmental liens and AULs. If the user opts not to search for liens and AULs, this would be noted as a limitation of the report.

A 50-year chain-of-title report and a search for liens and AULs will not be obtained by SWCA under this scope of work. SWCA will, however, review a chain-of-title report and lien search if supplied by

the client, or we will obtain these data at an additional cost to this scope of work, if requested by the client.

1.5 Report Generation

The Phase I ESA findings will be summarized and documented in a report. Sections within the report will include 1) an introduction and description of the scope of work; 2) a description of the site; 3) a summary of the site history, including interviews and user-provided information; 4) a regulatory database review; 5) a description of the site reconnaissance; and 6) report findings and conclusions. The potential for contaminant migration, including vapor in the subsurface, will be assessed in accordance with ASTM Standard E 1527-13. A formal ASTM Standard E 2600-10 Vapor Encroachment Screening to identify vapor encroachment conditions will not be conducted as part of this scope of work. Report limitations and literature cited will also be included. Figures, at a minimum, will include 1) a regional site location map; and 2) an aerial photograph. Where applicable, report appendices could include 1) reproductions of select aerial photographs; 2) a copy of the regulatory database review report; 3) select site photographs; 4) applicable site history and prior-use documentation; and 5) copies of relevant environmental reports that have been previously prepared for the site, if supplied by the client.

According to ASTM Standard E 1527-13, the content of a Phase I ESA is valid for only 180 days. If the date of the intended use for Phase I ESA is not within 180 days of the completion of the report, an update will be necessary.

ASSUMPTIONS

1. The report will be delivered in electronic PDF format.
2. Access to private lands, if restricted, will be arranged by a client representative. Fieldwork will be conducted in a single site visit.
3. The Phase I ESA will be prepared in accordance with ASTM standards and does not include any sampling such as soil, air, water, vapor, lead, or asbestos.
4. The cost assumes that additional regulatory file reviews for up to three adjacent sites will be conducted if deemed necessary.
5. The date of the intended use of the Phase I ESA is within 180 days of the completion of the report.

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Appendix B.
SWCA Credentials

SWCA
ENVIRONMENTAL CONSULTANTS

STEVEN M. O'BRIEN
Environmental Specialist

Education / Training

- B.A., Biology / Chemistry, Gettysburg College; 1994

Expertise

- ESAs
- Wetland delineation and hydric soils
- Stream channel assessment and restoration
- Riparian restoration
- Soil surveys
- State/National Environmental Policy Act (S/NEPA) documentation
- Protected species
- 404/401 permitting
- Construction oversight
- Project management

Relevant Projects

- Phase I EDDAs for eight Airport Expansion Projects
- Phase I ESA of Former Mining Operation; Silverton, Colorado
- 52-square-mile Phase I ESA for Wind Farm Construction, Colorado
- 43,000-acre Phase I ESA for Wind Farm Construction, Williams, Arizona
- 4,500-acre Phase I ESA for Wind Farm Construction; New Mexico
- Phase I ESA of Former Naval Depot for Redevelopment; Guam
- 86-mile Transmission Line Phase I ESA and Wetland Delineation; Florence, South Carolina
- Several Phase I ESA for Solar Development; California, Arizona, and Hawaii
- 950-acre Phase I ESA and Wetland Delineation; Fort Stewart, Georgia
- EBS for Wastewater Treatment Plant Improvements; Schofield Barracks U.S. Army Post, Honolulu, Hawaii

Mr. O'Brien is an Environmental Specialist in SWCA's Phoenix, Arizona office. He has more than 17 years of experience in environmental consulting and technical writing, including 13 years of extensive experience performing Phase I environmental site assessments (ESAs).

He has performed numerous ESAs in a variety of locations, from uninhabited deserts and mountains to dense metropolitan settings in 18 states and Guam, from tiny parcels to 600–square mile assemblages, including a U.S. Environmental Protection Agency (EPA) Superfund site and Department of Defense sites. He teaches others to conduct ESAs and has prepared and taught classroom and field sessions on ESA field and writing techniques. His specialties include applying ASTM Standard 2247-08 for large-scale projects and performing FAA-Standard Phase I Environmental Due Diligence Audits (EDDAs) for airport projects. He is skilled in applying the principles of ESAs to Environmental Baseline Surveys (EBSs) for Department of Defense sites and classification of environmental condition of property area types. He manages the large and difficult Phase I ESAs for SWCA.

Mr. O'Brien is experienced in performing soil mapping, wetland delineations, habitat assessments, permitting, protected species, and stream morphology assessments. He has delineated more than 40,000 acres of wetlands and has performed assessment, design, and construction oversight for more than 250 stream stabilization sites. He has completed M.A.-level coursework in soil characterization and hydric soils. He has extensive experience performing construction oversight and has experience training contractors, staff, and local officials.

Mr. O'Brien has extensive plant, soil, and hydrology fieldwork experience in 12 states, in locations from coastal marshes to deserts to high in the Rocky Mountains. He has been 40-hour Hazardous Waste and Emergency Response (HAZWOPER)–certified since 1996. He earned a Watershed Training Certificate from the EPA, a Water Supply Watershed Protection certificate, and is a current member of the Arizona Association of Environmental Professionals and the Arizona Riparian Council.

SWCA ENVIRONMENTAL CONSULTANTS

DEANNE RIETZ, M.S., CPESC

Project Manager / Hydrologist

Education

M.S., Watershed Management; University of Arizona; 1999

B.S. magna cum laude, Natural Resources; University of Arizona; 1997

Expertise

ESAs and SWPPPs

EA/EISs

Hydrologic/hydraulic sensitivity analysis

Surface water and groundwater modelling and floodplain mapping

Registration/ Certification

CPESC – Certified Professional in Erosion and Sediment Control (Certification Number 6100)

Training

ESAs for Commercial Real Estate—ASTM-accredited Course; 2006

U.S. Environmental Protection Act All Appropriate Inquiry and the New ASTM Phase I Standard after AAI—ASTM-accredited Course; 2007–2008

Experience Summary

Ms. Rietz is a hydrologist and project manager in SWCA's Phoenix, Arizona, office, with 16 years of experience in compliance with the National Environmental Policy Act (NEPA), Sections 402 and 404 of the Clean Water Act (CWA), and the Arizona Groundwater Code.

Ms. Rietz has developed scientific studies and prepared resource reports in support of environmental assessments (EAs), environmental impact statements (EISs), and stormwater pollution prevention plans (SWPPPs) throughout the desert Southwest, and Guam. Her experience also includes GIS analysis, vegetative mapping, and the use of programs such as THWELLS and Hydrologic Engineering Center software for groundwater and surface water modeling and floodplain mapping. Ms. Rietz has conducted sensitivity analysis on riparian restoration projects and is experienced in performing Phase I and II environmental site assessments (ESAs) in accordance with the American Society for Testing and Materials (ASTM) Standards for ESAs.

Selected Project Experience

Southline Transmission EIS; Las Cruces, New Mexico, to Tucson, Arizona; Southline Transmission LLC. SWCA serves as the third-party NEPA consultant to the BLM and the Western Area Power Administration (the co-lead federal agencies) and Southline Transmission LLC (the proponent). The project proposes more than 360 miles of new and rebuilt transmission line and will provide 1,000 megawatts of capacity in southern New Mexico and Arizona. SWCA is responsible for successfully coordinating with multiple agencies, consultants, and developers to ultimately compile a comprehensive and legally defensible EIS. *Role: Resource Coordinator. Manage data acquisition and coordinate resource reporting by various authors. Research and writing in support of EIS.*

Perrin Ranch; Coconino County, Arizona; NextEra Energy Resources, LLC. SWCA completed pre-construction surveys, permitting, and construction monitoring for installation of the 99-megawatt wind facility and post-construction monitoring studies as described in the Avian and Bat Protection Plan. *Role: Hydrologist. Conducted water resources analysis in support of the EA. Analyzed best management practices proposed for erosion control. Performed a Phase I ESA on the private and State Trust lands associated with the project.*

Phase I ESA for 30 acres at Apra Harbor; Piti, Guam; TG Engineers. SWCA performed a Phase I ESA and follow-up mitigation plan for a commercial development of a 30-acre parcel at Polaris Point in Piti, Guam. *Role: Environmental Specialist. Performed environmental record and historical aerial photography review, assessed the presence of recognized environmental conditions and formulated Phase II sampling plan to characterize contaminates at the site.*

SWCA | Resume

LAURA HOFFMAN, M.A., RPA, CULTURAL RESOURCES PROJECT MANAGER

Laura Hoffman has experience in archaeology as both a project manager and field director. Ms. Hoffman regularly acts as project manager and field director during cultural resources work in support of compliance with the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA). Ms. Hoffman has authored numerous technical reports detailing the results of cultural resources survey, testing, and evaluation, as well as cultural resources management plans and California Department of Parks and Recreation (DPR) series 523 forms. She has

YEARS OF EXPERIENCE

11

EXPERTISE

Archaeological survey, testing, and data recovery

Technical report writing

GPS and survey technology

ArcGIS software and applications

EDUCATION

M.A., Anthropology; California State University, Northridge; 2012

B.A., History; University of California, Los Angeles; 2002

REGISTRATIONS / CERTIFICATIONS

Registered Professional Archaeologist, ID#989821

GIS Certificate, California State University, Northridge; 2009

California BLM Permit, Field Director, Statewide

TRAINING

Archaeological Field School Training, California State University, Northridge; 2007

SELECTED PROJECT EXPERIENCE

Sothern California Edison On-Call Cultural Services; Southern California Edison. SWCA provides cultural resources consulting services in support of various utility projects including deteriorated pole replacements, grid reliability and maintenance, emergency services, and transmission line rating remediation. Projects are located throughout Southern California Edison's territory in Los Angeles, Kern, San Bernardino, Riverside, Ventura, Orange, Mono, Inyo, and Tulare Counties; projects are located on land administered by numerous agencies including Edwards Air Force Base, the Bureau of Land Management, United States National Forests, The National Park Service, and California State Parks. *Role: Project Manager, GIS Analyst, and Report Author. Managed projects, supervised field crews, coordinated with the client, performed GIS analysis of data, produced report figures, and authored technical reports.*

Southern California Gas Company Mission Road Pipeline Replacement Project Archaeological Testing and Monitoring; Los Angeles County, California; ICF International. SWCA provided archaeological testing and monitoring in order to make management recommendations for portions of a NRHP-eligible historical site in support of this pipeline maintenance project. *Role: Project Manager, Report Author, and GIS Analyst. Managed project, coordinated field crew, and performed in-field assessments of monitoring finds. Co-author of and GIS analyst for technical report for the project.*

Operations and Maintenance Project on Line 1901 at Milepost 17 + 1500, San Bernardino County, California; Kinder Morgan, Inc. SWCA provided cultural resources studies for this energy maintenance project that included: the results of a cultural resources records search and literature review; a cultural resources survey, archaeological monitoring services for the construction activities, and preparation of a cultural resources technical report. *Role: Cultural Resources Task Manager, Report Author, and GIS Analyst. Managed cultural resources tasks, responsible for coordinating field crew and assessing monitoring finds. Contributing author to and and GIS analyst for technical report for the project.*

Apex 3D Seismic; Kern County, California; Robert A. Booher Consulting. SWCA provided cultural resources studies for this oil exploration project that included: the results of a cultural resources records search and literature review; a Class III cultural resources survey of BLM-administered land, and preparation of a cultural resources technical report. *Role: Assistant Project Manager, Report Author, and GIS Analyst. Assisted in project management tasks, supervised field crew, performed pre-field research and fieldwork preparation. Coauthor of and GIS analyst for technical report documenting the results of the pedestrian survey and site recordation.*

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Appendix C.
Environmental Database Records

32001 - Suncrest P1ESA
Avenue De Los Arboles
Alpine, CA 91901

Inquiry Number: 4232128.2s
March 12, 2015

The EDR Radius Map™ Report

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

AVENUE DE LOS ARBOLES
SAN DIEGO County, CA 91901

COORDINATES

Latitude (North):	32.8144000 - 32° 48' 51.84''
Longitude (West):	116.6727000 - 116° 40' 21.72''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	530639.6
UTM Y (Meters):	3630568.5
Elevation:	3104 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	32116-G6 VIEJAS MOUNTAIN, CA
Most Recent Revision:	1988

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120507
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report

SLIC ---------- Statewide SLIC Cases
SAN DIEGO CO. SAM ---------- Environmental Case Listing
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT ---------- Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CDL ---------- Clandestine Drug Labs
San Diego Co. HMMD ---------- Hazardous Materials Management Division Database
US HIST CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST ---------- Facility Inventory Database
HIST UST ---------- Hazardous Substance Storage Container Database
SWEEPS UST ---------- SWEEPS UST Listing

Local Land Records

LIENS 2 ---------- CERCLA Lien Information
LIENS ---------- Environmental Liens Listing
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System

CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
NPDES	NPDES Permits Listing
UIC	UIC Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE	Hazardous Waste & Substance Site List
CUPA Listings	CUPA Resources List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
US AIRS	Aerometric Information Retrieval System Facility Subsystem
MWMP	Medical Waste Management Program Listing
WDS	Waste Discharge System
Financial Assurance	Financial Assurance Information Listing
PROC	Certified Processors Database
HWT	Registered Hazardous Waste Transporter Database
HWP	EnviroStor Permitted Facilities Listing
COAL ASH DOE	Steam-Electric Plant Operation Data
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties
LEAD SMELTERS	Lead Smelter Sites
EPA WATCH LIST	EPA WATCH LIST

EXECUTIVE SUMMARY

US FIN ASSUR ..... Financial Assurance Information
PCB TRANSFORMER ..... PCB Transformer Registration Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ..... EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat ..... EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners ..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ..... Recovered Government Archive Solid Waste Facilities List
RGA LUST ..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

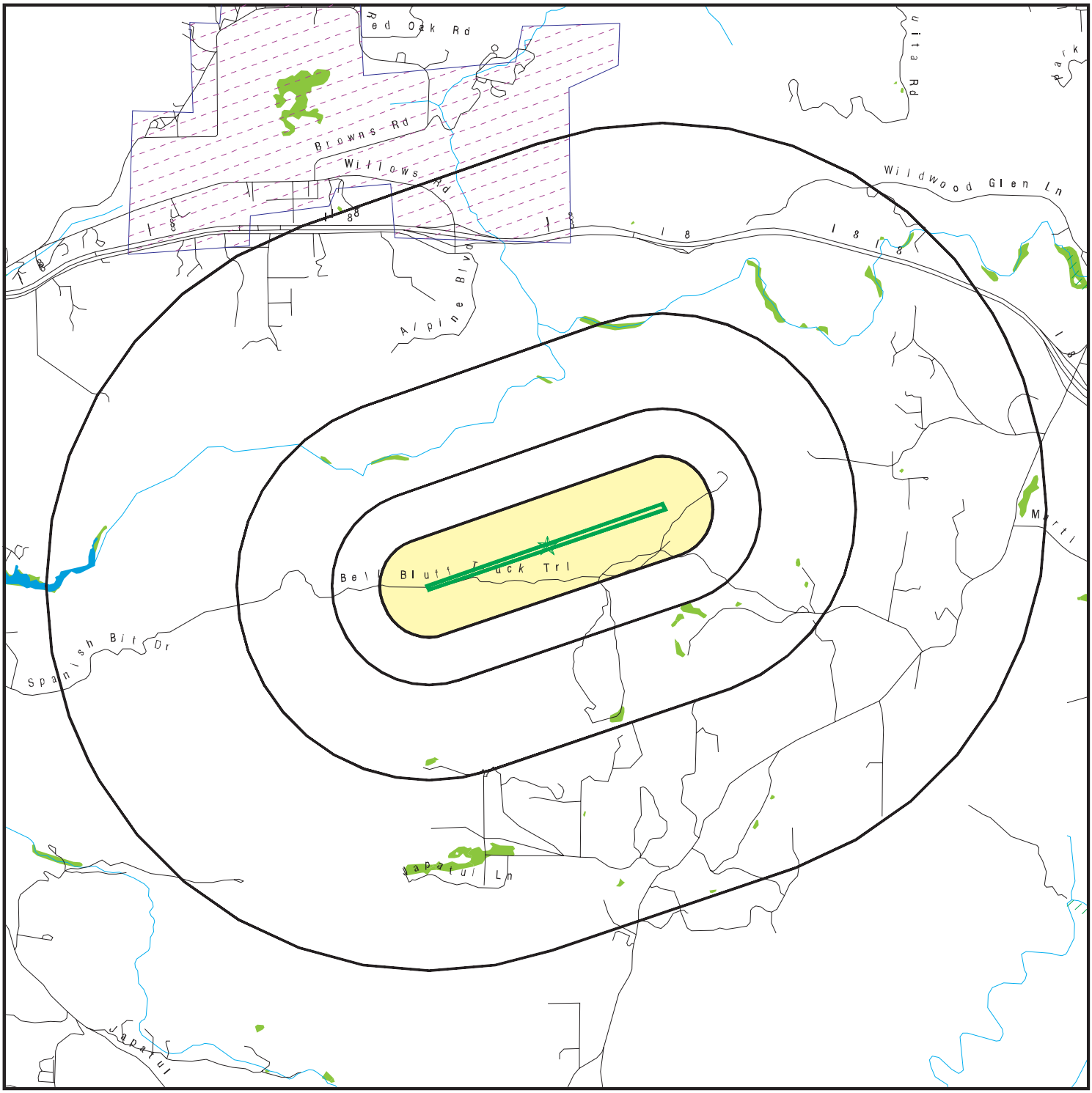
Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4232128.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/2 1 2 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

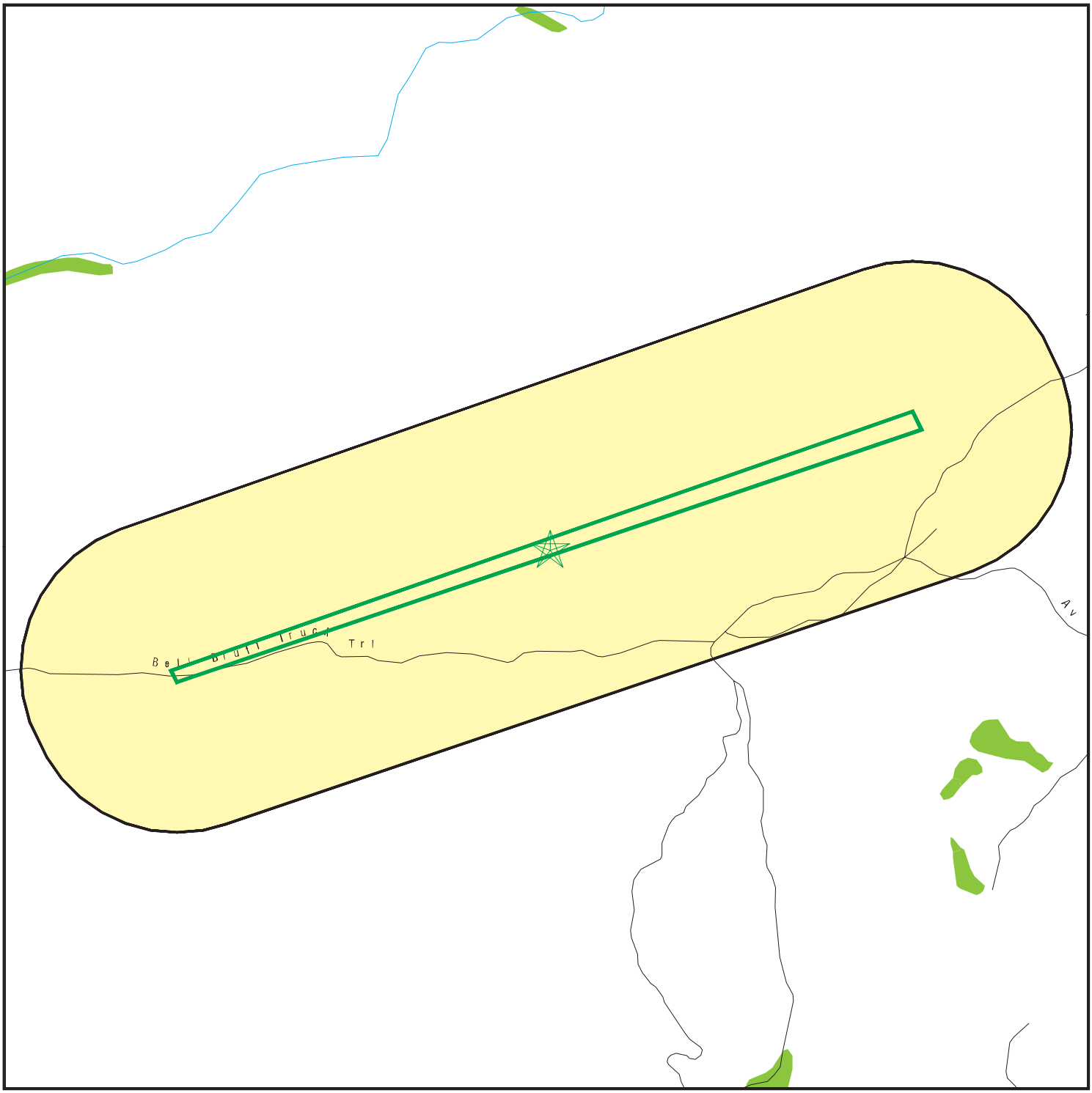
Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	32001 - Suncrest P1ESA	CLIENT:	SWCA Environmental Consultants
ADDRESS:	Avenue De Los Arboles Alpine CA 91901	CONTACT:	Steve Obrien
LAT/LONG:	32.8144 / 116.6727	INQUIRY #:	4232128.2s
		DATE:	March 12, 2015 2:16 pm

DETAIL MAP - 4232128.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	32001 - Suncrest P1ESA	CLIENT:	SWCA Environmental Consultants
ADDRESS:	Avenue De Los Arboles Alpine CA 91901	CONTACT:	Steve Obrien
		INQUIRY #:	4232128.2s
LAT/LONG:	32.8144 / 116.6727	DATE:	March 12, 2015 2:19 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.250		0	0	0	0	0	0
Proposed NPL	1.250		0	0	0	0	0	0
NPL LIENS	0.250		0	0	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.250		0	0	0	0	0	0
Federal CERCLIS list								
CERCLIS	0.750		0	0	0	0	NR	0
FEDERAL FACILITY	0.750		0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.750		0	0	0	0	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.250		0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.750		0	0	0	0	NR	0
Federal RCRA generators list								
RCRA-LQG	0.500		0	0	0	NR	NR	0
RCRA-SQG	0.500		0	0	0	NR	NR	0
RCRA-CESQG	0.500		0	0	0	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.750		0	0	0	0	NR	0
US INST CONTROL	0.750		0	0	0	0	NR	0
LUCIS	0.750		0	0	0	0	NR	0
Federal ERNS list								
ERNS	0.250		0	0	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.250		0	0	0	0	0	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.250		0	0	0	0	0	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.750		0	0	0	0	NR	0
State and tribal leaking storage tank lists								
LUST	0.750		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.750		0	0	0	0	NR	0
SAN DIEGO CO. SAM	0.750		0	0	0	0	NR	0
INDIAN LUST	0.750		0	0	0	0	NR	0
State and tribal registered storage tank lists								
UST	0.500		0	0	0	NR	NR	0
AST	0.500		0	0	0	NR	NR	0
INDIAN UST	0.500		0	0	0	NR	NR	0
FEMA UST	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.750		0	0	0	0	NR	0
INDIAN VCP	0.750		0	0	0	0	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.750		0	0	0	0	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.750		0	0	0	0	NR	0
ODI	0.750		0	0	0	0	NR	0
SWRCY	0.750		0	0	0	0	NR	0
HAULERS	0.250		0	0	NR	NR	NR	0
INDIAN ODI	0.750		0	0	0	0	NR	0
WMUDS/SWAT	0.750		0	0	0	0	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	0.250		0	0	NR	NR	NR	0
HIST Cal-Sites	1.250		0	0	0	0	0	0
SCH	0.500		0	0	0	NR	NR	0
Toxic Pits	1.250		0	0	0	0	0	0
CDL	0.250		0	0	NR	NR	NR	0
San Diego Co. HMMD	0.250		0	0	NR	NR	NR	0
US HIST CDL	0.250		0	0	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.500		0	0	0	NR	NR	0
HIST UST	0.500		0	0	0	NR	NR	0
SWEEPS UST	0.500		0	0	0	NR	NR	0
Local Land Records								
LIENS 2	0.250		0	0	NR	NR	NR	0
LIENS	0.250		0	0	NR	NR	NR	0
DEED	0.750		0	0	0	0	NR	0
Records of Emergency Release Reports								
HMIRS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.250		0	0	NR	NR	NR	0
LDS	0.250		0	0	NR	NR	NR	0
MCS	0.250		0	0	NR	NR	NR	0
SPILLS 90	0.250		0	0	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.500		0	0	0	NR	NR	0
DOT OPS	0.250		0	0	NR	NR	NR	0
DOD	1.250		0	0	0	0	0	0
FUDS	1.250		0	0	0	0	0	0
CONSENT	1.250		0	0	0	0	0	0
ROD	1.250		0	0	0	0	0	0
UMTRA	0.750		0	0	0	0	NR	0
US MINES	0.500		0	0	0	NR	NR	0
TRIS	0.250		0	0	NR	NR	NR	0
TSCA	0.250		0	0	NR	NR	NR	0
FTTS	0.250		0	0	NR	NR	NR	0
HIST FTTS	0.250		0	0	NR	NR	NR	0
SSTS	0.250		0	0	NR	NR	NR	0
ICIS	0.250		0	0	NR	NR	NR	0
PADS	0.250		0	0	NR	NR	NR	0
MLTS	0.250		0	0	NR	NR	NR	0
RADINFO	0.250		0	0	NR	NR	NR	0
FINDS	0.250		0	0	NR	NR	NR	0
RAATS	0.250		0	0	NR	NR	NR	0
RMP	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.250		0	0	0	0	0	0
NPDES	0.250		0	0	NR	NR	NR	0
UIC	0.250		0	0	NR	NR	NR	0
Cortese	0.750		0	0	0	0	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
CUPA Listings	0.500		0	0	0	NR	NR	0
Notify 65	1.250		0	0	0	0	0	0
DRYCLEANERS	0.500		0	0	0	NR	NR	0
WIP	0.500		0	0	0	NR	NR	0
ENF	0.250		0	0	NR	NR	NR	0
HAZNET	0.250		0	0	NR	NR	NR	0
EMI	0.250		0	0	NR	NR	NR	0
INDIAN RESERV	1.250		0	0	0	0	0	0
SCRD DRYCLEANERS	0.750		0	0	0	0	NR	0
COAL ASH EPA	0.750		0	0	0	0	NR	0
US AIRS	0.250		0	0	NR	NR	NR	0
MWMP	0.500		0	0	0	NR	NR	0
WDS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.250		0	0	NR	NR	NR	0
PROC	0.750		0	0	0	0	NR	0
HWT	0.500		0	0	0	NR	NR	0
HWP	1.250		0	0	0	0	0	0
COAL ASH DOE	0.250		0	0	NR	NR	NR	0
2020 COR ACTION	0.500		0	0	0	NR	NR	0
PRP	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LEAD SMELTERS	0.250		0	0	NR	NR	NR	0
EPA WATCH LIST	0.250		0	0	NR	NR	NR	0
US FIN ASSUR	0.250		0	0	NR	NR	NR	0
PCB TRANSFORMER	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.250		0	0	0	0	0	0
EDR US Hist Auto Stat	0.500		0	0	0	NR	NR	0
EDR US Hist Cleaners	0.500		0	0	0	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.250		0	0	NR	NR	NR	0
RGA LUST	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 02/27/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/09/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 02/27/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/03/2014
Date Data Arrived at EDR: 12/12/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 09/30/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 37

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 02/03/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 24

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 02/03/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 24

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/16/2015
Date Data Arrived at EDR: 02/17/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 14

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/17/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 15

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 01/21/2015
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 15

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/21/2015
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/10/2014
Date Data Arrived at EDR: 11/14/2014
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 87

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/04/2014
Date Data Arrived at EDR: 11/07/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 10

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/06/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 19

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 07/30/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/30/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 6
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 01/21/2015
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/23/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/06/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 8
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 11/04/2014
Date Data Arrived at EDR: 11/07/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 10

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/13/2014
Date Data Arrived at EDR: 11/18/2014
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 83

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/30/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/03/2014
Date Data Arrived at EDR: 11/05/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 12

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 07/30/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/10/2014
Date Data Arrived at EDR: 11/14/2014
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 87

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/12/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/31/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 02/03/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 24

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 38

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 12/15/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/26/2015
Number of Days to Update: 42
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 12/01/2014
Date Data Arrived at EDR: 12/01/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 53
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/02/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 11/10/2014
Date Data Arrived at EDR: 12/01/2014
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 70
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/03/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 02/03/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 24
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 09/02/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 22
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 11/10/2014
Date Data Arrived at EDR: 12/01/2014
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 70

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/03/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/30/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 12/15/2014
Date Data Arrived at EDR: 12/18/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/08/2014
Date Data Arrived at EDR: 12/09/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 45

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 12/30/2014
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 69

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/30/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/28/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 15

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/21/2015
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 15

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/21/2015
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/03/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/12/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 24

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/24/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/27/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/06/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/09/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/16/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 21

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/07/2014
Date Data Arrived at EDR: 10/08/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 02/27/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/16/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/24/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/16/2015
Date Data Arrived at EDR: 02/17/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 15

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/17/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 45
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 02/03/2015
Number of Days to Update: 36
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/28/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 08/21/2014
Number of Days to Update: 49
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/23/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/26/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/16/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/24/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/15/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/18/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/15/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: N/A

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 02/06/2015
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 02/06/2015
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/15/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/12/2015
Date Data Arrived at EDR: 01/13/2015
Date Made Active in Reports: 02/03/2015
Number of Days to Update: 21

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/13/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Quarterly

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/13/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/17/2015
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 11

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 25

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/05/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/13/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/30/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 12/15/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/26/2015
Number of Days to Update: 42

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/12/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/13/2014
Date Data Arrived at EDR: 12/09/2014
Date Made Active in Reports: 01/26/2015
Number of Days to Update: 48

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 12/08/2014
Date Data Arrived at EDR: 12/11/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 43

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 03/05/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 5

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 01/12/2015
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 7

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/02/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 6

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/24/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 6

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 02/02/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 01/16/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 20

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 01/05/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 12/11/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 39

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/10/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 19

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/22/2014
Date Data Arrived at EDR: 11/12/2014
Date Made Active in Reports: 12/19/2014
Number of Days to Update: 37

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/21/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 12/30/2014
Number of Days to Update: 35

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 15

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/19/2015
Next Scheduled EDR Contact: 05/04/2015
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 33

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/12/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/19/2015
Date Data Arrived at EDR: 01/20/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 16

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/20/2015
Next Scheduled EDR Contact: 05/04/2015
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/19/2015
Next Scheduled EDR Contact: 05/04/2015
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/19/2015
Next Scheduled EDR Contact: 05/04/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 10/20/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 03/06/2015
Next Scheduled EDR Contact: 05/04/2015
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 13

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 12

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/12/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 10/02/2014
Date Data Arrived at EDR: 10/03/2014
Date Made Active in Reports: 11/20/2014
Number of Days to Update: 48

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 01/05/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 7

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 03/06/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 4

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 12/18/2014
Date Data Arrived at EDR: 12/19/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 35

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/12/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 18

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 02/06/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 18

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 18

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 13

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/08/2014
Date Data Arrived at EDR: 12/09/2014
Date Made Active in Reports: 01/26/2015
Number of Days to Update: 48

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 33

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 28

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/03/2014
Date Data Arrived at EDR: 01/07/2015
Date Made Active in Reports: 02/03/2015
Number of Days to Update: 27

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/07/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/03/2014
Date Data Arrived at EDR: 01/09/2015
Date Made Active in Reports: 02/03/2015
Number of Days to Update: 25

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/05/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/02/2015
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/12/2015
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 01/05/2015
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 7

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 01/09/2015
Date Data Arrived at EDR: 01/12/2015
Date Made Active in Reports: 02/03/2015
Number of Days to Update: 22

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/15/2014
Date Data Arrived at EDR: 12/18/2014
Date Made Active in Reports: 01/26/2015
Number of Days to Update: 39

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/11/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 6

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 8

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 12/31/2014
Number of Days to Update: 36

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/11/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 43

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/17/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/05/2015
Number of Days to Update: 42

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/11/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 11/17/2014
Date Data Arrived at EDR: 12/01/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 57

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/11/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 01/06/2015
Date Data Arrived at EDR: 01/09/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 27

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/02/2015
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 02/03/2015
Number of Days to Update: 28

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 12/08/2014
Date Data Arrived at EDR: 12/08/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 50

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/03/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 24

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 01/27/2015
Date Data Arrived at EDR: 02/19/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 12

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/05/2015
Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 32

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/26/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 02/02/2015
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 12/18/2014
Date Data Arrived at EDR: 12/23/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 35

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/17/2015
Date Data Arrived at EDR: 02/19/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 12

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/12/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2015
Date Data Arrived at EDR: 02/04/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 23

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/04/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/19/2015
Next Scheduled EDR Contact: 05/04/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/13/2014
Number of Days to Update: 29

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 48

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/12/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

32001 - Suncrest P1ESA
Avenue De Los Arboles
Alpine, CA 91901

Inquiry Number: 4232128.6
March 12, 2015

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map

Unsurveyed Area on the Topographic Map

N

TARGET QUAD		SITE NAME:	32001 - Suncrest P1ESA	CLIENT:	SWCA Environmental Consultants
NAME:	CUYAMACA	ADDRESS:	Avenue De Los Arboles	CONTACT:	Steve Obrien
MAP YEAR:	1903		Alpine, CA 91901	INQUIRY#:	4232128.6
SERIES:	30	LAT/LONG:	32.8144 / -116.6727	RESEARCH DATE:	03/12/2015
SCALE:	1:125000				

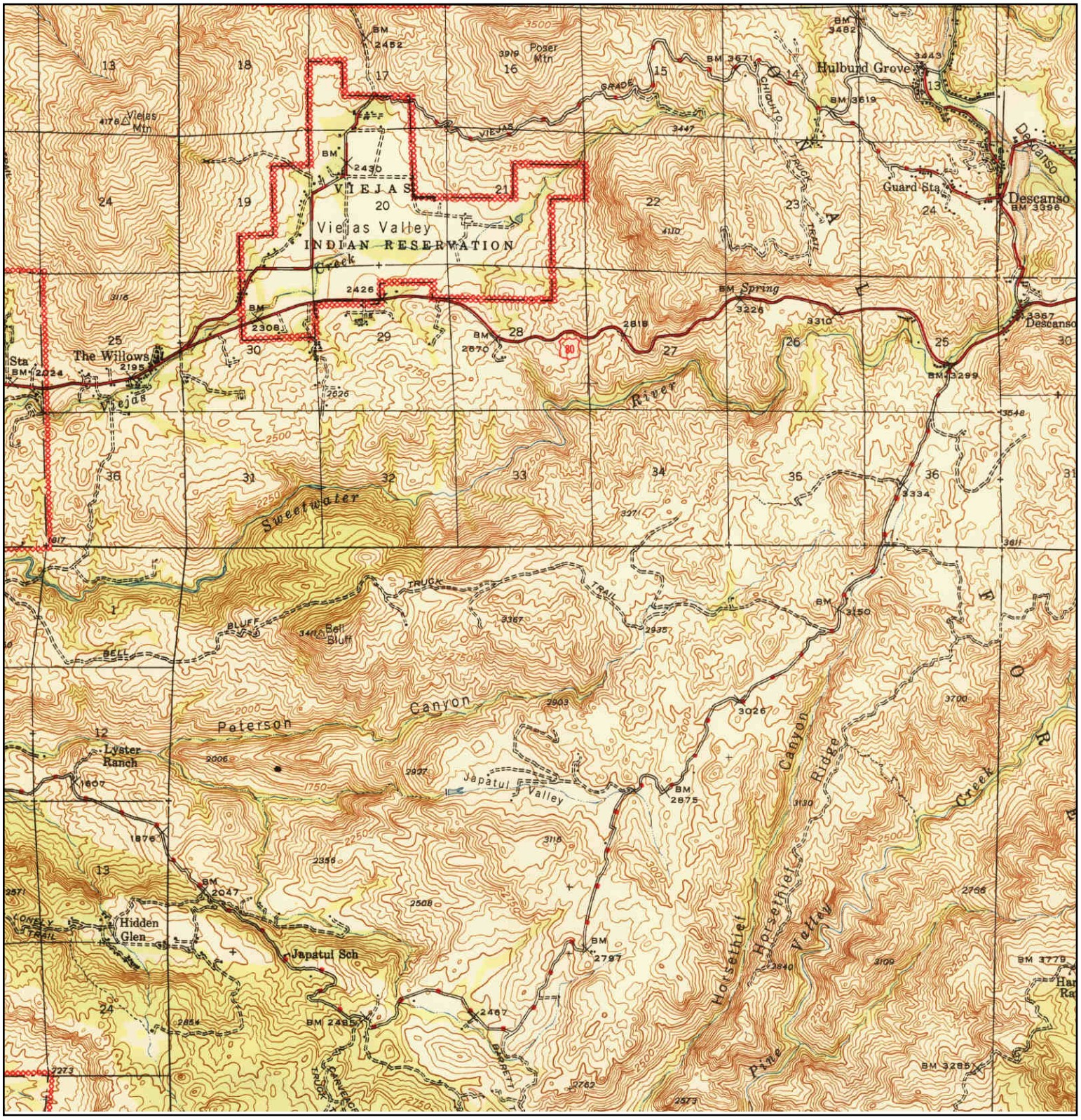
Historical Topographic Map

Unsurveyed Area on the Topographic Map

N

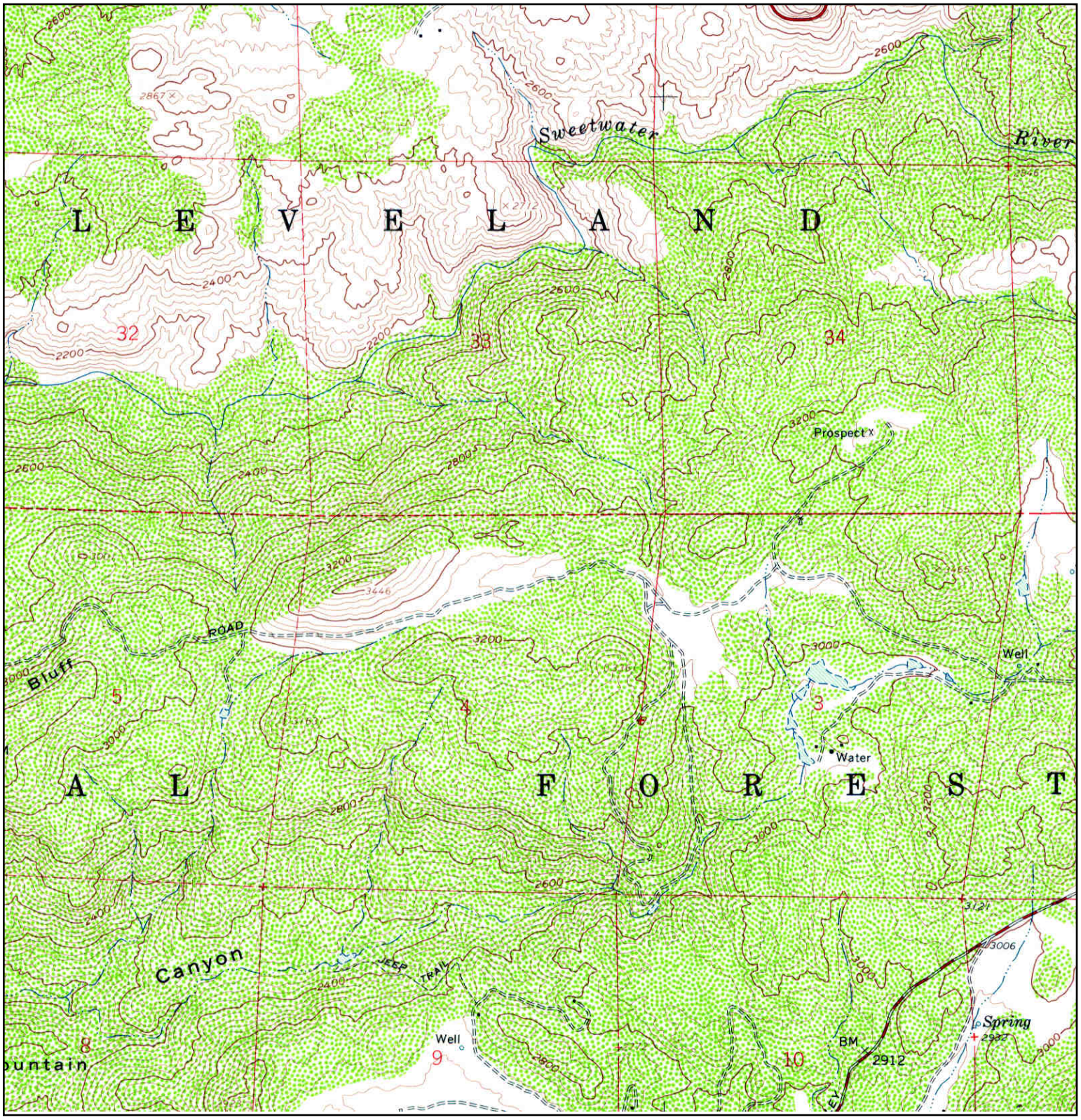
TARGET QUAD					
NAME:	SOUTHERN CA SHEET 2	SITE NAME:	32001 - Suncrest P1ESA	CLIENT:	SWCA Environmental Consultants
MAP YEAR:	1904	ADDRESS:	Avenue De Los Arboles Alpine, CA 91901	CONTACT:	Steve Obrien
SERIES:	60	LAT/LONG:	32.8144 / -116.6727	INQUIRY#:	4232128.6
SCALE:	1:250000			RESEARCH DATE:	03/12/2015

Historical Topographic Map



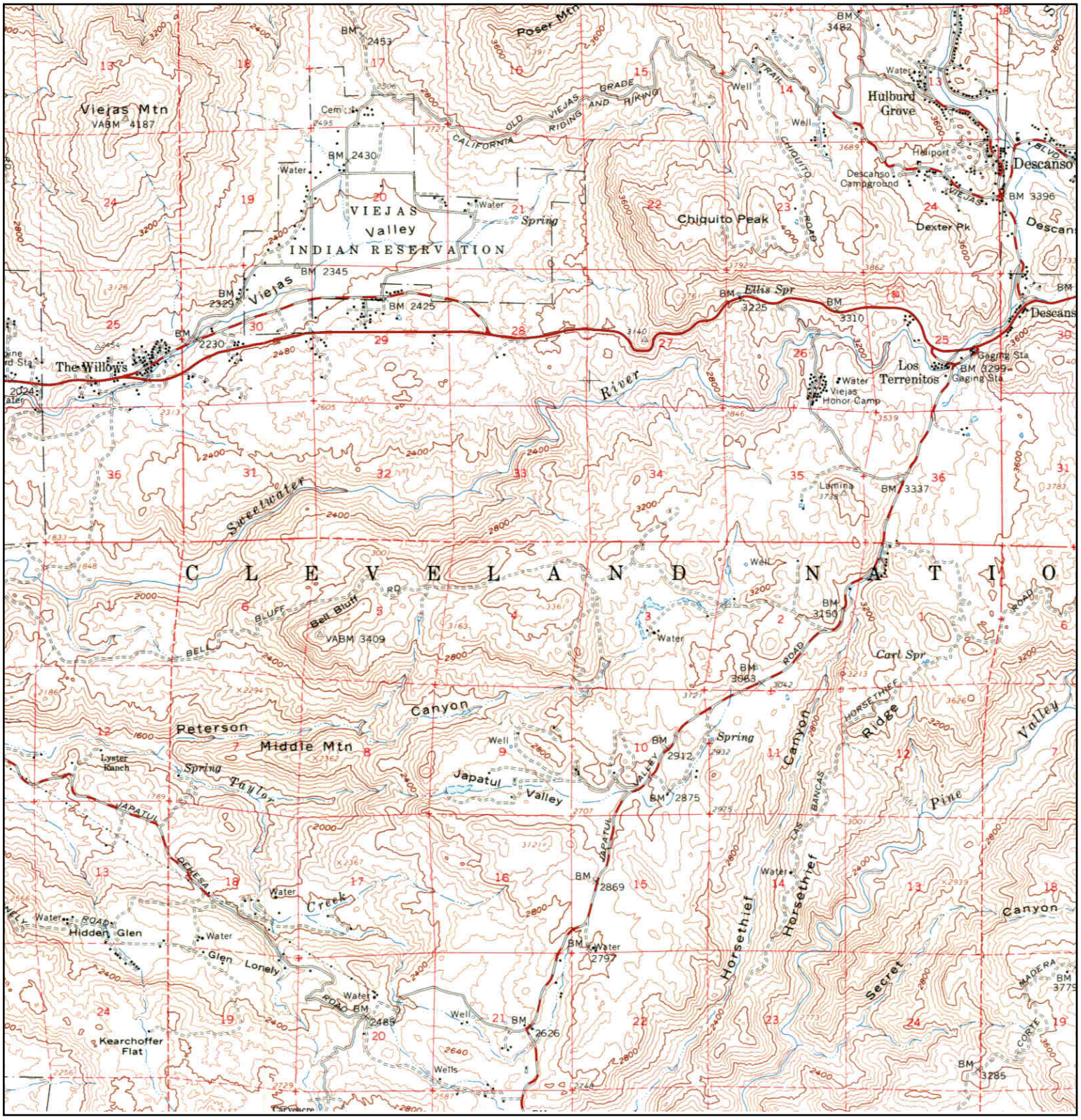
N	TARGET QUAD NAME: CUYAMACA PEAK MAP YEAR: 1944 SERIES: 15 SCALE: 1:62500	SITE NAME: 32001 - Suncrest P1ESA ADDRESS: Avenue De Los Arboles Alpine, CA 91901 LAT/LONG: 32.8144 / -116.6727	CLIENT: SWCA Environmental Consultants CONTACT: Steve Obrien INQUIRY#: 4232128.6 RESEARCH DATE: 03/12/2015

Historical Topographic Map



N	TARGET QUAD NAME: VIEJAS MOUNTAIN MAP YEAR: 1960 SERIES: 7.5 SCALE: 1:24000	SITE NAME: 32001 - Suncrest P1ESA ADDRESS: Avenue De Los Arboles Alpine, CA 91901 LAT/LONG: 32.8144 / -116.6727	CLIENT: SWCA Environmental Consultants CONTACT: Steve Obrien INQUIRY#: 4232128.6 RESEARCH DATE: 03/12/2015

Historical Topographic Map



N	**TARGET QUAD**	SITE NAME: 32001 - Suncrest P1ESA	CLIENT: SWCA Environmental Consultants
	NAME: CUYAMACA PEAK	ADDRESS: Avenue De Los Arboles	
	MAP YEAR: 1960	Alpine, CA 91901	CONTACT: Steve Obrien
		LAT/LONG: 32.8144 / -116.6727	INQUIRY#: 4232128.6
	SERIES: 15		RESEARCH DATE: 03/12/2015
	SCALE: 1:62500		

Historical Topographic Map

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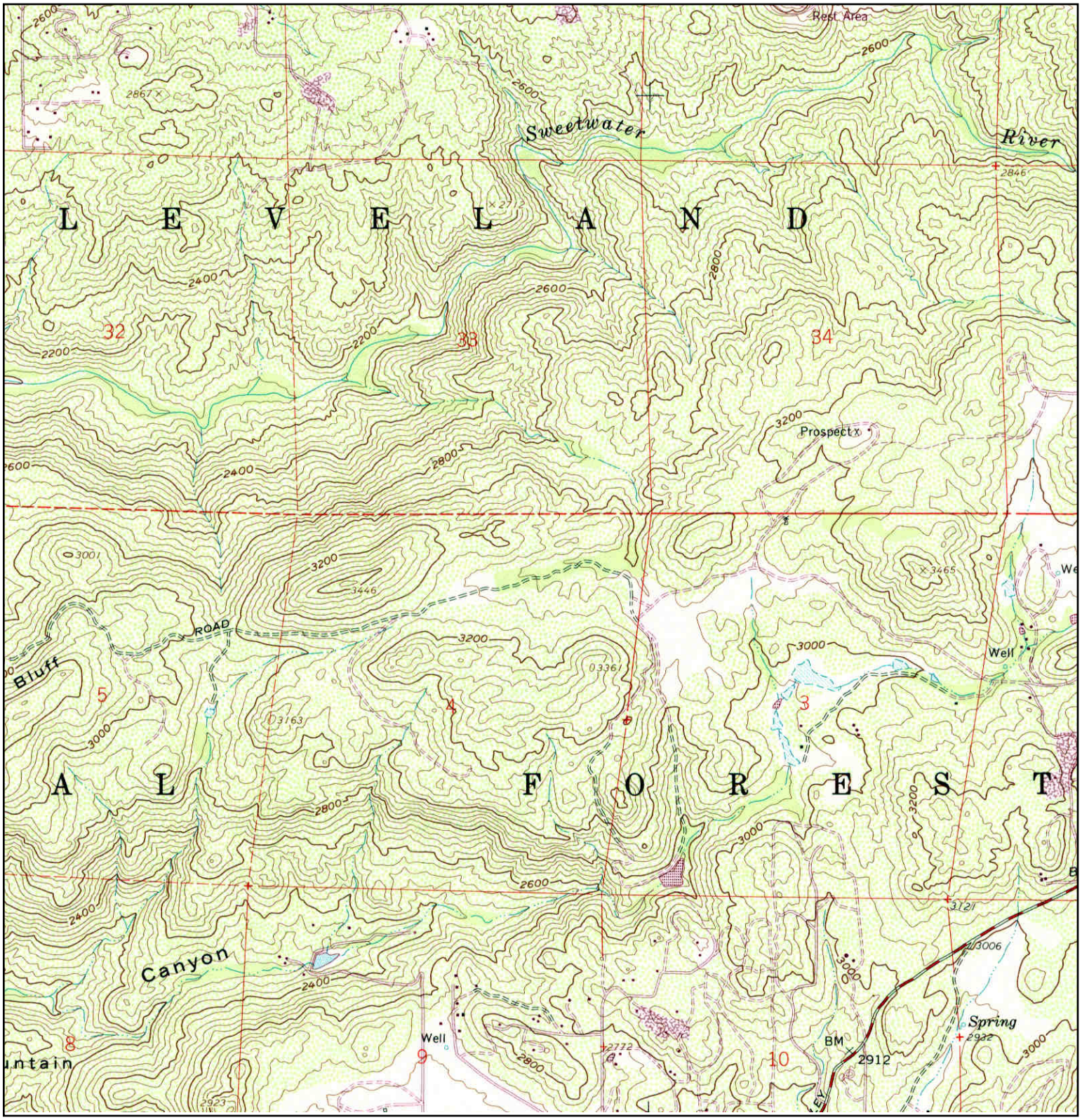
Historical Topographic Map



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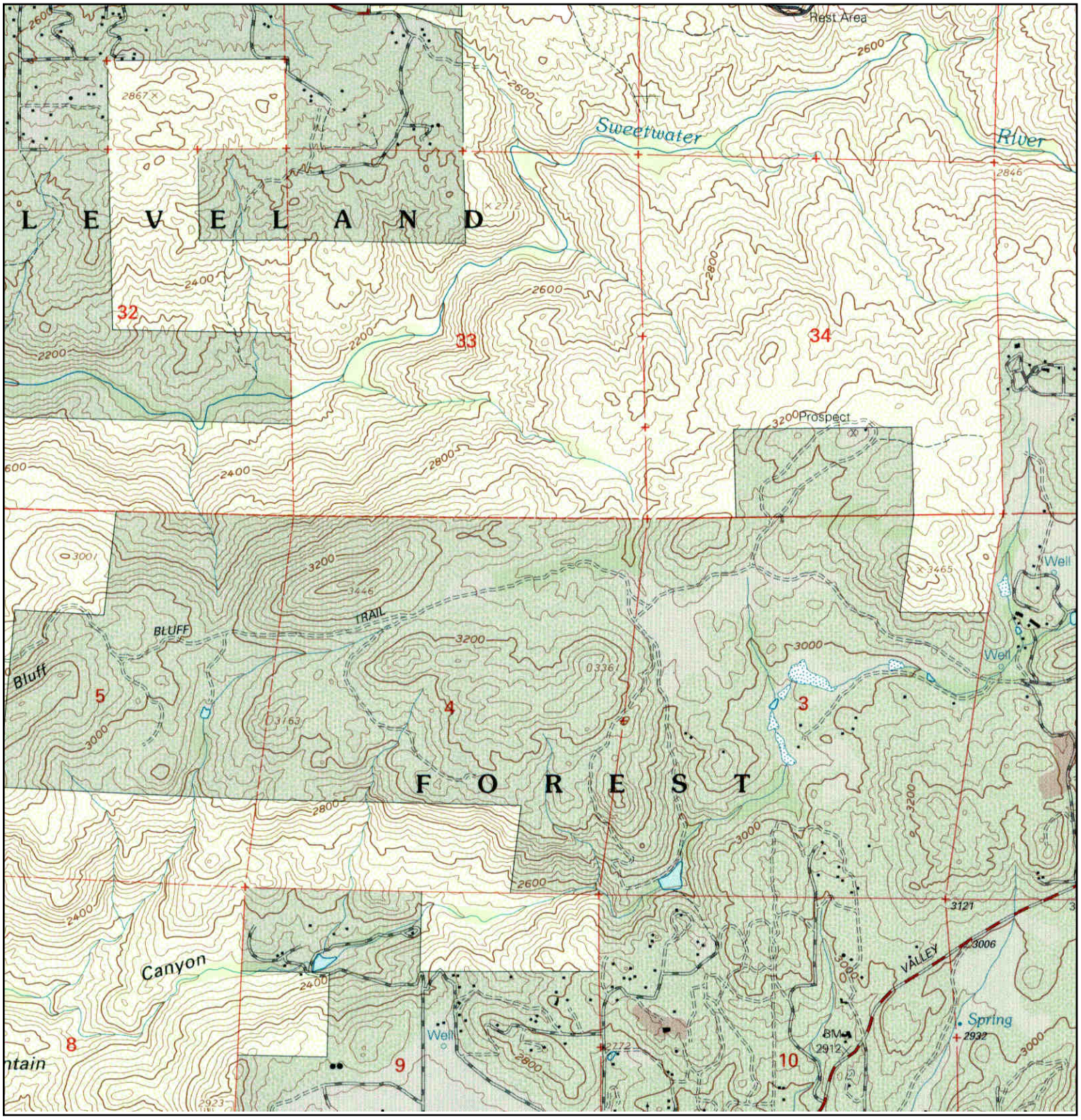
Historical Topographic Map



N	TARGET QUAD NAME: VIEJAS MOUNTAIN MAP YEAR: 1997 SERIES: 7.5 SCALE: 1:24000	SITE NAME: 32001 - Suncrest P1ESA ADDRESS: Avenue De Los Arboles Alpine, CA 91901 LAT/LONG: 32.8144 / -116.6727	CLIENT: SWCA Environmental Consultants CONTACT: Steve Obrien INQUIRY#: 4232128.6 RESEARCH DATE: 03/12/2015

32001 - Suncrest P1ESA
Avenue De Los Arboles
Alpine, CA 91901

Inquiry Number: 4232128.5
March 17, 2015

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography March 17, 2015

Target Property:

Avenue De Los Arboles

Alpine, CA 91901

Year	***Scale***	***Details***	***Source***
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953 Best Copy Available from original source	Park
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953 Best Copy Available from original source	Park
1963	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1963	Cartwright
1975	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1975	AMI
1989	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1989	AMI
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	USGS/DOQQ
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
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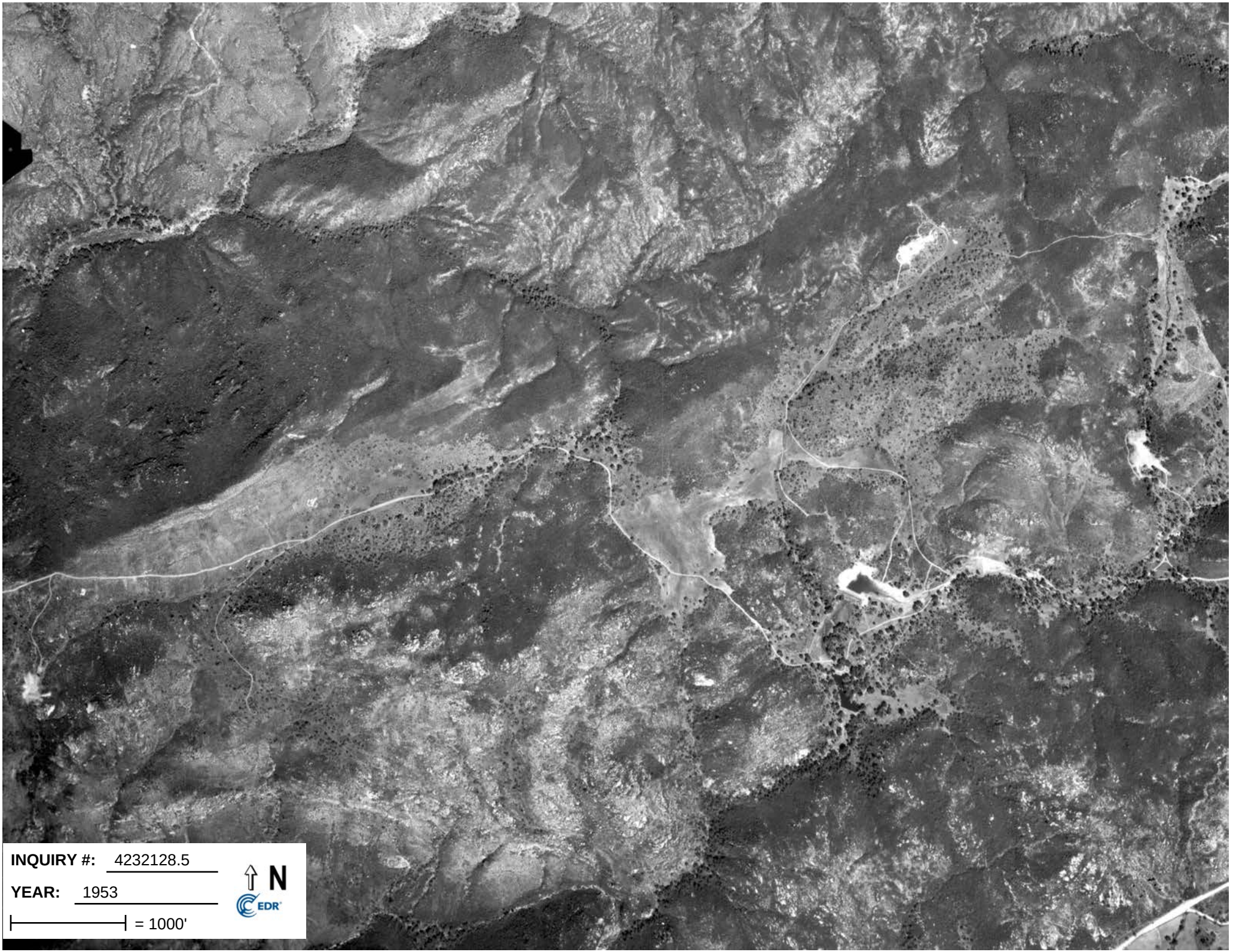
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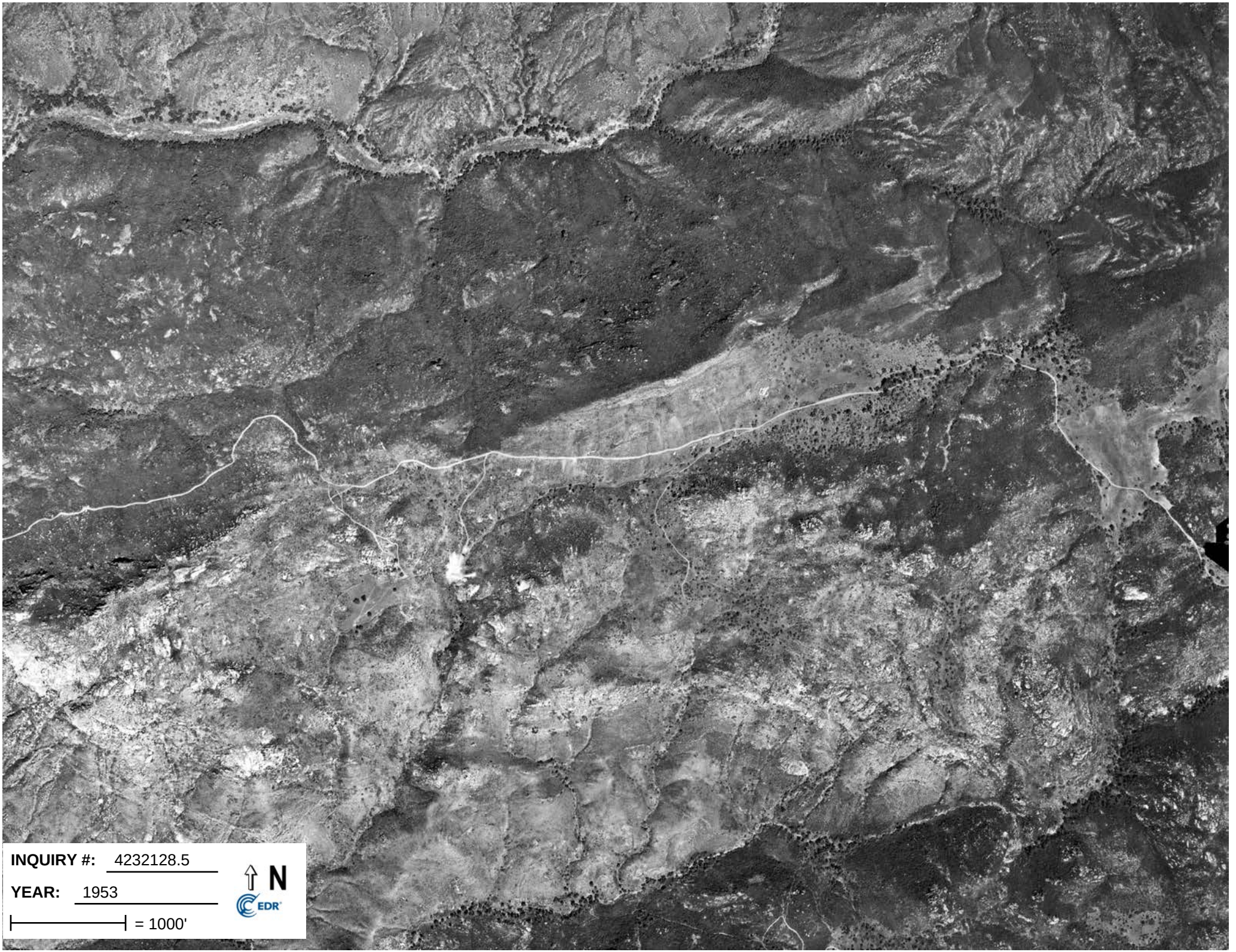
EDR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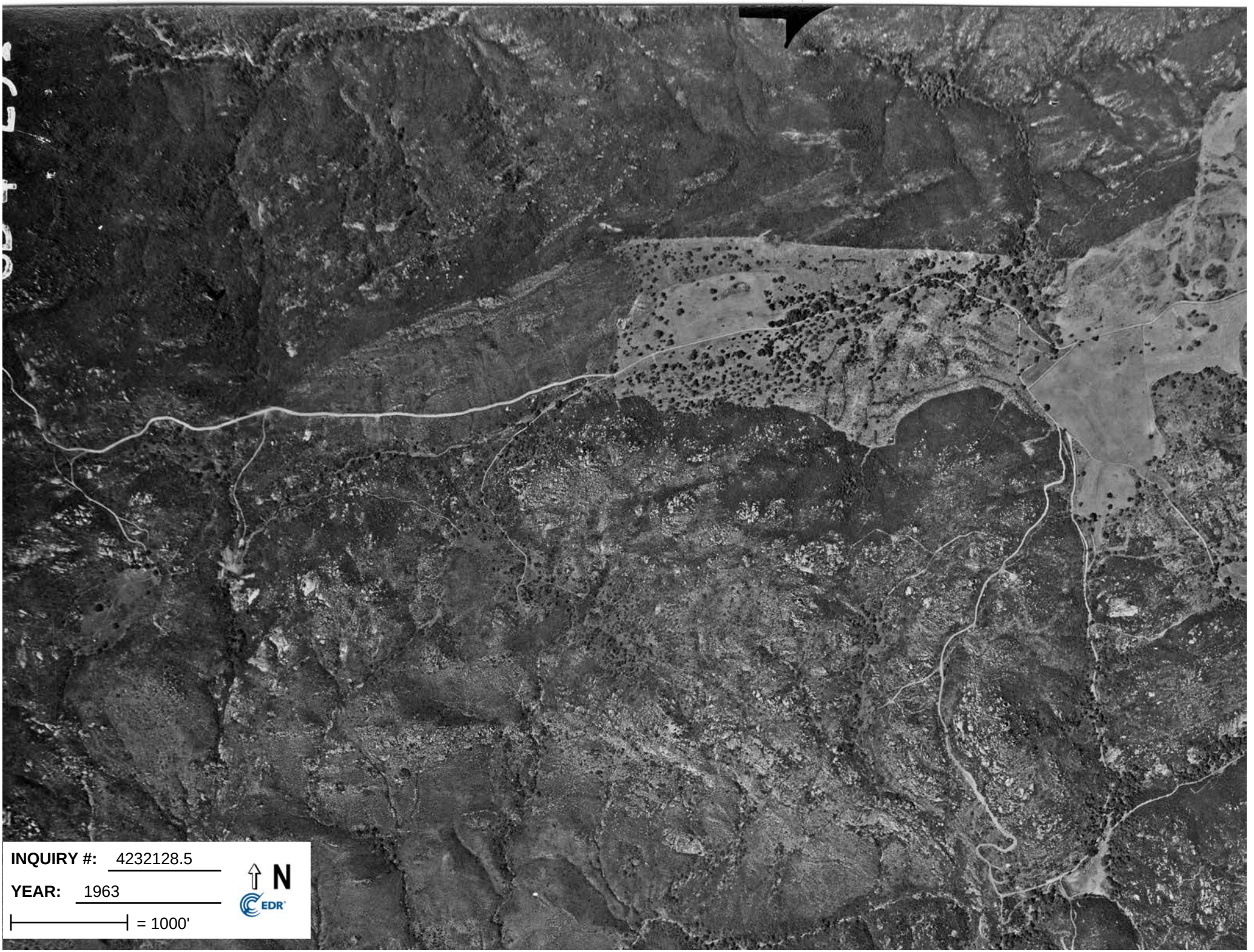
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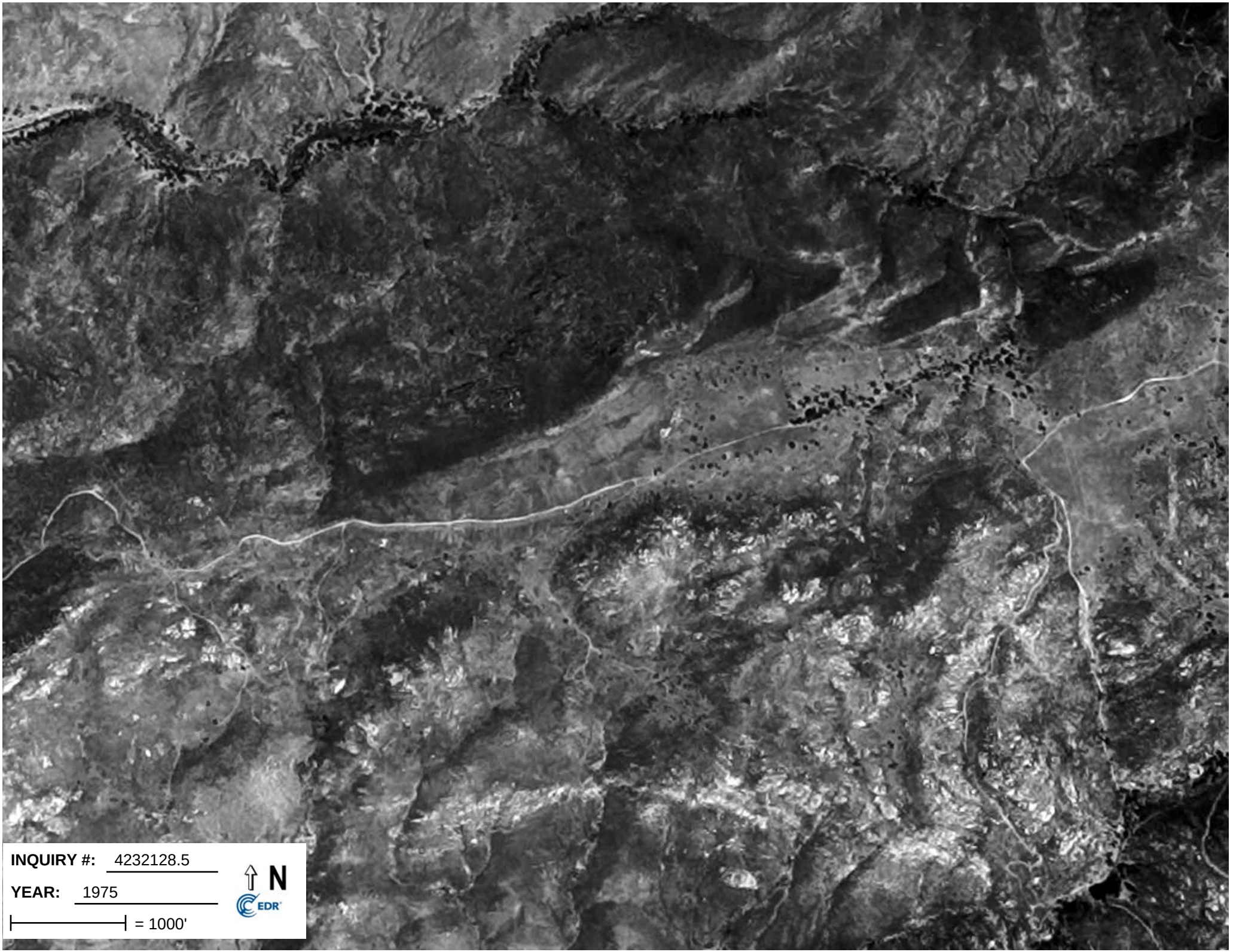
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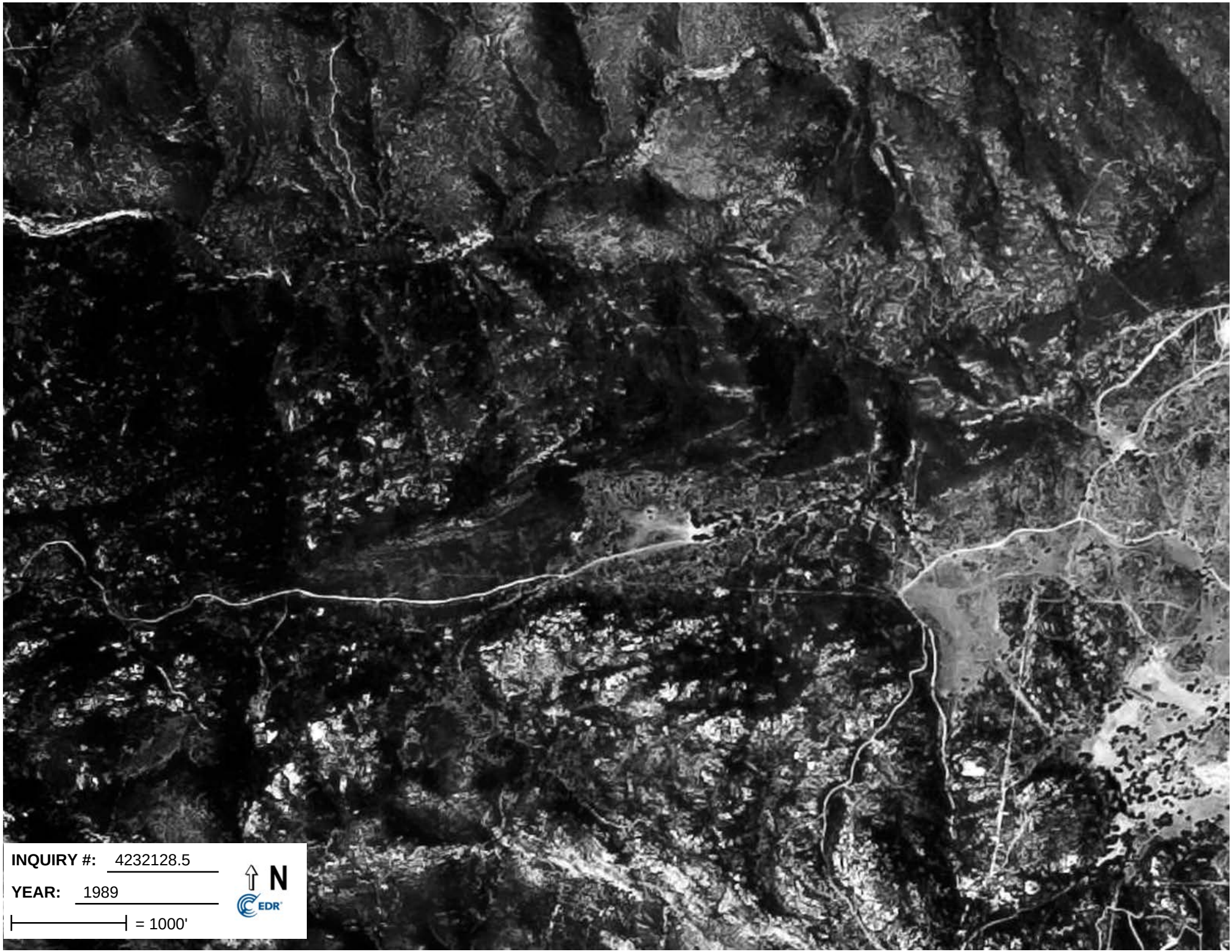
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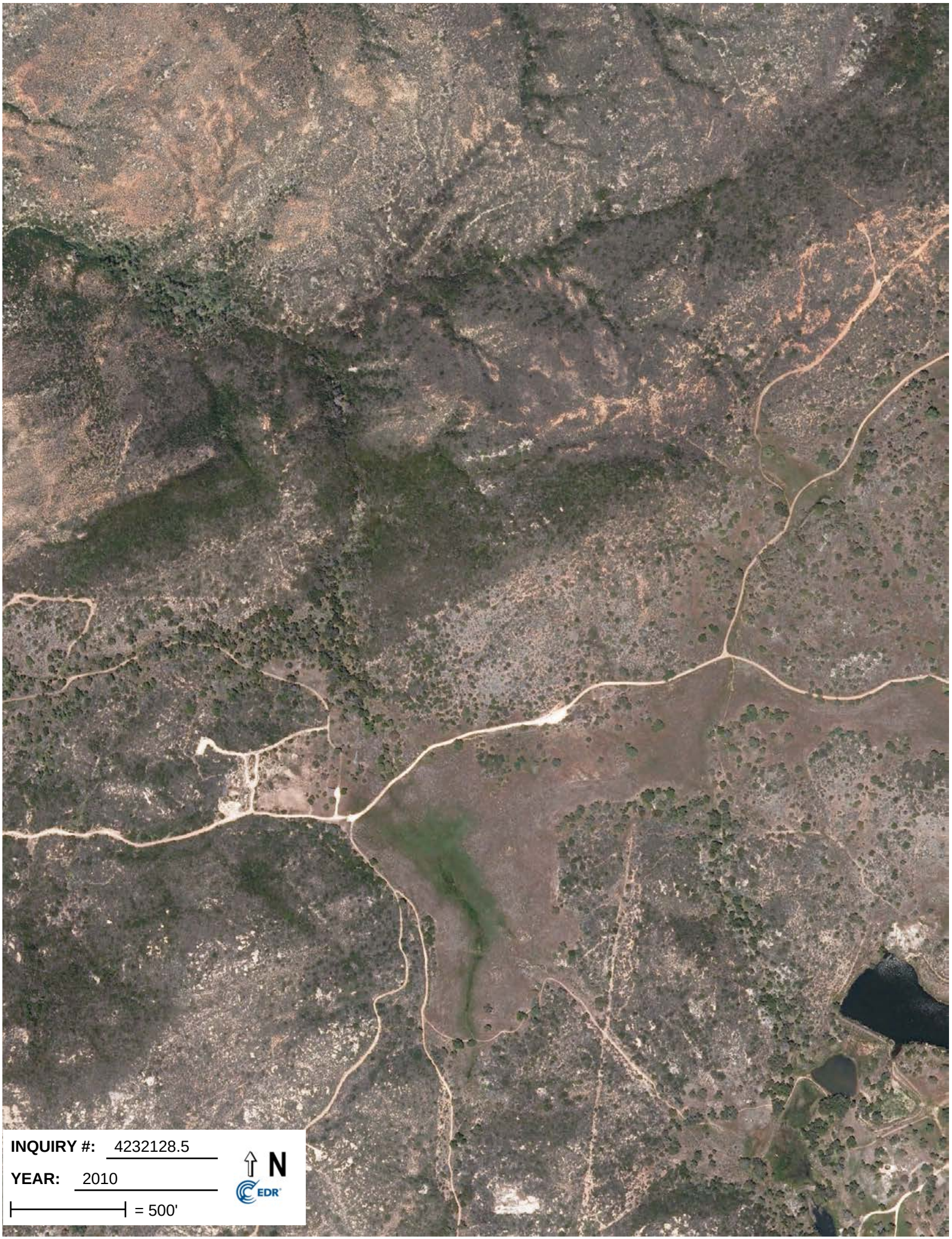
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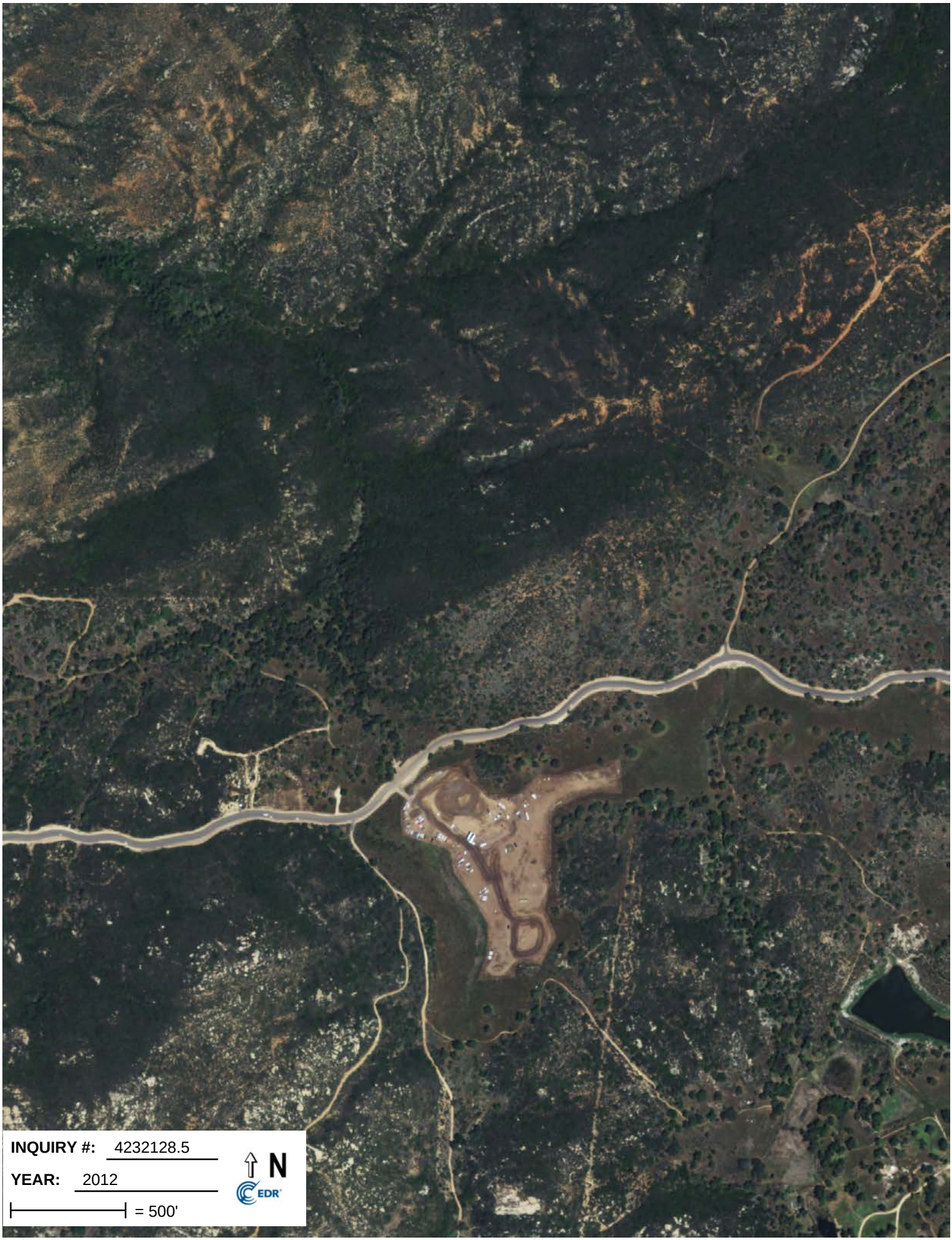
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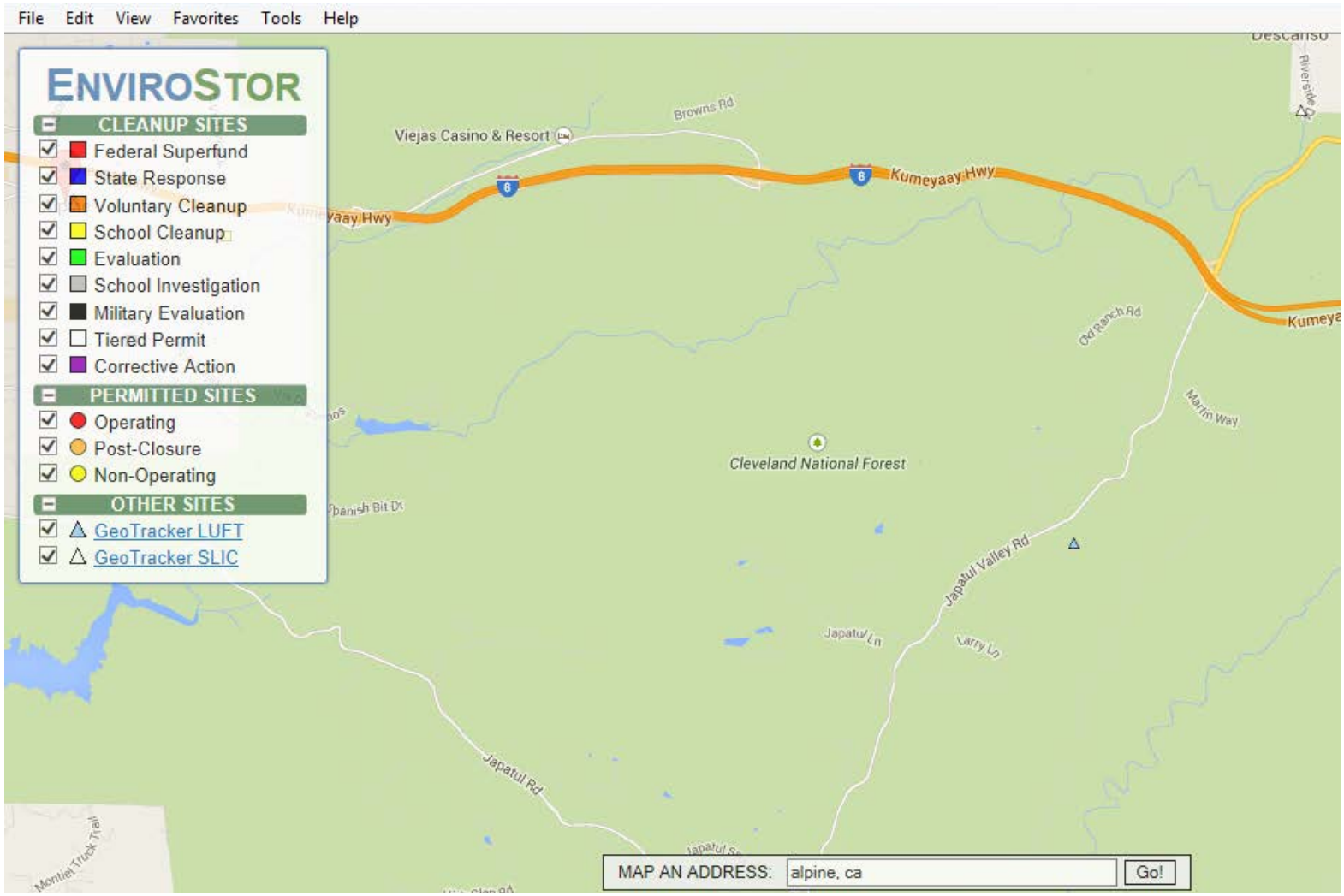
EDR

http://www.envirostor.dtsc.ca.gov/public/mapfull.asp



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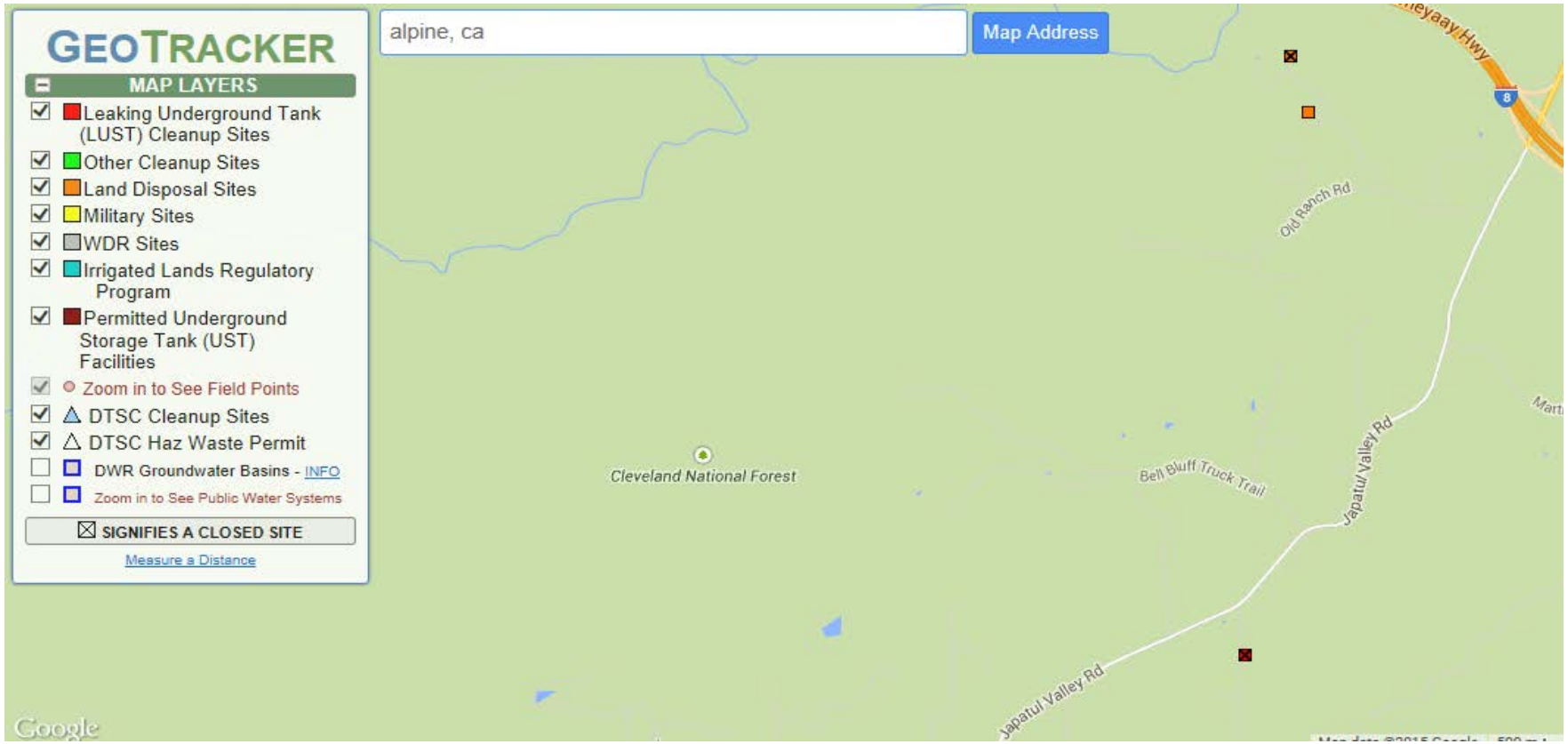

Appendix D.
Subject Property Photographs

PHOTO 1:

Typical view of the surrounding area, from east of the subject property, facing west.

PHOTO 2:

Garage near middle of the subject property, facing northwest.

PHOTO 3:

Garage showing rainwater catch basin, facing north.

PHOTO 4:

Typical view of Bell Bluff Truck Trail, facing east.

PHOTO 5:

Gutter and culvert associated with Bell Bluff Truck Trail, facing east.

PHOTO 6:

Culvert, fence, and metal gate on south side of Bell Bluff Truck Trail, facing west.

PHOTO 7:

Gravel pad lined with metal border on north side of Bell Bluff Truck Trail, facing north.

PHOTO 8:

AT&T manhole located in Bell Bluff Truck Trail, facing west.

PHOTO 9:

SDG&E manhole located in Bell Bluff Trail, facing east.

PHOTO 10:

Restoration nursery with temporary fence, facing north.

PHOTO 11:

Temporary water tanks associated with the nursery, facing northwest.

PHOTO 12:

Permanent water tank with electrical boxes in foreground, facing northwest.

PHOTO 13:

Overview of proposed SVC location, facing east.

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Appendix H:

Noise Modeling and Baseline Noise Survey

Suncrest Noise Monitoring Technical Memorandum

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

Phoenix Office
3033 North Central Avenue, Suite 145
Phoenix, Arizona 85012
Tel 602.274.3831 Fax 602.274.3958
www.swca.com

Technical Memorandum

To: Steve Stielstra, SWCA Environmental Consultants

From: Mike Sonenberg, SWCA Environmental Consultants

Date: April 20, 2015

Re: **Suncrest Noise Monitoring (April 11 – April 13, 2015)**

This memorandum provides a summary of the noise monitoring results for the area surrounding the proposed location of the Suncrest Reactive Power Station. The station will be located near Alpine, California, approximately 30 miles [50 kilometers] east-northeast of downtown San Diego. The noise monitoring was conducted from April 11, to April 13, 2015.

This memo briefly describes the area monitored, provides a map showing the proposed location of the Suncrest Reactive Power Station and location of the sound monitor, provides a description of the sound level meter used, a description of the metrics recorded, and a summary of sound level readings collected at the monitoring locations. Weather data from a nearby U.S. Forest Service monitoring station is also included.

Project Area Description

The project area is approximately 3 miles [5 km] east of the unincorporated community of Alpine, CA, in the Descanso District of Cleveland National Forest. The area is located in the Cuyamaca Mountains of Southern California. Elevations in the immediate area vary from 2,100 – 3,100 feet [640 – 945 m]. The highest peak in the range, Cuyamaca Peak, is 10 miles [16 km] north of the area, at an elevation of 6,512 feet [1,985 m].

A map of the proposed action area appears in Figure 1. The location of the sound meter is marked SVC.

Also shown on the map is a US Forest Service Remote Automated Weather Station (RAWS) for Alpine (station ANEC1) that was used to provide weather data for the period of testing. RAWS sites are primarily used to collect data for determining fire danger, but do record relevant meteorological parameters that may impact sound propagation (wind, temperature, and humidity). ANEC1 is approximately 1.5 miles [2.4 km] north of the project area at 2,807 feet [856 m].

Pictures from the noise monitoring site are shown in Appendix A.

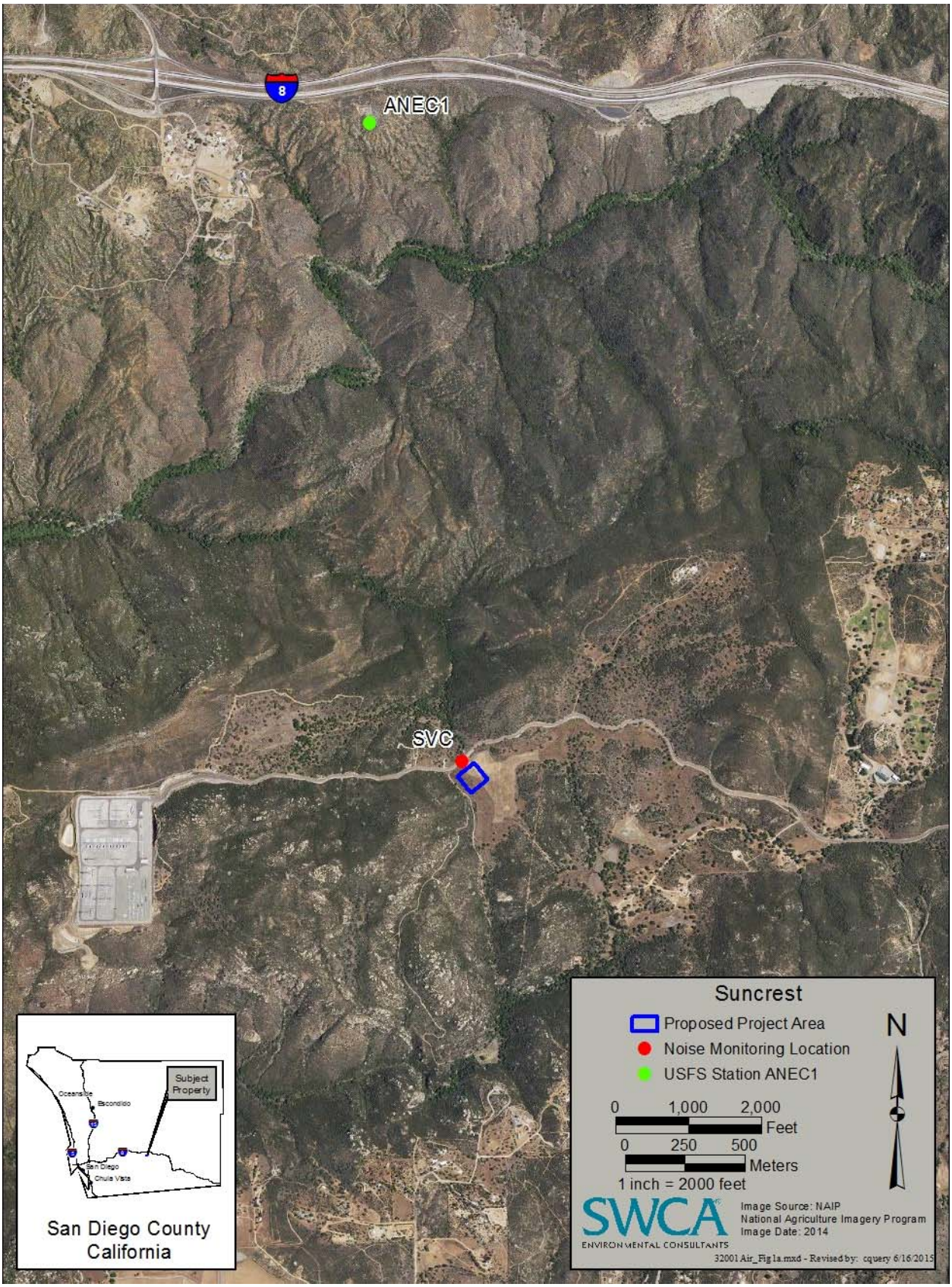

Figure 1. Proposed project areas and monitoring sites.

Instrument Description

Measurements were taken with a Larson Davis 831 (LD 831) Sound Level Meter with PCB Model 377B02 free-field microphone, deployed for long-term monitoring. The LD 831 is a precision integrating sound level meter, and can automatically calculate long-term variables such as L_{eq}, L_{DN}, and CNEL when configured to do so. The PCB 377B02 is a highly accurate and reliable microphone that is typically used in research and design applications.

Calibration Checks

Before being deployed and after all data was collected, the calibration of the instrument was checked with a Larson Davis CAL200. The Larson Davis CAL200 emits a 1 kHz tone at 94 dB and 114 dB against which the 831 response can be checked. The LD 831 showed a response of at or less than the normal error of 0.5 dB for each tone. The results of these checks are shown below. Laboratory calibration certificates for the 831 sound level meter, the microphone, and the Larson Davis CAL200 calibrator are included in Appendix B to this memo.

Table 1. Pre- and Post- Instrument Response Checks

Instrument Setup	Test	Sound Level	Response	Error
LD 831 (S/N: 3329) with PCB 377B02 (S/N: LW138408)	Pre-Test (4/9/15)	94 dB	94.1 dB	0.1 dB
		114 dB	114.0 dB	0.0 dB
	Post-Test (4/13/15)	94 dB	94.5 dB	0.5 dB
		114 dB	114.5 dB	0.5 dB

Metrics Description

All metrics reported in this memorandum are in A-weighted decibels (abbreviated dBA). A-weighing is used to account for the relative loudness as perceived by the human ear as perceived at different frequencies, in contrast to unweighed decibels, which measure sound pressure level. The sound level detector was set to slow, which takes measurements over 1 second. The statistics below are calculated by the meter based on these 1 second measurements.

L_{eq} is the energy equivalent sound level. It is the preferred way to describe sound levels that vary over time, it is a single decibel value that represents the level of a constant sound over a specific time period that has the same sound energy as the actual (unsteady) sound over the same period.

L_{DN} is the day-night noise level. It is calculated the same as L_{eq}, but with a 10 dBA penalty added to nighttime (10 pm to 7am) sounds to account for increased sensitivity to sound during those times.

CNEL is the Community Noise Equivalent Level. Also calculated similarly to L_{eq} and L_{DN}, but with a 5 dBA penalty added to evening noise (7pm-10pm) and a 10 dBA penalty added to night noise (10 pm to 7 am).

L_{50} is a statistical measure of noise during a given time period. Specifically, it is the noise level in dBA that is exceeded 50% of the time. It is useful for characterizing the general noise level without any peaks that may be uncharacteristically loud or the result of chance events.

L_{90} is the noise level in dBA that is exceeded 90% of the time for a given time period. It is useful for characterizing the general minimum noise level without any valleys that may be uncharacteristically quiet or the result of chance events.

L_{min} is the minimum sound level in dBA (averaged over 1 second) during the measurement period.

L_{max} is the maximum sound level in dBA (averaged over 1 second) during the measurement time period.

L_{peak} is the maximum instantaneous sound level during the measurement period and is presented only in Appendix C.

Readings/Weather

Average Sound Level readings and weather data from the US Forest Service weather station are summarized on the following page. Hourly sound level readings and weather information are presented in Appendix C. Readings were taken from April 11th to April 13th.

RESULTS

The monitoring site (32°48'44.67" N, 116°40'2.89 W) was next to a paved road with a posted speed limit of 15 mph. There was mowing of a field nearby on the first day of the monitoring period. Noise from Interstate 8 was not audible at this location. LD 831 sound meter S/N 3329, and PCB microphone S/N LW138408 were placed at the site from 9:17 am (PDT) on April 11 to 8:01 am (PDT) on April 13. Summary data for that time period is in Table 2 below. Table 2 presents the measured A-weighted L_{DN}, CNEL, $L_{min,}$ $L_{max,}$ L_{50}, and L_{90} noise level values collected at the noise monitoring station, as well as weather data obtained from the US Forest Service Alpine weather monitoring station. Hourly data is presented in Appendix C.

Table 2. Monitoring Station and Weather Data

Monitoring Start	Monitoring End	Elapsed Time	Measured Noise Levels (dBA)							Wind Speed (mph)		Gust Speed (mph)	Temperature (°F)		Humidity (% relative humidity)	
			L_{eq}	L_{DN}	CNEL	L_{min}	L_{max}	L_{50}	L_{90}	Minimum	Average		Range	Average	Range	Average
4/11/15 9:17 am (PDT)	4/13/15 8:01 am (PDT)	46 hours, 44 minutes	49.8	52.0	52.1	16.8	83.7	30.8	23.0	0	5.5	21	47 - 75	60	33-80	55

Weather data is based on hourly average observations at ANEC1, April 11, 8:52 am to April 13, 7:52 am.

APPENDIX A

MONITORING SITE PICTURES

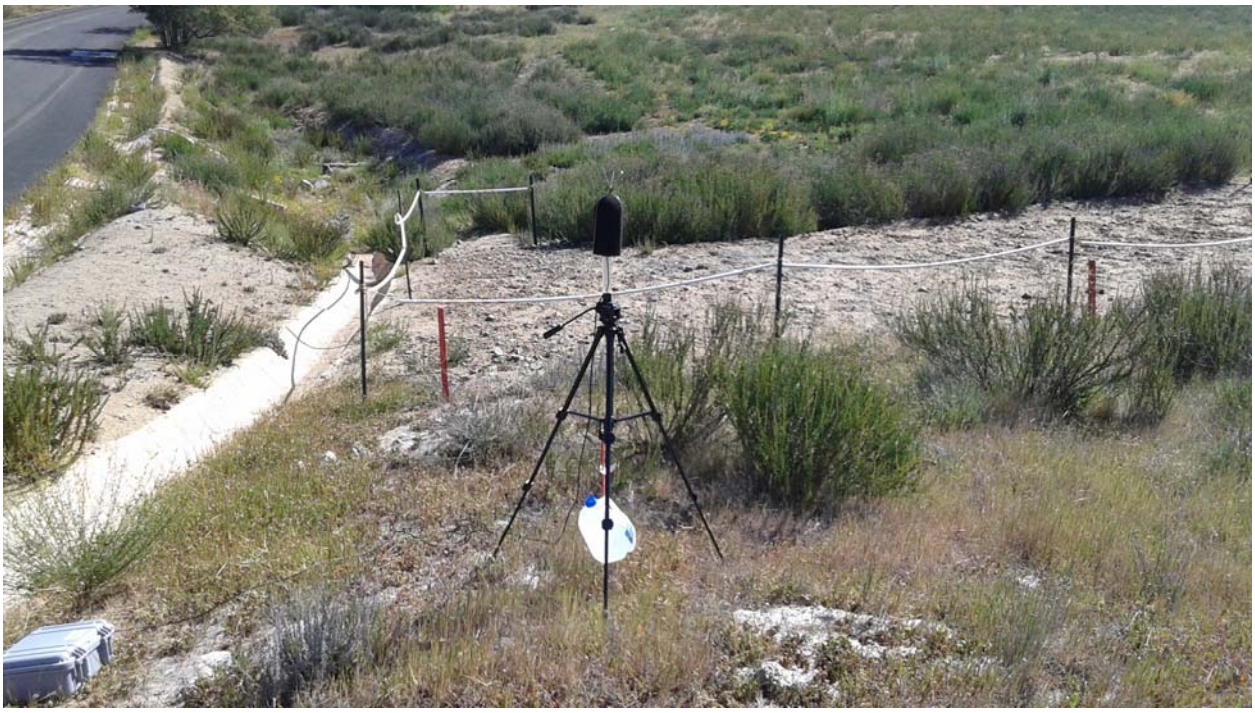

Figure A1. Monitoring site facing East (Water bottle is used to weigh down the tripod and has no other purpose)

Figure A2. Monitoring site facing North

Figure A3. Monitoring site facing South

Figure A4. Monitoring site facing West

APPENDIX B

EQUIPMENT CALIBRATION CERTIFICATES

THE MODAL SHOP INC.
A PCB GROUP CO.

~Calibration Certificate~

3149 East Kemper Rd.
Cincinnati, OH 45241
Ph : 513-351-9919
Fax: 513-458-2172
www.modalshop.com

Manufacturer:	Larson Davis	Asset ID:	49574
Model:	CAL200	Calibration Date:	Aug 08, 2014 12:41:23
Serial Number:	10473	Due Date:	
Description:	Acoustic Calibrator	Technician:	Wayne Underwood
Customer:	TMS Rental	Approval:	

Calibration Results:

Measured SPL : 94.06 dB re. 20µPa

Measured Frequency : 1,000.00 Hz

Temperature:	21 °C (71 °F)
Humidity:	48.10%
Pressure:	996.4 mbar

Upon receipt for calibration, the instrument was found to be:
WITHIN the stated tolerance of the manufacturer's specification.

Note: **As Found/As Left In Tolerance**

Measurement uncertainty at 95% confidence level: 0.3 dB

The subject instrument was calibrated to the indicated specification using standards stated below or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the customer.

This calibration is traceable through : 683/281794-12

Notes:
The calibration was performed under operating procedures intended to implement the requirements of ISO 9001, ISO 17025 and ANSI Z540. Unless otherwise noted, the reported value is both "as found" and "as left" data. Calibration results relate only to the items calibrated. This certificate may not be reproduced, except in full, without written permission.

Reference Equipment Used:

Manuf.	*Model*	*Serial*	*Cal. Date*	*Due Date*
GRAS	40AG	9542	9/16/2013	9/16/2014

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A PCB GROUP CO.

~Calibration Certificate~

3149 East Kemper Rd.
Cincinnati, OH 45241
Ph : 513-351-9919
Fax: 513-458-2172
www.modalshop.com

Manufacturer:	Larson Davis	Asset ID:	49574
Model:	CAL200	Calibration Date:	Aug 08, 2014 12:43:28
Serial Number:	10473	Due Date:	
Description:	Acoustic Calibrator	Technician:	Wayne Underwood
Customer:	TMS Rental	Approval:	

Calibration Results:

Temperature:	21 °C (71 °F)
Humidity:	48.10%
Pressure:	996.4 mbar

Measured SPL : 113.96 dB re. 20µPa

Measured Frequency : 1,000.00 Hz

Upon receipt for calibration, the instrument was found to be:
WITHIN the stated tolerance of the manufacturer's specification.

Note: **As Found/As Left In Tolerance**

Measurement uncertainty at 95% confidence level: 0.3 dB

The subject instrument was calibrated to the indicated specification using standards stated below or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the customer.

This calibration is traceable through : 683/281794-12

Notes:
The calibration was performed under operating procedures intended to implement the requirements of ISO 9001, ISO 17025 and ANSI Z540. Unless otherwise noted, the reported value is both "as found" and "as left" data. Calibration results relate only to the items calibrated. This certificate may not be reproduced, except in full, without written permission.

Reference Equipment Used:

Manuf.	*Model*	*Serial*	*Cal. Date*	*Due Date*
GRAS	40AG	9542	9/16/2013	9/16/2014

Certificate of Calibration and Conformance

This document certifies that the instrument referenced below meets published specifications per Procedure PRD-P263; ANSI S1.4-1983 (R 2006) Type 1; S1.4A-1985; S1.43-1997 Type 1; S1.11-2004 Octave Band Class 0; S1.25-1991; IEC 61672-2002 Class 1; 60651-2001 Type 1; 60804-2000 Type 1; 61260-2001 Class 0; 61252-2002.

Manufacturer:	Larson Davis	Temperature:	71	°F
Model Number:	831		21.67	°C
Serial Number:	3329	Rel. Humidity:	30.9	%
Customer:	TMS Rental	Pressure:	990.5	mbars
Description:	Sound Level Meter		990.5	hPa

Note: As Found / As Left: In Tolerance

Upon receipt for testing, this instrument was found to be:

Within the Stated tolerance of the manufacturer's specification

Calibration Date: 2-May-14 Calibration Due:

Calibration Standards Used:

Manufacturer	Model	Serial Number	Cal Due	Traceability No.
Larson Davis	LDSigGen/2239	0760/0101	4/14/2015	2013-176324

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at The Modal Shop and/or Larson Davis Corporate Headquarters. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. Calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of The Modal Shop.

Technician: Tim Rarden Signature:

THE MODAL SHOP INC.
A PCB GROUP CO.

The Modal Shop, Inc.
3149 East Kemper Road
Cincinnati, OH 45241
Phone: (513) 351-9919
(800) 860-4867
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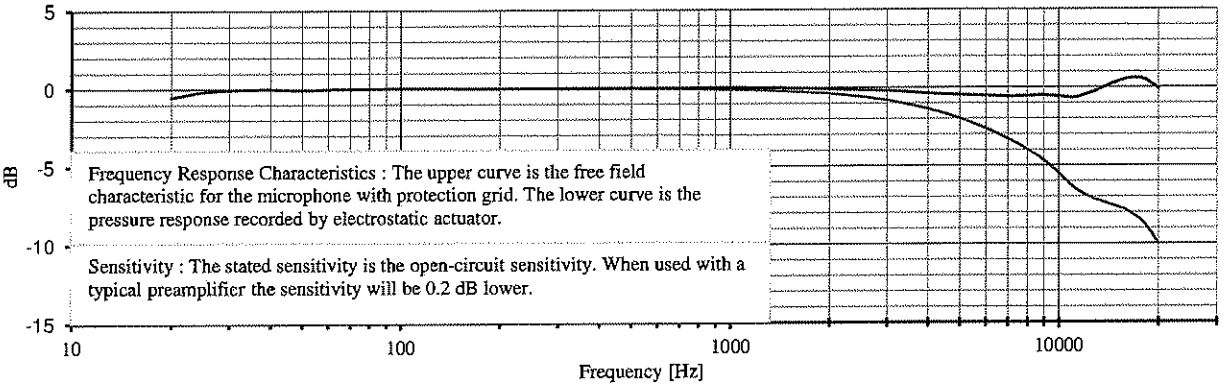
www.modalshop.com

~Certificate of Calibration~

Manufacturer:	PCB	**Asset ID:**	49331
Model Number:	377B02	**Customer:**	TMS Rental
Serial Number:	LW138408	**Calibration Date:**	Jan 15, 2015 10:35:57
Description:	Free-Field Microphone	**Due Date:**	

Sensitivity:	**250 Hz**	**1 kHz**		**Temperature:**	73 (23)	°F (°C)
	-25.87	-25.97	dB re. 1V/Pa	**Humidity:**	16	%
	50.88	50.29	mV/Pa	**Ambient Pressure:**	1000.2	mbar

Cal. Results: In Tolerance **Polarization Voltage:** 0 VDC



Traceability: The calibration is traceable through 683/281764-12.

Notes: Calibration results relate only to the items calibrated.
This certificate may not be reproduced, except in full, without written permission.
This calibration is performed in compliance with ISO 9001, ISO 17025 and ANSI Z540.
Measurement uncertainty (250 Hz sensitivity calibration) at 95% confidence level: 0.30 dB.
Calibrated per procedure PRD-P204.

User Note : As Found/As Left; In Tolerance

Frequency Response with reference to level at 250 Hz

Frequency (Hz)	Upper (dB)	Frequency (Hz)	Upper (dB)	Frequency (Hz)	Upper (dB)	Frequency (Hz)	Upper (dB)
20	-0.52	**630**	0.00	**4500**	-0.43		
25	-0.16	**800**	0.03	**5000**	-0.47		
31.5	-0.04	**1000**	0.02	**5600**	-0.52		
40	0.00	**1120**	0.01	**6300**	-0.56		
50	-0.06	**1250**	0.00	**7100**	-0.58		
63	0.00	**1400**	0.00	**8000**	-0.56		
80	0.00	**1600**	-0.04	**9000**	-0.52		
100	0.02	**1800**	-0.05	**10000**	-0.59		
125	0.03	**2000**	-0.07	**11200**	-0.65		
160	0.01	**2240**	-0.11	**12500**	-0.35		
200	0.00	**2500**	-0.13	**14000**	0.08		
250	0.00	**2800**	-0.17	**16000**	0.52		
315	0.00	**3150**	-0.22	**18000**	0.52		
400	0.00	**3550**	-0.30	**20000**	-0.07		
500	0.02	**4000**	-0.37				

Technician: Wayne Underwood

Approval:

Reference Equipment Used:

Manuf.	*Model*	*Serial*	*Cal. Date*	*Due Date*
GRAS	40AG	9542	9/15/2014	9/15/2015

ACCREDITED
Calibration Lab
CALIBRATION CERT 2649.01

APPENDIX C

HOURLY DATA SUMMARIES

Record #	Date	Time	Leq
1	4/11/2015	09:17:29	Start Time
2	4/11/2015	09:17:29	56.5
3	4/11/2015	10:17:29	58.5
4	4/11/2015	11:17:29	59.9
5	4/11/2015	12:17:29	55.9
6	4/11/2015	13:17:29	48.9
7	4/11/2015	14:17:29	58.1
8	4/11/2015	15:17:29	53.8
9	4/11/2015	16:17:29	38.4
10	4/11/2015	17:17:29	37.4
11	4/11/2015	18:17:29	37.5
12	4/11/2015	19:17:29	35.9
13	4/11/2015	20:17:29	32.3
14	4/11/2015	21:17:29	31.9
15	4/11/2015	22:17:29	34.4
16	4/11/2015	23:17:29	38.1
17	4/12/2015	00:17:29	26.9
18	4/12/2015	01:17:29	24.4
19	4/12/2015	02:17:29	20.7
20	4/12/2015	03:17:29	24.3
21	4/12/2015	04:17:29	25.0
22	4/12/2015	05:17:29	34.9
23	4/12/2015	06:17:29	33.4
24	4/12/2015	07:17:29	38.0
25	4/12/2015	08:17:29	36.4
26	4/12/2015	09:17:29	38.3
27	4/12/2015	10:17:29	42.6
28	4/12/2015	11:17:29	41.5
29	4/12/2015	12:17:29	36.8
30	4/12/2015	13:17:29	40.1
31	4/12/2015	14:17:29	39.3
32	4/12/2015	15:17:29	40.9
33	4/12/2015	16:17:29	38.3
34	4/12/2015	17:17:29	38.8
35	4/12/2015	18:17:29	34.4
36	4/12/2015	19:17:29	37.4
37	4/12/2015	20:17:29	39.6
38	4/12/2015	21:17:29	32.1
39	4/12/2015	22:17:29	33.0
40	4/12/2015	23:17:29	38.1
41	4/13/2015	00:17:29	22.8
42	4/13/2015	01:17:29	27.0
43	4/13/2015	02:17:29	25.6
44	4/13/2015	03:17:29	27.1
45	4/13/2015	04:17:29	29.9
46	4/13/2015	05:17:29	35.1
47	4/13/2015	06:17:29	56.7
48	4/13/2015	07:17:29	56.7
49	4/13/2015	08:01:53	Stop Time

Instrument Calculated Statistics	
L_{eq}	49.8
L_{DN}	52.0
CNEL	52.1
L_{min}	16.8
L_{max}	83.7
L_{peak}	97.3
L_{50}	30.8
L_{90}	23.0

These statistics are based on all readings taken by the instrument, and can not be calculated from hourly averages.

Sound Calculation Methodology

Introduction

The purpose of this document is to describe how the sound level at the property line was calculated due to noise from the SVC. As required by the California Environmental Quality Act (CEQA), determinations of existing and projected sound levels at property lines proximate to California Public Utilities Commission (CPUC) projects are required to be measured and analyzed in a Proponents Environmental Assessment (PEA) document. This document supplements the noise analysis provided in Section 4.10 of the Suncrest Reactive Power Support Project PEA. Generally,

1. The noise level from all equipment was summed to determine in total input power,
2. Attenuation due to Geometric Divergence, Atmospheric Absorption, and Ground Effects was calculated and subtracted from the total input power, and
3. The total sound spectrum at the property line was converted into a single A-weighed decibel value.

The following sections describe this process in greater detail. For ease of calculation, the total sound power was summed as a single source operating at the center of the SVC, which is 120 m away from the property line.

Input Power Spectrum

The first step was to sum the sound power level of each of the noise generating units. Sound power decibels is a logarithmic scale, and therefore, the noise levels cannot be added arithmetically. In order to add decibel levels, the decibels must first be converted to a geometric scale. Sound power decibels are calculated by the following equation:

$$SP = 10 \log_{10}\left(\frac{P}{P_0}\right)$$

Where:

SP is the Sound Power in dB,
P is the sound power in picowatts, and
P_0 is the reference value of 1 picowatt.

Solving for P:

$$P = 10^{\left(\frac{SP}{10}\right)}$$

Using this equation, the sound power can be converted into picowatts and added arithmetically. Once all sources are added, the power from each source can be summed and converted back to decibels.

Table 1 below shows the sound power of each noise generating unit in dB, and the total sound power for all units at the station, calculated using the above methodology.

Table 1. Input Power Spectrum

Qty.	Equipment used in SVC operation	Input Power Spectrum, dB (Power, not Pressure)					
		OB CENTER FREQUENCY, HZ					
		125	250	500	1000	2000	4000
3	150 MVAr Thyristor Controlled Reactor	75	75	94	77	53	0
3	105 MVAr Transformer	81	81	94	83	59	0
6	TSC caps	68	69	72	45	0	0
6	FC caps	72	81	79	62	47	0
6	TSC reactor	70	76	73	77	66	0
6	FC reactors	59	76	73	76	66	0
2	Heat exchanger	64	75	84	76	65	0
1	HVAC	77	85	92	88	75	0
1	Aux transformer	68	73	67	61	40	0
-	**Total**	**88.6**	**93.3**	**102.5**	**93.0**	**79.5**	**15.3**

Attenuation

Attenuation calculations are based on ISO 9613-2, Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation. The three types of attenuation analyzed were:

1. Attenuation due to Geometrical Divergence
2. Attenuation due to Atmospheric Absorption
3. Attenuation due to Ground Effect

Attenuation due to Geometrical Divergence

Attenuation due to geometrical divergence, A_{div} , in decibels, is calculated by the following equation:

$$A_{div} = 20 \log_{10} \left(\frac{d}{d_0} \right)$$

Where:

d is the distance from source to receiver (in meters), and
d_0 is the reference value of 1 meter.

A_{div} is the same for all frequency bands. The attenuation is shown in Table 2 below, and is based on the source to receiver distance of 120 meters.

Table 2. Attenuation Due to Geometrical Divergence (in dB)

Octave Band Center Frequency (Hz)					
125	**250**	**500**	**1000**	**2000**	**4000**
41.6	41.6	41.6	41.6	41.6	41.6

Attenuation due to Atmospheric Absorption

Attenuation due to atmospheric absorption, A_{atm} , in decibels, is calculated by the following equation:

$$A_{atm} = \frac{\alpha d}{1000}$$

Where:

α is the atmospheric attenuation coefficient (in dB per km, varies for each octave band), and
d is the distance from source to receiver, in meters.

A_{atm} is different for all frequency bands. The atmospheric attenuation coefficient, α, is dependent on the temperature and humidity. For these calculations, the average conditions in Alpine (68°F and 50% humidity) were used. The attenuation coefficient for each frequency is shown in Table 3 below.

Table 3. Values of α for 68°F and 50% Relative Humidity

Octave Band Center Frequency (Hz)					
125	**250**	**500**	**1000**	**2000**	**4000**
0.45	1.30	2.70	4.70	9.90	29.00

The attenuation due to atmospheric absorption is shown in Table 4 below, and is based on the source to receiver distance of 120 meters and the value of α.

Table 4. Attenuation Due to Atmospheric Absorption (in dB)

Octave Band Center Frequency (Hz)					
125	**250**	**500**	**1000**	**2000**	**4000**
0.1	0.2	0.3	0.6	1.2	3.5

Attenuation due to Ground Effect

Attenuation due to ground effects, A_{gr} , in decibels, is calculated by the following equation:

$$A_{gr} = A_S + A_M + A_R$$

Where:

A_S is the ground effect for the source region (in dB),
A_M is the ground effect for the middle region (in dB), and
A_R is the ground effect for the receiver region (in dB).

A_{gr} is different for all frequency bands. For short distances like those at Suncrest, A_M is 0. A_S and A_R are calculated similarly, as shown in Table 5 below:

Table 5. Formulae for calculating Ground Effect Attenuation

Frequency (Hz)	A_S or A_R (dB)
125	-1.5 + G * a
250	-1.5 + G * b
500	-1.5 + G * c
1000	-1.5 + G * d
2000	-1.5 (1 - G)
4000	-1.5 (1 - G)

Where:

G is the ground factor, which varies from 0 to 1, with 0 indicating hard ground (paving, water, ice, concrete, etc.), and 1 indicating porous ground (grass, trees, vegetation). For calculation, the source region was assumed to have a value of 0.1, and the receiver region a value of 1.0.

a, b, c, and d vary with source height and distance from source to receiver, and can be found by equation or estimated using Tables 6,7,8, and 9below. For these calculations, both the source and the receiver were assumed to be at a height of 1.5 m, and the values for a distance between them was chosen as 100 m.

Table 6. Values of a

Source to Receiver distance (m)	Source or Receiver Height (m)				
	0.5	**1.5**	**3**	**6**	**>10**
50	1.7	2.0	2.7	3.2	1.6
100	1.9	2.2	3.2	3.8	1.6
200	2.3	2.7	3.6	4.1	1.6
500	4.6	4.5	4.6	4.3	1.6
> 1000	7.0	6.6	5.7	4.4	1.7

Table 7. Values of b

Source to Receiver distance (m)	Source or Receiver Height (m)				
	0.5	**1.5**	**3**	**6**	**>10**
50	6.8	5.9	3.9	1.7	1.5
100	8.8	7.6	4.8	1.8	1.5
> 200	9.8	8.4	5.3	1.8	1.5

Table 8. Values of c

Source to Receiver distance (m)	Source or Receiver Height (m)				
	0.5	**1.5**	**3**	**6**	**>10**
50	9.4	4.6	1.6	1.5	1.5
100	12.3	5.8	1.7	1.5	1.5
> 200	13.8	6.5	1.7	1.5	1.5

Table 9. Values of d

Source to Receiver distance (m)	Source or Receiver Height (m)				
	0.5	**1.5**	**3**	**6**	**>10**
50	4.0	1.9	1.5	1.5	1.5
> 100	5.0	2.1	1.5	1.5	1.5

Total ground effect attenuation (source plus receiver attenuation) is shown in Table 10 below.

Table 10. Attenuation Due to Ground Effect (in dB)

Octave Band Center Frequency (Hz)					
125	**250**	**500**	**1000**	**2000**	**4000**
0.2	6.1	4.1	0.1	0.9	0.9

Total

The total sound pressure at the receiver location is found by taking the input power spectrum, subtracting total attenuation, subtracting 10.9 to convert from sound power to sound pressure, and subtracting the appropriate A-weighing factors, as shown in Table 11 below.

Table 11. Total Sound Pressure at the Receiver Location

Value	Sound Level, dB					
	OB CENTER FREQUENCY, HZ					
	125	250	500	1000	2000	4000
Input Sound Power	88.6	93.3	102.5	93.0	79.5	15.3
- Total Attenuation	41.8	47.8	46.0	42.2	43.7	46.0
- Conversion from Power to Pressure	10.9	10.9	10.9	10.9	10.9	10.9
- A-Weighing Frequency Factors	-16.1	-8.6	-3.2	0	1.2	1
= Sound Pressure at Reciever	19.8	26.0	42.4	39.9	26.1	-40.5

The sound pressure level for each frequency is then summed, using the formulae for adding decibels first described in the “Input Power” section. Thus, the total Sound Pressure at the property line is 44.5 dBA.

Construction and Operation Noise Predictions

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 08/18/2015
Case Description: Suncrest Reactive Power Station

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Property Line	Residential	49.8	49.8	49.8

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (meters)	Estimated Shielding (dBA)
Excavator	No	40		80.7	300.0	0.0
Pickup Truck	No	40		75.0	300.0	0.0
Grader	No	40	85.0		300.0	0.0
Dozer	No	40		81.7	300.0	0.0
Tractor	No	40	84.0		300.0	0.0
Concrete Mixer Truck	No	40		78.8	300.0	0.0
Drill Rig Truck	No	20		79.1	300.0	0.0
Dump Truck	No	40		76.5	300.0	0.0
Crane	No	16		80.6	300.0	0.0
Compressor (air)	No	40		77.7	300.0	0.0
Dump Truck	No	40		76.5	300.0	0.0
All Other Equipment > 5 HP	No	50	85.0		300.0	0.0
All Other Equipment > 5 HP	No	50	85.0		300.0	0.0
All Other Equipment > 5 HP	No	50	85.0		300.0	0.0
All Other Equipment > 5 HP	No	50	85.0		300.0	0.0
Blasting	Yes	1	94.0		300.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10
Excavator	54.8	53.8	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Pickup Truck	49.1	48.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Grader	59.1	58.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Dozer	55.8	54.8	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Tractor	58.1	57.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Concrete Mixer Truck	52.9	51.9	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Drill Rig Truck	53.3	49.3	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Dump Truck	50.6	49.6	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Crane	54.7	49.7	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Compressor (air)	51.8	50.8	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Dump Truck	50.6	49.6	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
All Other Equipment > 5 HP	59.1	59.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
All Other Equipment > 5 HP	59.1	59.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
All Other Equipment > 5 HP	59.1	59.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
All Other Equipment > 5 HP	59.1	59.1	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A
Blasting	68.1	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.1	67.6	75.0	N/A	75.0	N/A	75.0	N/A	None	N/A	None	N/A	None	N/A

PREDICTING THE SOUND LEVEL AT DISTANCES GREATER THAN 100 METERS FOR OUTDOORS SOUND PROPAGATION

NOTE: You must enter the requested input information in the yellow highlighted cells.
All blue highlighted cells represent a calculated value or result.

INPUT POWER SPECTRUM, dB
Input Power , Not Pressure!

	OB CENTER FREQUENCY, HZ					
	125	250	500	1000	2000	4000
	88.643	93.330	102.547	93.032	79.495	15.315

SECTION 1A: DIVERGENCE CALCULATIONS

	Attenuation due to Divergence:	INPUT INFORMATION: REFERENCE DISTANCE (m)	DIST. FROM SOURCE (m)
POINT SOURCE:	41.6 dB	1	120
LINE SOURCE:	20.8 dB		

SECTION 1B: ATTENUATION DUE TO DIVERGENCE ASSIGEND TO EACH OCTAVE-BAND FREQUENCY

DIVERGENCE:	ATTENUATION: COMPONENTS AND TOTAL OB CENTER FREQUENCY, HZ					
	125	250	500	1000	2000	4000
POINT SOURCE	**41.6**	**41.6**	**41.6**	**41.6**	**41.6**	**41.6**
LINE SOURCE	**20.8**	**20.8**	**20.8**	**20.8**	**20.8**	**20.8**

NOTE: Divergence is not a function of frequency

SECTION 2A: AIR ABSORPTION INFORMATION

AIR ABSORPTION:

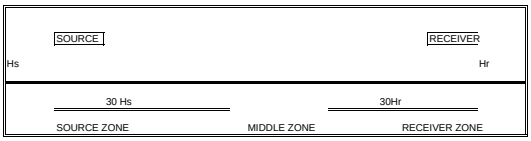
At 68 °F and 50% Hum.	OB CENTER FREQUENCY, HZ					
	125	250	500	1000	2000	4000
ATTEN. COEFFICIENT:	0.45	1.30	2.70	4.70	9.90	29.00
ATTEN. DUE TO AIR:	**0.1**	**0.2**	**0.3**	**0.6**	**1.2**	**3.5**

Average Temperature for Alpine, CA, 5/13/14-5/13/15
68
Average RH for Alpine, CA 5/13/14-5/13/15
50 (Based on Average Dew Point of 49F and average temperature)

TABLE 15.1

TEMPERATURE	RELATIVE HUMIDITY %	AIR ATTENUATION COEFFICIENTS, dB/km OCTAVE-BAND CENTER FREQUENCY, HZ 125	250	500	1000	2000	4000
30C	**10**	0.96	1.80	3.40	8.70	29.00	96.00
86F	**20**	0.73	1.90	3.40	6.00	15.00	47.00
	30	0.54	1.70	3.70	6.20	12.00	33.00
	50	0.35	1.30	3.60	7.00	12.00	25.00
	70	0.26	0.96	3.10	7.40	13.00	23.00
	90	0.20	0.78	2.70	7.30	14.00	24.00
20C	**10**	0.78	1.60	4.30	14.00	45.00	109.00
68F	**20**	0.71	1.40	2.60	6.50	22.00	74.00
	30	0.62	1.45	2.50	5.00	14.00	49.00
	50	0.45	1.30	2.70	4.70	9.90	29.00
	70	0.34	1.10	2.80	5.00	9.00	23.00
	90	0.27	0.97	2.70	5.30	9.10	20.00
10C	**10**	0.79	2.30	7.50	22.00	42.00	57.00
50F	**20**	0.58	1.20	3.30	11.00	36.00	92.00
	30	0.55	1.10	2.30	6.80	24.00	77.00
	50	0.49	1.10	1.90	4.30	13.00	47.00
	70	0.41	1.00	1.90	3.70	9.70	33.00
	90	0.35	1.00	2.00	3.50	8.10	26.00
0C	**10**	1.30	4.00	9.30	14.00	17.00	19.00
32F	**20**	0.61	1.90	6.20	18.00	35.00	47.00
	30	0.47	1.20	3.70	13.00	36.00	69.00
	50	0.41	0.82	2.10	6.80	24.00	71.00
	70	0.39	0.76	1.60	4.60	16.00	56.00
	90	0.38	0.76	4.50	3.70	12.00	43.00

SECTION 3A: ENVIRONMENTAL ATTENUATION AT LONG RANGE



e = { 1- [30*(Hs + Hr)/r]} = 0.25

input information = Hs = 1.5 Hr = 1.5

r is at postion H23

G factor: what percentage of the combined 30 Hs and 30 Hr surfaces that is hard.

Hard = 90 Soft = 10

G = 0.10 for the source zone

G = 1 soft for the receiver zone

G = 1 grass and trees for the middle zone

LONG RANGE FACTORS

DISTANCE, m	SOURCE OR RECIEVER HEIGHT, m 0.5	**1.5**	3	6	>10
	FACTOR a				
50	1.7	**2.0**	2.7	3.2	1.6
100	1.9	**2.2**	3.2	3.8	1.6
200	2.3	**2.7**	3.6	4.1	1.6
500	4.6	**4.5**	4.6	4.3	1.6
>1000	7.0	**6.6**	5.7	4.4	1.7
	FACTOR b				
50	6.8	**5.9**	3.9	1.7	1.5
100	8.8	**7.6**	4.8	1.8	1.5
>200	9.8	**8.4**	5.3	1.8	1.5
	FACTOR c				
50	9.4	**4.6**	1.6	1.5	1.5
100	12.3	**5.8**	1.7	1.5	1.5
>200	13.8	**6.5**	1.7	1.5	1.5
	FACTOR d				
50	4.0	**1.9**	1.5	1.5	1.5
>100	5.0	**2.1**	1.5	1.5	1.5

ENVIRONMENTAL ATTENUATION VALUES AT LONG RANGE: 50M

				Frequency, Hz 125	250	500	1000	2000	4000
	SOURCE CONST.	a=	2.2 ***SOURCE>***	0.00	0.00	0.00	0.00	0.00	0.00
		b=	7.6						
G= (G92)		c=	5.8						
		d=	2.1						
		e=	0.25						
DATA POSITIONS	RECEIV.	a=	2.2 ***RECEIVER>***	0.70	6.10	4.30	0.60	1.50	1.50
G= (J92)	CONST.	b=	7.6						
e(G82)		c=	5.8						
		d=	2.1	0.70	6.10	4.30	0.60	1.50	1.50
		e=	0.3						
	MIDDLE G=(G95)		***MIDDLE>***	0.00	0.00	0.00	0.00	0.00	0.00

POINT SOURCE

	Frequency, Hz 125	250	500	1000	2000	4000
DIVERGENCE COMP.	41.6	41.6	41.6	41.6	41.6	41.6
ALL OTHER COMPONENTS	0.8	6.3	4.6	1.2	2.7	5.0
TOTAL ATTENUATION	42.3	47.8	46.2	42.7	44.3	46.6
SOURCE POWER SPECTRUM	88.6	93.3	102.5	93.0	79.5	15.3
OCTAVE-BAND SPLS	35.4	34.6	45.4	39.4	24.3	-42.1
A-FREQUENCY WT. FACTORS	-16.1	-8.6	-3.2	0	1.2	1
A-WT OB SPLS	19.3	26.0	42.2	39.4	25.5	-41.1
A-WT SOUND LEVEL	44.2 dBA			Predicted Sound Level at :		120 meters

Appendix I:

Geophysical Survey

GEOPHYSICAL SURVEY
SVC SUN CREST
ALPINE, CALIFORNIA

PREPARED FOR:
Kleinfelder
550 West C Street
San Diego, CA 92101

PREPARED BY:
Southwest Geophysics, Inc.
8057 Raytheon Road, Suite 9
San Diego, CA 92111

August 5, 2015
Project No. 115336

SOUTHWEST GEOPHYSICS, INC.
YOUR SUBSURFACE SOLUTION

August 5, 2015
Project No. 115336

Mr. Scott Rugg
Kleinfelder
550 West C Street
San Diego, CA 92101

Subject: Geophysical Survey
SVC Sun Crest
Alpine, California

Dear Mr. Rugg:

In accordance with your authorization, we have performed a geophysical evaluation pertaining to the SVC Sun Crest project located in Alpine, California. Specifically, our survey consisted of performing five P-wave refraction traverses, one refraction microtremor (ReMi) profile, and electrical resistivity soundings at four test locations at the subject site. The purpose of our study was to characterize the subsurface conditions in the study area. This data report presents our survey methodology, equipment used, analysis, and results.

We appreciate the opportunity to be of service on this project. Should you have any questions related to this report, please contact the undersigned at your convenience.

Sincerely,
SOUTHWEST GEOPHYSICS, INC.

Patrick Lehrmann

Patrick Lehrmann, P.G., P.Gp.
Principal Geologist/Geophysicist

Hans van de Vrugt

Hans van de Vrugt, C.E.G., P.Gp.
Principal Geologist/Geophysicist

PFL/HV/hv

Distribution: Addressee (electronic)

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1. INTRODUCTION

In accordance with your authorization, we have performed a geophysical evaluation pertaining to the SVC Sun Crest project located in Alpine, California (Figure 1). Specifically, our survey consisted of performing five P-wave refraction traverses, one refraction microtremor (ReMi) profile, and electrical resistivity soundings at four test locations at the subject site. The purpose of our study was to characterize the subsurface conditions in the study area. This data report presents our survey methodology, equipment used, analysis, and results.

2. SCOPE OF SERVICES

Our scope of services included:

- Performance of five seismic P-wave refraction lines: SL-1 through SL-5.
- Performance of one ReMi profile: R-1.
- Performance of electrical resistivity soundings at four locations: RL-1 through RL-4.
- Compilation and analysis of the data collected.
- Preparation of this illustrated data report presenting our results.

3. SITE DESCRIPTION AND PROJECT DESCRIPTION

The subject site is generally located near the west end of Bell Bluff Truck Trail, just east of it's intersection with Japatul Valley Road in Alpine, California (Figure 1). The seismic survey was conducted along the north side of an asphalt paved access road. The profiles were conducted generally from west to east. The electrical resistivity soundings were conducted in an open field south of the access road. Figures 2a through 2d and Figures 3a and 3b depict the locations of the lines as well as the general site conditions.

Based on our discussions with you, it is our understanding your office is conducting a geotechnical evaluation of the site for the proposed excavation of an electrical trench along the access road, and the construction of a new substation in the open field south of the access road. The results of our survey will be used in the design and construction of the project.

4. SURVEY METHODOLOGY

As previously indicated, the primary purpose of our services was to characterize the subsurface conditions at pre-selected locations through the collection of seismic and electrical resistivity data. The following sections provide an overview of the methodologies used during our study.

4.1 P-wave Refraction Survey

The seismic refraction method uses first-arrival times of refracted seismic waves to estimate the thicknesses and seismic velocities of subsurface layers. Seismic P-waves (compression waves) generated at the surface are refracted at boundaries separating materials of contrasting velocities. These refracted seismic waves are then detected by a series of surface vertical component 14-Hz geophones, and recorded with a 24-channel Geometrics Geode seismograph. The travel times of the seismic P-waves are used in conjunction with the shot-to-geophone distances to obtain thickness and velocity information of the subsurface materials. In general, the effective depth of evaluation for a seismic refraction traverse is approximately one-third to one-fifth the length of the traverse. The refraction method requires that subsurface velocities increase with depth. A layer having a velocity lower than that of the layer above will not generally be detectable by the seismic refraction method and, therefore, could lead to errors in the depth calculations of subsequent layers. In addition, lateral variations in velocity, such as those caused by buried boulders, fractures, dikes, etc. can result in the misinterpretation of the subsurface conditions.

Five 125-foot long seismic traverses, SL-1 through SL-5, were conducted in the area of the proposed electrical trench. Multiple shot points (signal generator locations) were conducted at the ends and intermediate points along the lines. The P-wave signal (shot) was generated using a 20-pound hammer and an aluminum plate. The locations of the profiles, which were selected by your office, are depicted on Figures 2a through 2d.

In general, the seismic P-wave velocity of a material can be correlated to rippability (see Table 1 below), or to some degree "hardness." Table 1 is based on published information from the Caterpillar Performance Handbook (Caterpillar, 2011) as well as our experience with similar materials, and assumes that a Caterpillar D-9 dozer ripping with a single shank is used. We emphasize that the cutoffs in this classification scheme are approximate and that rock characteristics, such as fracture spacing and orientation, play a significant role in determining rock quality or rippability.

Table 1 – Rippability Classification

Seismic P-wave Velocity	Rippability
0 to 2,000 feet/second	Easy
2,000 to 4,000 feet/second	Moderate
4,000 to 5,500 feet/second	Difficult, Possible Blasting
5,500 to 7,000 feet/second	Very Difficult, Probable Blasting
Greater than 7,000 feet/second	Blasting Generally Required

4.2 ReMi Survey

The refraction microtremor technique uses recorded surface waves (specifically Rayleigh waves) which are contained in the background noise to develop a shear wave velocity profile of the site down to a depth, in this case, up to approximately 75 feet. Fifteen records, 32 seconds long were collected with a 24-channel Geometrics Geode seismograph and 4.5-Hz vertical component geophones. Unlike the refraction method, described above, the ReMi method does not require an increase of material velocity with depth. Therefore, low velocity zones (velocity inversions) are detectable with ReMi. The depth of exploration is dependent on the length of the line and the frequency content of the background noise. The results of the ReMi method are displayed as a one dimensional sounding which represents the average condition across the length of the line.

One ReMi line (R-1) was conducted along refraction line SL-1. The purpose of R-1 was to obtain additional subsurface data in this area, since there was a potential for interference from the presence of a storm drain line and nearby asphalt road.

4.3 Electrical Resistivity Survey

Electrical resistivity data were collected at four test locations selected by your office. The data were collected in general accordance with ASTM G57 using an Advanced Geosciences, Inc. (AGI) MiniSting earth resistivity meter and four stainless steel electrodes in a Wenner configuration. The MiniSting can generate up to 800 volts (V) and 500 milliamps (mA) and allows for the direct measurement of resistance. Soil resistance measurements were collected at electrode spacings of approximately 2, 3, 5, 7, 10, 20, 30, 50, 70, 100 and 200 feet. Stainless steel electrodes were hammered into place and the soils surrounding the electrodes were moistened with water where necessary. The soundings were performed along four different orientations in order to assess possible lateral variations in resistivity. Figure 2d illustrates the approximate locations of the lines.

5. DATA ANALYSIS

The following sections provide a summary of our data analysis.

5.1 P-wave Refraction Data

The collected P-wave refraction data were processed using SIPwin (Rimrock Geophysics, 2003), a seismic interpretation program, and analyzed using SeisOpt Pro (Optim, 2008). SeisOpt Pro uses first arrival picks and elevation data to produce subsurface velocity models through a nonlinear optimization technique called adaptive simulated annealing. The resulting velocity model provides a tomography image of the estimated geologic conditions. Both vertical and lateral velocity information is contained in the tomography model. Changes in layer velocity are revealed as gradients rather than discrete contacts, which typically are more representative of actual conditions. Figures 4a through 4e presents the results from the P-wave refraction survey.

5.2 ReMi Survey

Collected ReMi data were processed using SeisOpt® ReMi™ software (Optim, 2005), which uses the refraction microtremor method (Louie, 2001). The program generates phase-velocity dispersion curves for each record and provides an interactive dispersion modeling tool where the users determines the best fitting model. The result is a one-dimensional shear-wave velocity model of the site with roughly 5 to 15 percent accuracy. Figure 5 displays the results for R-1.

5.3 Electrical Resistivity Survey

The resistivity results are presented on Figure 6. In general, the quality of the collected data is very good. The standard deviation between multiple readings is 0.3 percent or less.

6. RESULTS

The purpose of our evaluation was to characterize the subsurface conditions and to provide parameters for use in the design and construction of the proposed project through the collection of seismic and electrical data. The results from our P-wave refraction, ReMi, and resistivity surveys are presented on Figures 4a through 4e, Figure 5, and Figure 6, respectively. In addition, the ReMi results are shown on Table 2.

The P-wave and ReMi models reveal distinct layers/zones in the near surface that likely represent fill soil overlying bedrock with varying degrees of weathering. Some vertical and lateral velocity variations are evident in the P-wave models. These inhomogeneities are likely related to the presence of boulders, intrusions and differential weathering of the bedrock. It is also evident in the P-wave models that the depth to bedrock varies across the site.

As previously indicated, the ReMi data were collected along refraction line SL-1 in order to assess the possible interference from an existing storm rain line and nearby roadway on the seismic data. In general the P-wave and Remi results are somewhat consistent with respect to the depth of bedrock, although the ReMi results reveal a low velocity zone (inversion) roughly between 15 and 20 feet below the ground surface. The specific cause and extent of this inversion is unknown. It should be emphasized that the ReMi survey provides a 1-dimensional model that represents an average across the profile length.

In general, the results of the resistivity survey are fairly consistent along soundings RL-1, RL-3 and RL-4. The results for the shorter spacings along RL-2 reveal the presence of more resistive

material in the near surface. The specific cause of this variation is unknown, but is likely related to changes in geology and/or bioturbation of the near surface soils.

Table 2 – ReMi Results

Line No.	Depth (feet)	Shear Wave Velocity (feet/second)
RL-1	0 – 3	551
	3 – 5	605
	5 – 8	1,235
	7.5 – 15	1,426
	15 – 21	816
	21 – 43	2,097
	43 – 66	2,247
	66 – 75	4,208

7. LIMITATIONS

The field evaluation and geophysical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by consultants performing similar tasks in the project area. No warranty, express or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be present. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface surveying will be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Southwest Geophysics, Inc. should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

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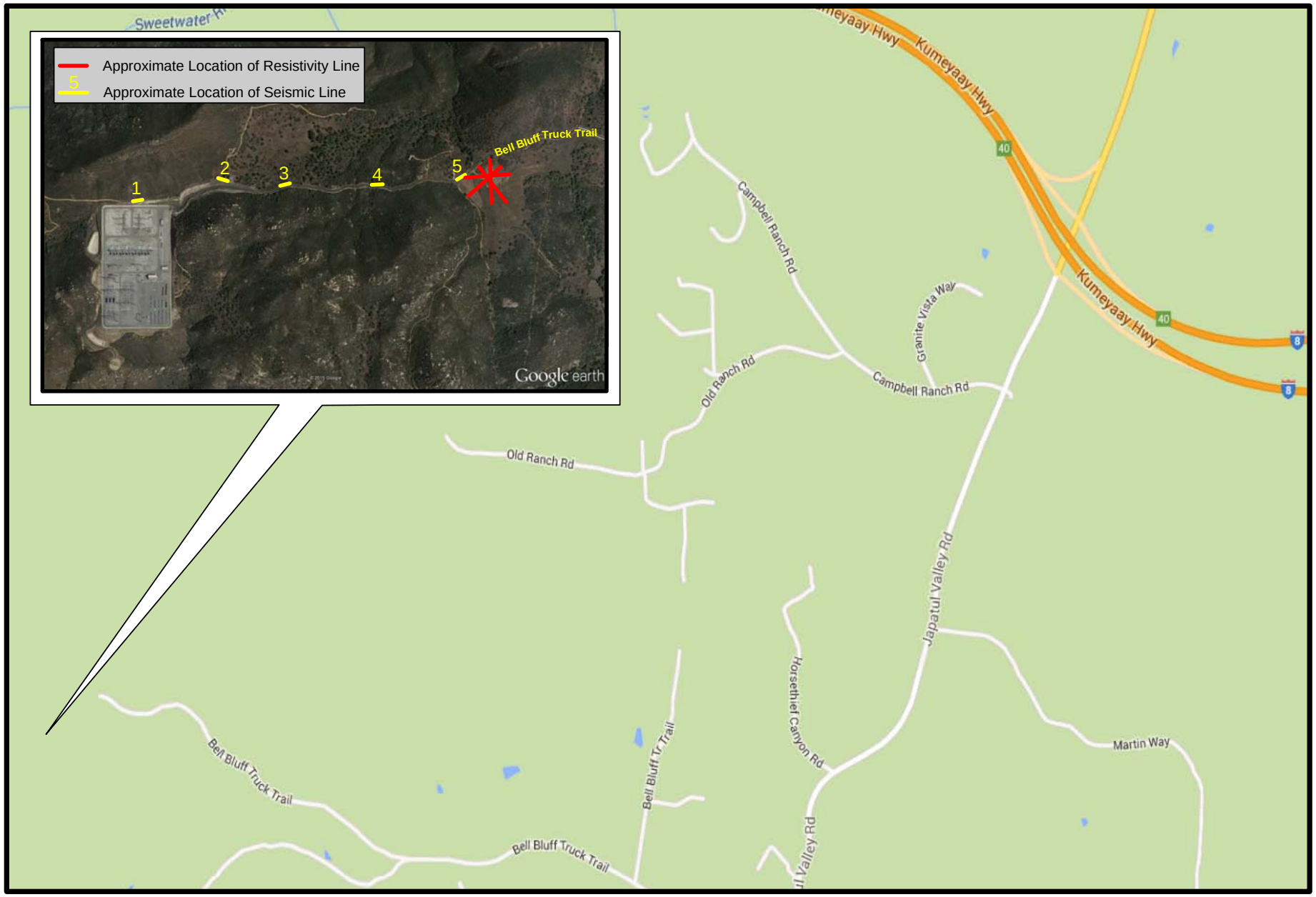


SITE LOCATION MAP

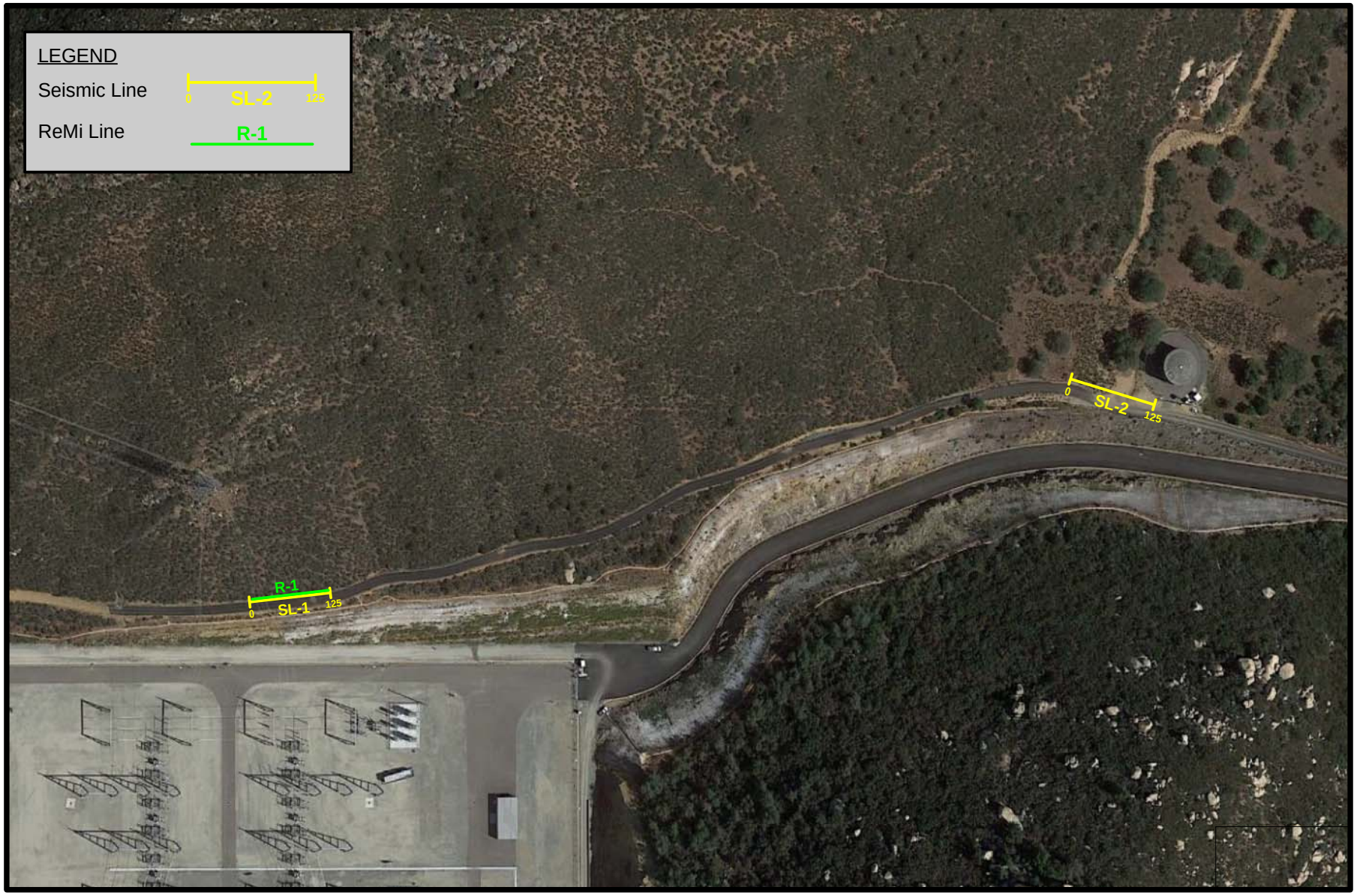
N

SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 1



LINE LOCATION MAP
(SL-1, SL-2, and and R-1)

N

SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 2a

0 200 400

approximate scale in feet

LINE LOCATION MAP
(SL-3)

N

SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 2b

0 100 200

approximate scale in feet

LINE LOCATION MAP
(SL-4 and SL-5)

N

SVC Sun Crest
Alpine, California

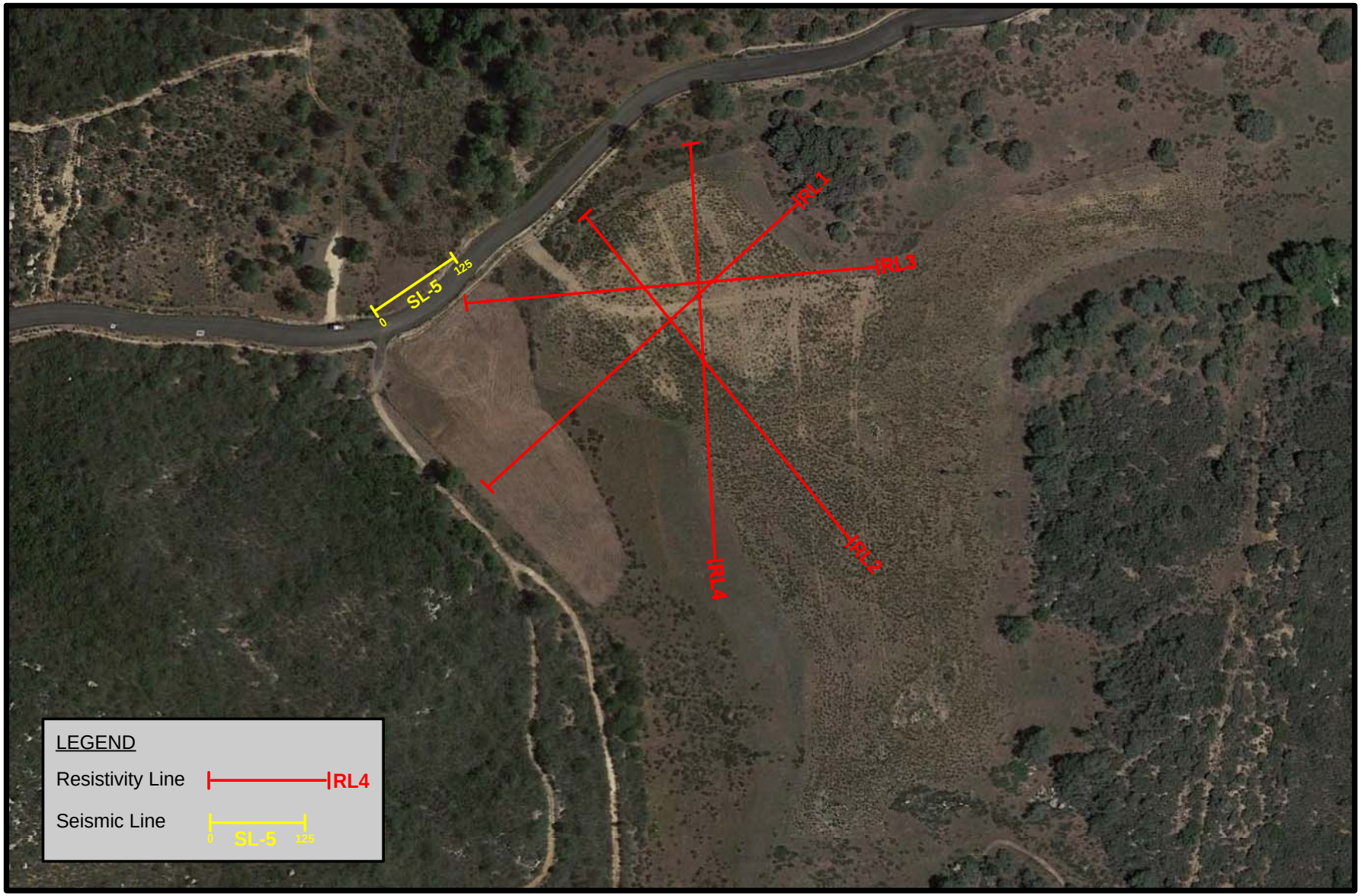
Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 2c

0 200 400

approximate scale in feet



LINE LOCATION MAP

(SL-5 and RL-1 through RL-4)

N

SVC Sun Crest
Alpine, California

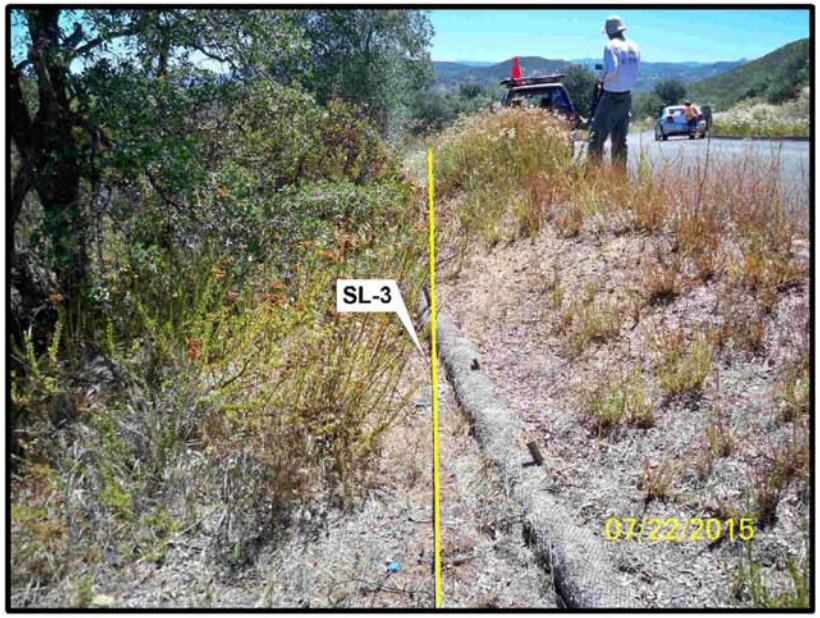
Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 2d

0 200 400

approximate scale in feet



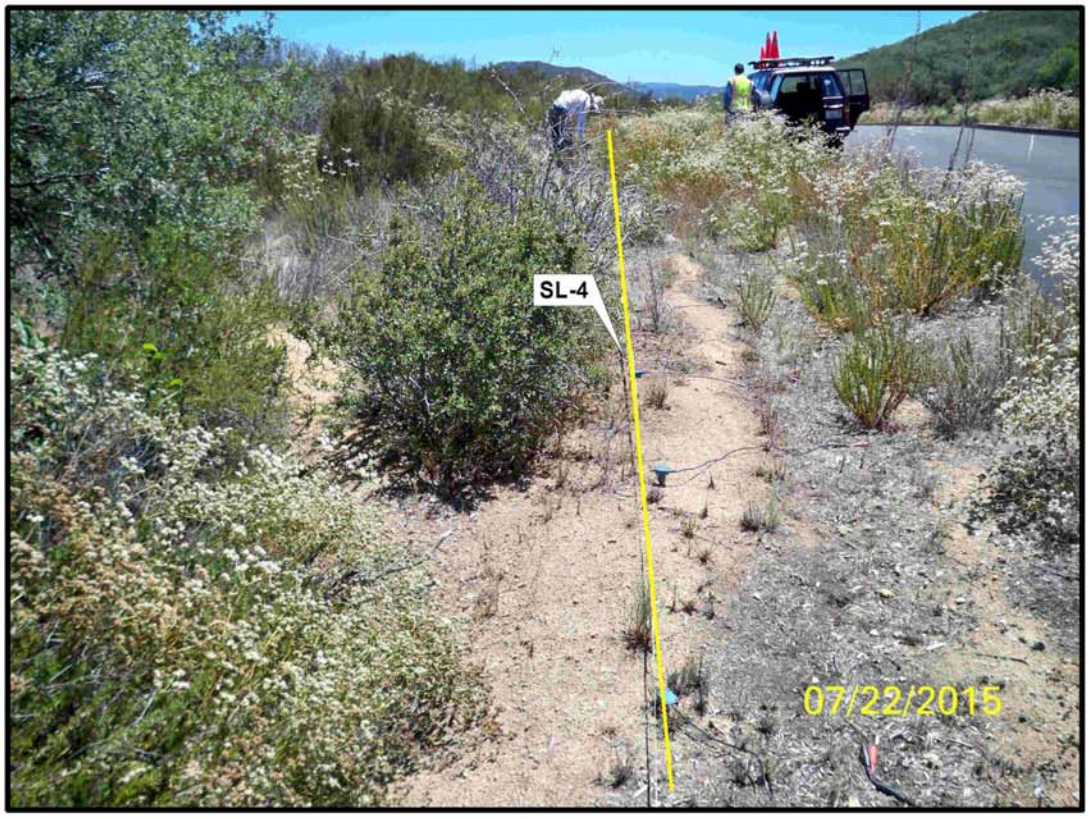
SITE PHOTOGRAPHS

SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 3a



SITE PHOTOGRAPHS

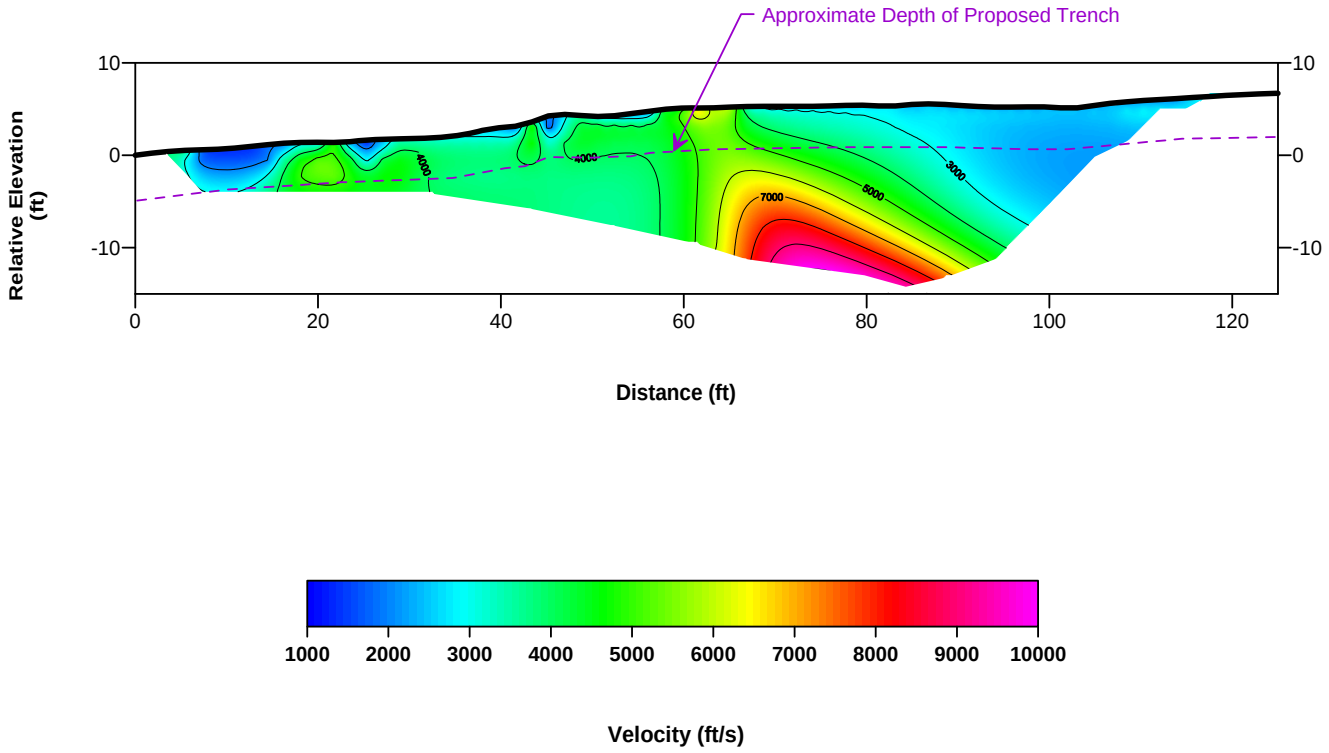
SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

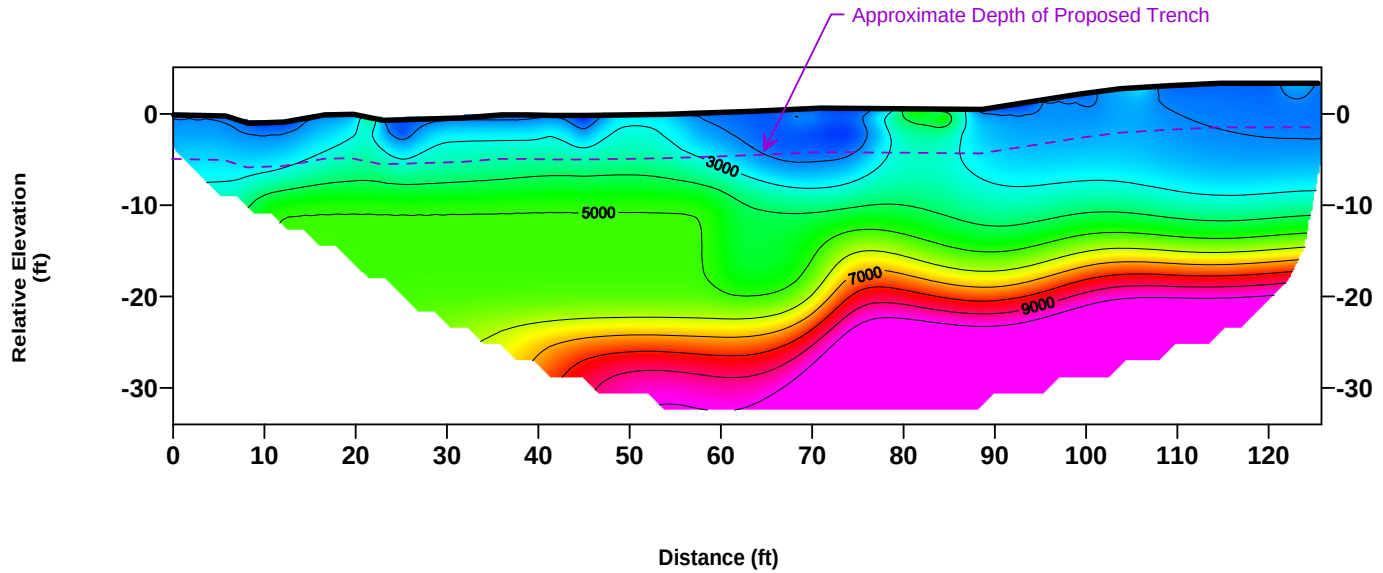
Figure 3b

TOMOGRAPHY MODEL



SEISMIC PROFILE SL-1	SVC Sun Crest Alpine, California	SOUTHWEST GEOPHYSICS INC.	**Note: Contour Interval = 1,000 feet per second**
	Project No.: 115336 / Date: 08/15	Figure 4a	

TOMOGRAPHY MODEL

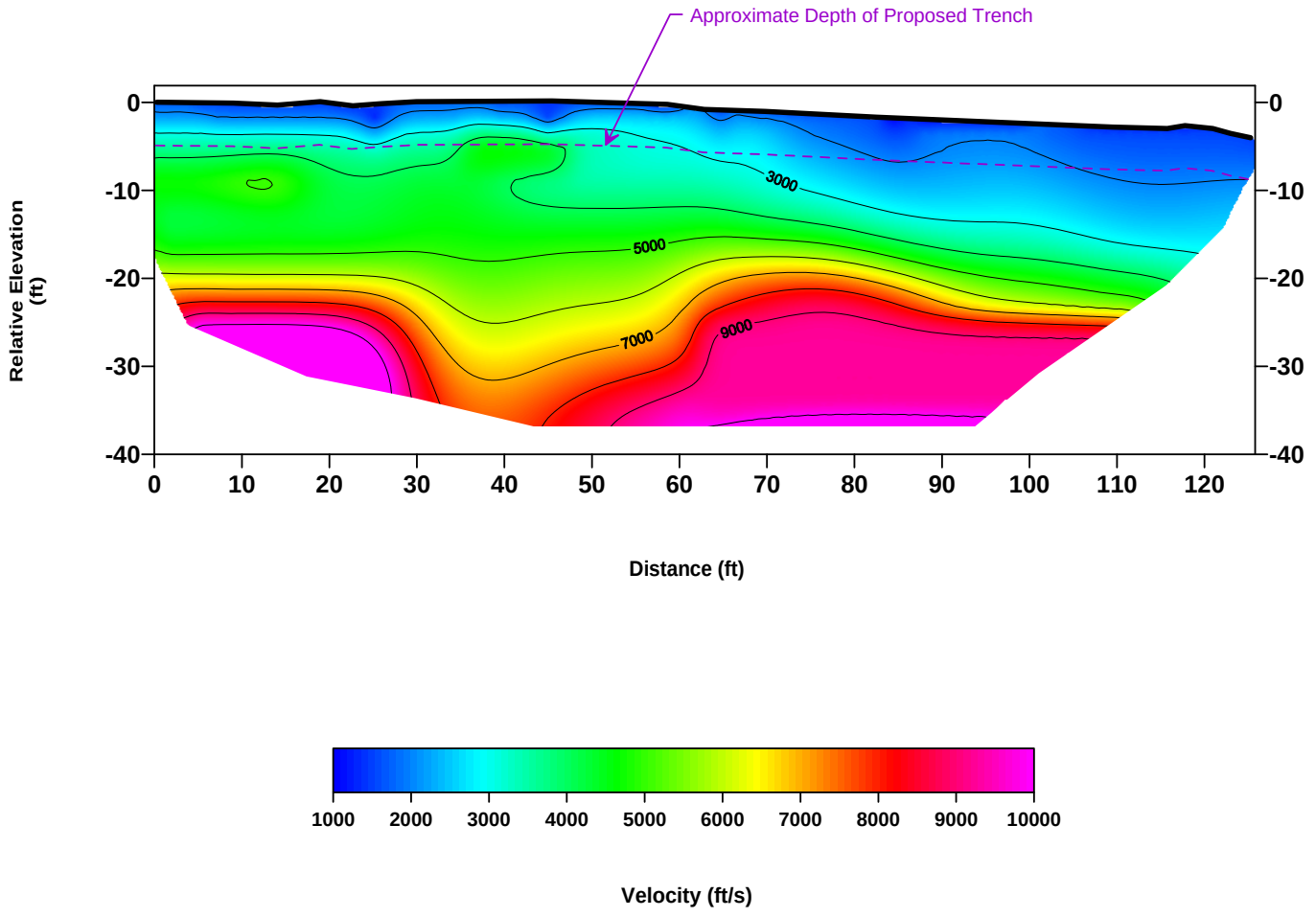


Velocity (ft/s)

SEISMIC PROFILE SL-2	SVC Sun Crest Alpine, California Project No.: 115336 Date: 08/15	SOUTHWEST GEOPHYSICS INC. Figure 4b

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



SEISMIC PROFILE SL-3

SVC Sun Crest
Alpine, California

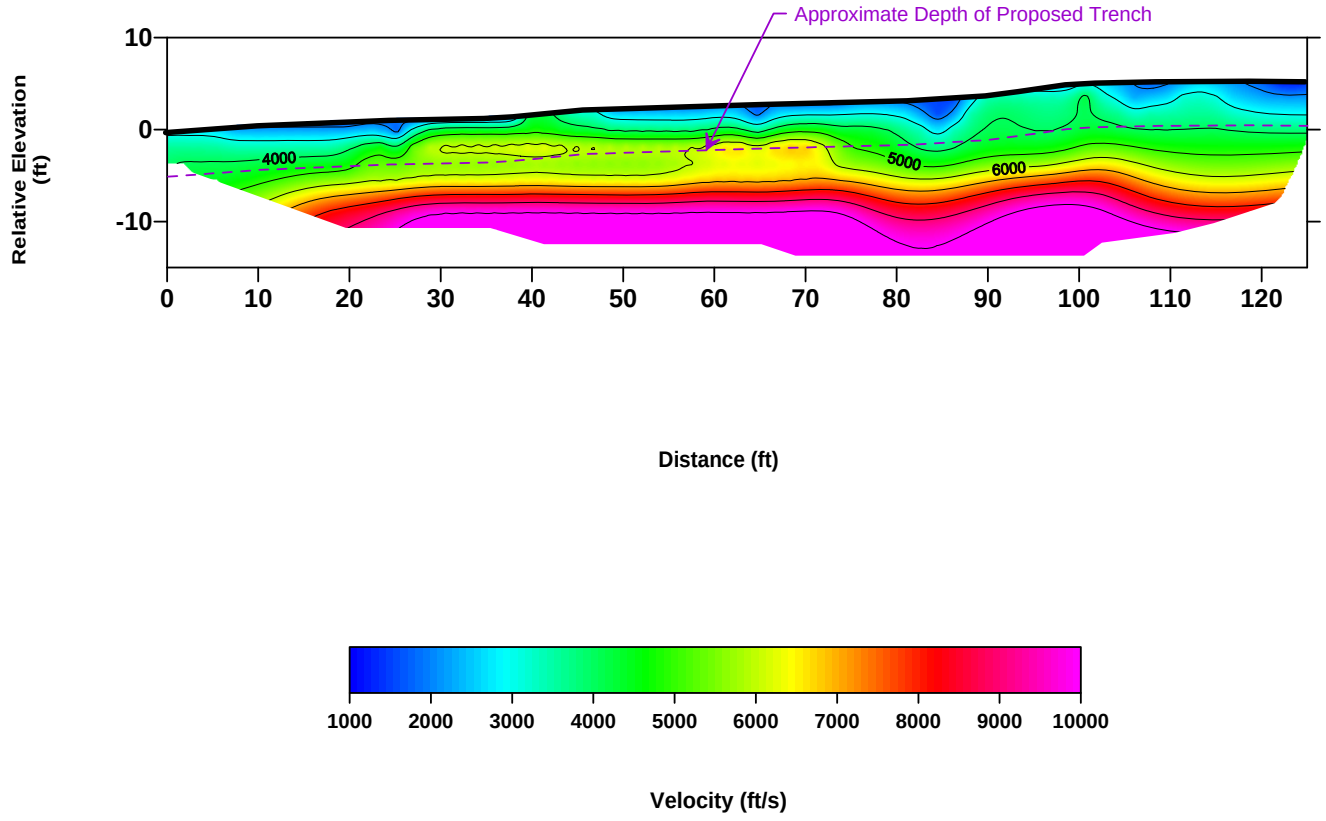
Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 4c

Note: Contour Interval = 1,000 feet per second

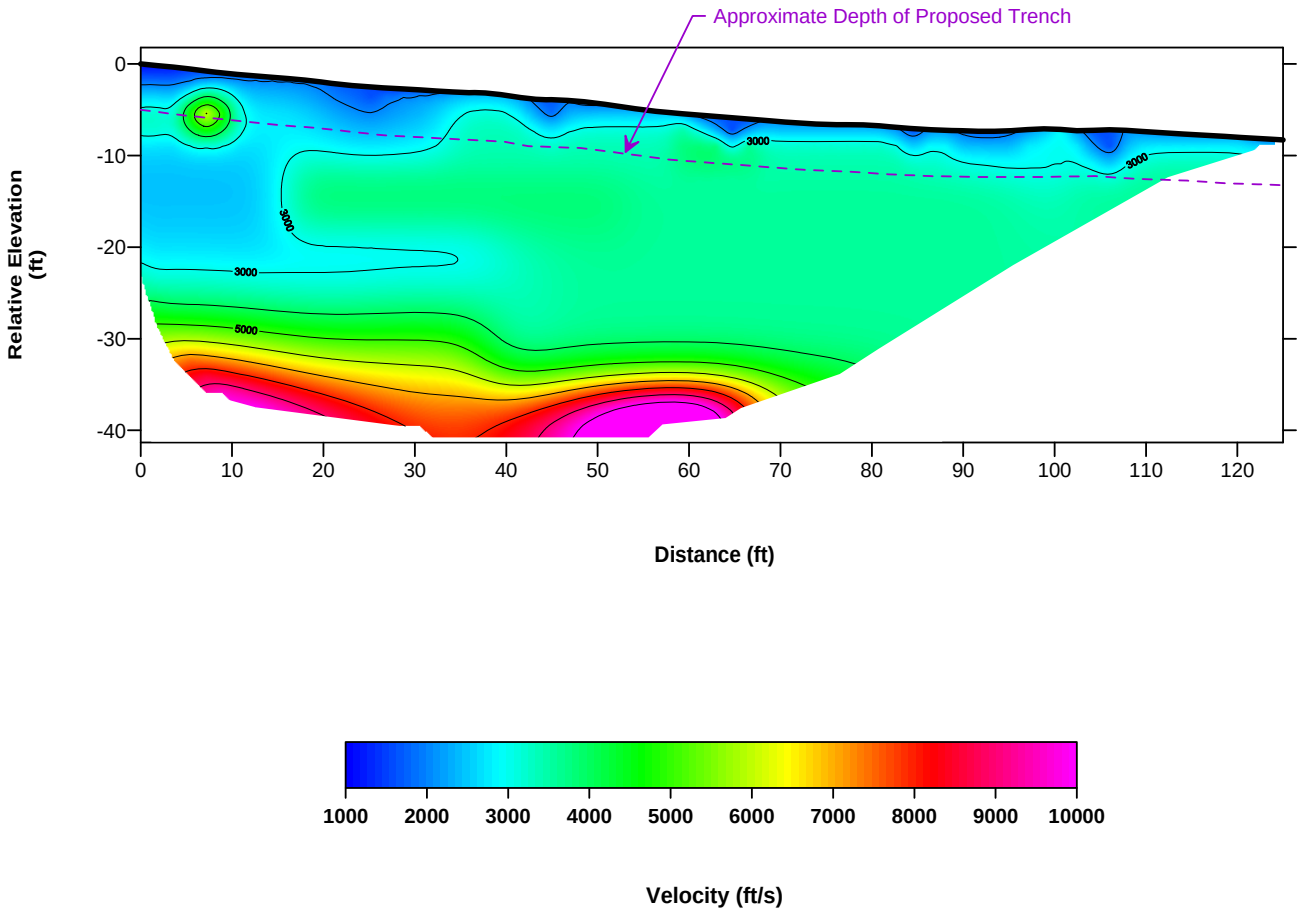
TOMOGRAPHY MODEL



SEISMIC PROFILE SL-4	SVC Sun Crest Alpine, California Project No.: 115336 Date: 08/15	SOUTHWEST GEOPHYSICS INC. Figure 4d

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



SEISMIC PROFILE SL-5

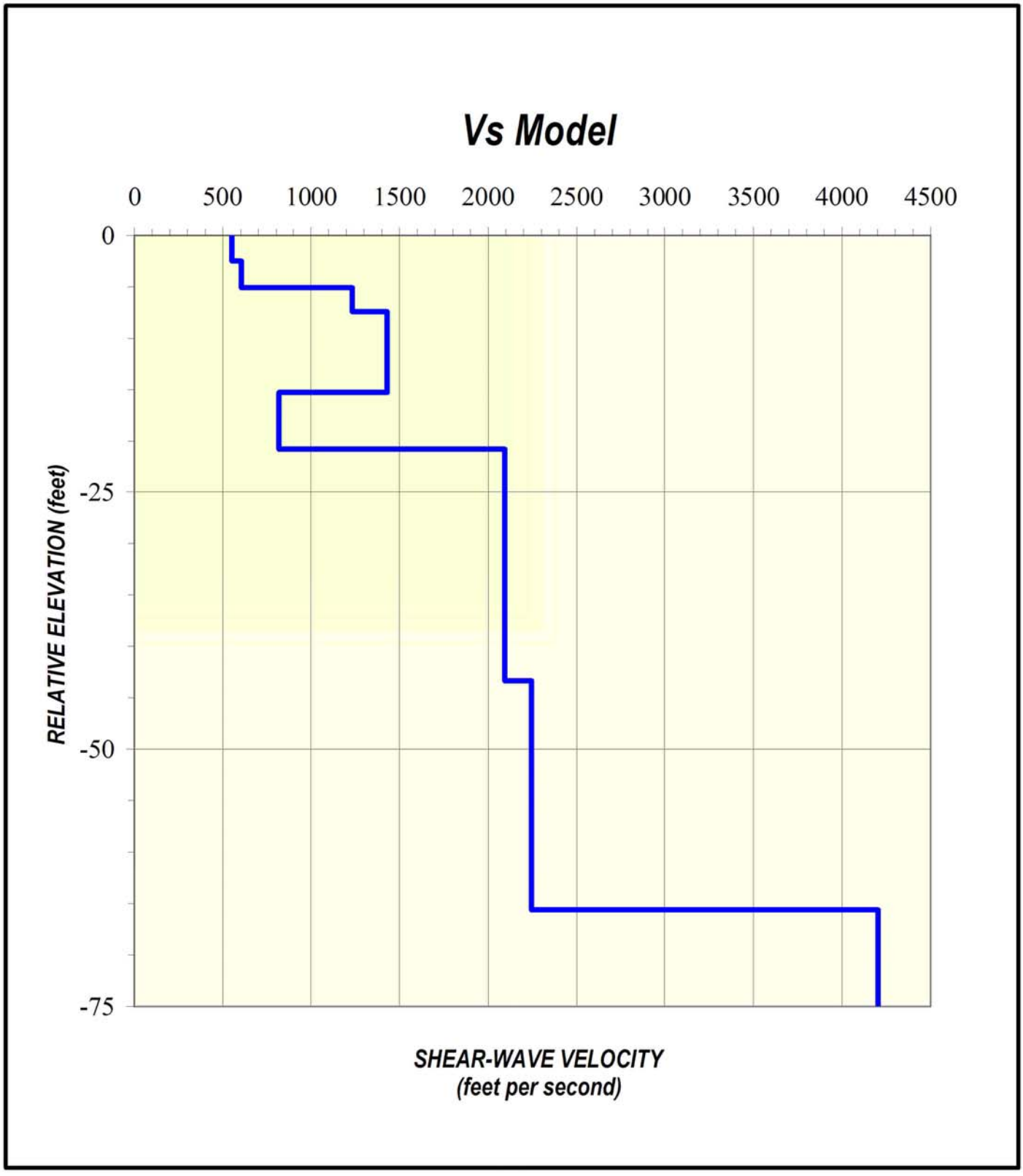
SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 4e

Note: Contour Interval = 1,000 feet per second



ReMi RESULTS RL-1	SVC Sun Crest Alpine, California	
	Project No.: 115336	Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 5

Line No. (Orientation)	Spacing (ft)	Current (mA)	Resistance (Ohms)	Error (%)	Apparent Resistivity	
					(ohm-cm)	(ohm-ft)
RL-1	2	2	54.93	0.1	21039	690
(SW-NE)	3	2	24.42	0.0	14030	460
	5	2	10.25	0.0	9815	322
	7	2	6.03	0.1	8082	265
	10	2	3.74	0.0	7161	235
	20	2	2.01	0.0	7691	252
	30	2	1.81	0.1	10388	341
	50	2	1.74	0.1	16633	546
	70	2	1.82	0.1	24425	801
	100	2	1.88	0.1	36023	1182
	200	2	1.63	0.3	62586	2053
RL-2	2	2	175.80	0.0	67335	2209
(NW-SE)	3	2	108.80	0.0	62509	2051
	5	2	48.33	0.0	46279	1518
	7	2	23.19	0.0	31088	1020
	10	2	11.63	0.0	22273	731
	20	2	5.67	0.0	21714	712
	30	2	4.53	0.0	26021	854
	50	2	3.66	0.0	35008	1149
	70	2	3.17	0.1	42523	1395
	100	2	2.31	0.1	44277	1453
	200	2	1.86	0.0	71395	2342
RL-3	2	2	54.32	0.0	20806	683
(NW-SE)	3	2	38.34	0.0	22028	723
	5	2	16.54	0.0	15838	520
	7	2	11.88	0.0	15926	523
	10	2	6.84	0.1	13105	430
	20	2	3.84	0.1	14689	482
	30	2	3.06	0.0	17558	576
	50	2	2.60	0.2	24868	816
	70	2	2.58	0.1	34600	1135
	100	2	2.52	0.1	48318	1585
	200	2	2.07	0.0	79401	2605
RL-4	2	2	45.37	0.0	17378	570
(NE-SW)	3	2	30.69	0.0	17632	578
	5	2	16.57	0.0	15867	521
	7	2	10.33	0.1	13848	454
	10	2	6.50	0.0	12450	408
	20	2	3.40	0.1	13023	427
	30	2	2.85	0.1	16363	537
	50	2	2.52	0.1	24092	790
	70	2	2.64	0.0	35391	1161
	100	2	2.17	0.0	41635	1366
	200	2	1.45	0.1	55347	1816

ELECTRICAL RESISTIVITY RESULTS

SVC Sun Crest
Alpine, California

Project No.: 115336 | Date: 08/15

SOUTHWEST GEOPHYSICS INC.

Figure 6

Appendix J:

Public Participation and Outreach Effort Materials

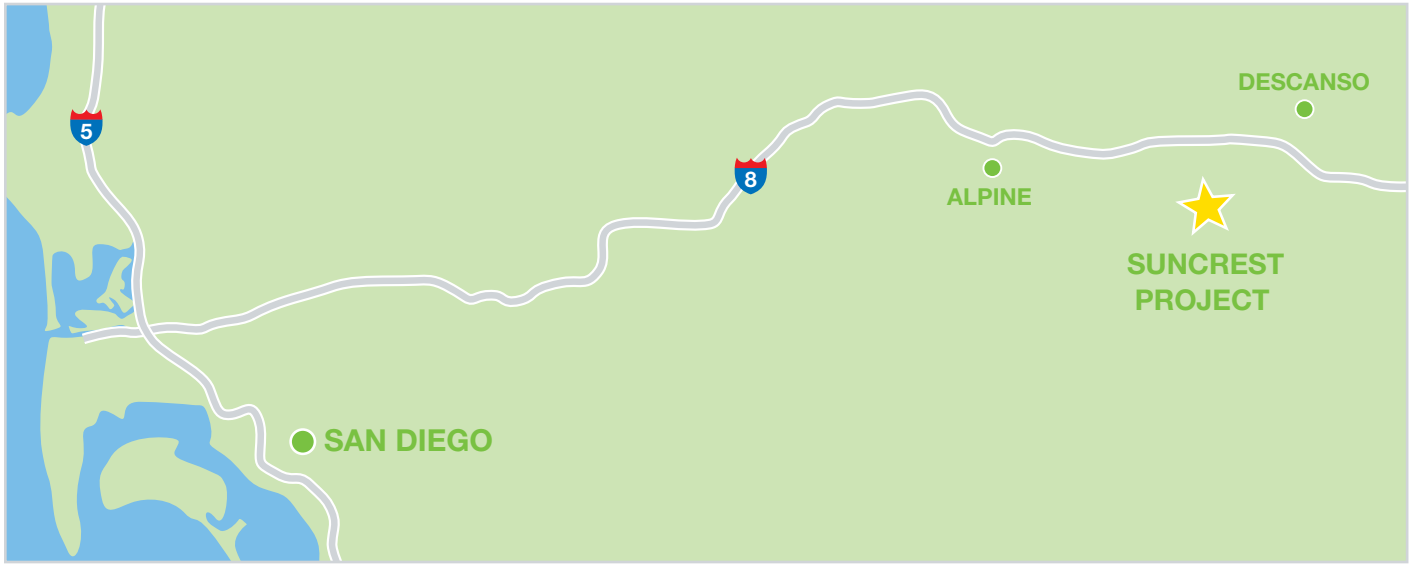
Appendix J-1:

Suncrest Dynamic Reactive Support Project Fact Sheet

NEXTera™ ENERGY TRANSMISSION WEST

Fact Sheet

Suncrest Dynamic Reactive Support Project



The location for the proposed Suncrest Dynamic Reactive Support Project is east of San Diego, California.

Overview

- Located 30 miles east of San Diego, California on a previously disturbed site
- To be built, owned and operated by NextEra Energy Transmission West (NEET West)
- Will include a Static Volt Ampere Reactive Compensator (SVC), a technology that is used throughout the world, including California
- Will include an approximately one mile, 230-kilovolt (kV) transmission line expected to be undergrounded below an existing roadway
- An approximately two-acre footprint for the SVC facility on a six-acre site
- Will interconnect with the existing Suncrest substation owned and operated by San Diego Gas & Electric Company

Benefits

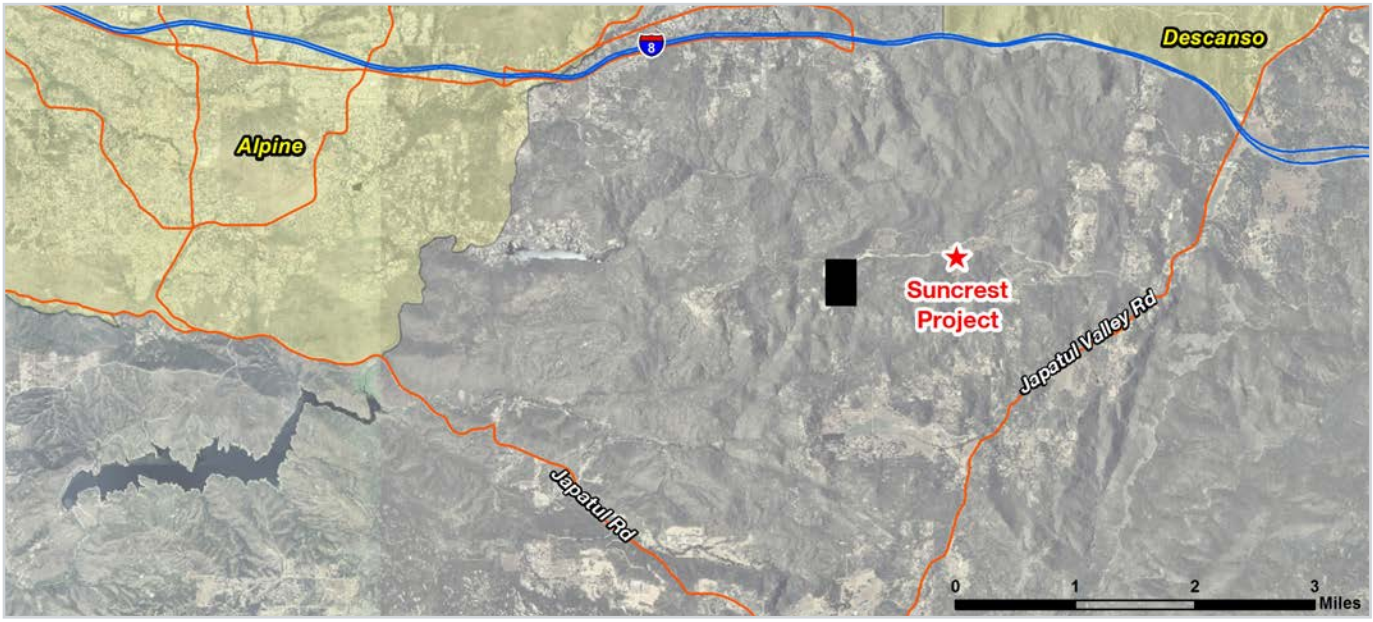
- Will improve the integration of renewables into Southern California
- Will provide greater voltage control and stability
- Will improve and maintain the reliability of the transmission grid by providing dynamic reactive power support
- Will meet the project need in a cost-effective manner

About NextEra Energy

- NextEra Energy, Inc. is a leading clean energy company
- Operates approximately 44,900 megawatts of generating capacity
- Approximately 13,800 employees in 27 states and Canada

NextEra Energy Transmission (NEET) is a wholly-owned subsidiary of NextEra Energy

- World-class transmission construction and operations team
- Recent construction experience, on time and under budget
- Awarded the right to develop, finance, construct, own and operate two substation projects in California through its subsidiary, NEET West



Project Need

- CAISO's 2013-2014 transmission plan identified a policy-driven need for dynamic reactive power support connected to the Suncrest substation 230 kV bus to meet the 33 percent California Renewable Portfolio Standard
- CAISO governing board approved the Suncrest 230 kV 300 MVAr dynamic reactive power support project on March 25, 2014 as part of its approval of the 2013-2014 transmission plan

Selection Process

- The CAISO Tariff specifies that the CAISO's transmission planning process must include a competitive solicitation process for new, stand-alone regional transmission facilities needed for reliability, economic, and/or public policy driven reasons
- CAISO determined that the Suncrest Project was eligible for competitive solicitation
- In January 2015, CAISO selected NEET West as the Approved Project Sponsor to finance, construct, own, operate, and maintain the Suncrest Project
- CAISO selection report can be found at: http://www.caiso.com/Documents/SuncrestProjectSponsorSelectionReport.pdf

Regulatory/Permitting Process

- California Public Utilities Commission (CPUC) has jurisdiction over the Suncrest Project
- Suncrest Project will be evaluated under two separate, but parallel paths per CPUC procedures
  - Certificate of Public Convenience and Necessity (CPCN) for project need and costs
  - California Environmental Quality Act (CEQA) for environmental review

Next Steps

- NEET West expected to file its CPCN application and Proponent's Environmental Assessment (PEA) with the CPUC late this summer
- CPUC will conduct scoping meetings following NEET West's application being deemed complete

Project Schedule

NEET West Suncrest Project	2014	2015	2016	2017
CAISO Solicitation				
Engineering/Permitting				
Construction				

For additional information, please contact us at: **SuncrestProject@NextEraEnergy.com**

Appendix J-2:

Alpine Community Planning Group Meeting Poster

PROPOSED SITE
PREVIOUSLY DISTURBED AREA

Bell Bluff Truck Trail

SUNCREST
SUBSTATION

NEXTera™ ENERGY TRANSMISSION WEST

Suncrest Dynamic Reactive Power Support Project

SCALE
800 400 800 Feet

Appendix J-3:

Informational Open House Mailer

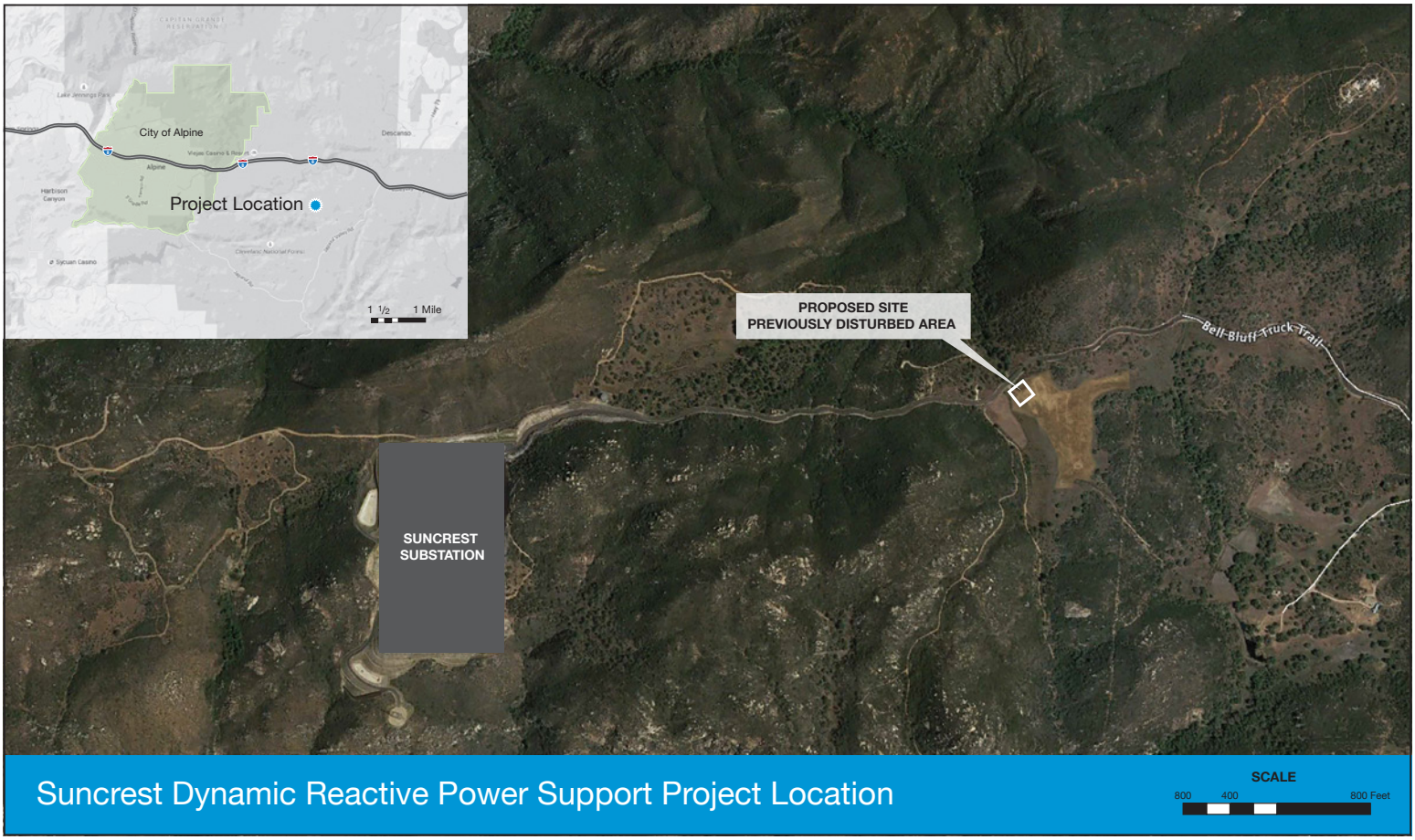
What is the Suncrest Dynamic Reactive Support Project?

The Suncrest Project will provide voltage support for the electric transmission system and enhance the ability to bring more renewable energy into Southern California. The project will be built, owned, and operated by NextEra Energy Transmission West, a leader in developing and operating energy transmission assets. The project consists of a new transmission facility that will interconnect with SDG&E's existing Suncrest substation.

The Suncrest Project includes:

- Static Volt Ampere Reactive Compensator (SVC) to provide greater voltage control and stability (transmission solution that looks like a small substation)
- SVC facility constructed on a previously disturbed six-acre site
- A one-mile 230 kilovolt (kV) transmission line to be constructed underground beneath an existing road
- Construction expected to start in the Fall of 2016 with commercial operation in June 2017

Members of the NextEra Energy project team and consultants will be at the Informational Open House to discuss the project, and will be available to answer your questions. We hope you will set aside this time to join us. Your input during the planning process is important to us.



Suncrest Dynamic Reactive Power Support Project Location

Event Information

Informational Open House
August 4, 2015, 6:00-8:00pm

Alpine Community Center, 1830 Alpine Blvd., Alpine, CA 91901
Light appetizers and refreshments will be served

For more information, please contact us at: SuncrestProject@NextEraEnergy.com

NextEra Energy Transmission
P.O. Box 14000
Juno Beach, FL 33408-0420

Informational Open House

Learn More Inside!

Please Join Us

To Learn About the Suncrest Dynamic Reactive Support Project

NEXTera™ ENERGY TRANSMISSION WEST

August 4, 2015 from 6:00-8:00 pm
Alpine Community Center, 1830 Alpine Boulevard, Alpine CA

Appendix J-4:

Informational Open House Mailing List

Appendix J-4. Informational Open House Mailing List

Owner Names			Owner Address	City/State	Zip Code
VIEJAS BAND OF KUMEYAAY INDIANS ET AL			1 VIEJAS GRADE RD	ALPINE CA	91901
MARY T MAYORS REVOCABLE TRUST 01-25-05			1088 STAGE COACH TRL	JULIAN CA	92036
KATHRYN JUST REVOCABLE TRUST 06-27-01			1163 AVOCADO SUMMIT DR	EL CAJON CA	92019
RICHARD T FASSO TRUST 04-27-09			11734 SHADOW VALLEY RD	EL CAJON CA	92020
ROBERT K HANCOCK 11-05-04			1190 DAWNRIDGE AVE	EL CAJON CA	92021
RICHARD & PATRICIA DEBUSK FAMILY TRUST 05-07-03			1231 BERMUDA LN	EL CAJON CA	92021
FEDERAL NATIONAL MORTGAGE ASSN			135 N LOS ROBLES AVE #300	PASADENA CA	91101
RAYMOND A JR PINHO			137 BRUCE DR	MANAHAWKIN NJ	08050
NELS T CHRISTENSEN REVOCABLE TRUST 02-08-00			1380 EL CAJON BLVD #220	EL CAJON CA	92020
JAMES C & ANITA L PICKENS 2004 TRUST 04-15-04			13883 MARBOK WAY	JAMUL CA	91935
ROBERT S ARCHIBALD			1402 N MAGNOLIA AVE	EL CAJON CA	92020
LANCE P LYONS			14213 HILLSIDE DR	JAMUL CA	91935
HERNANDEZ FAMILY TRUST 05-08-06			14539 RANCHO JAMUL DR	JAMUL CA	91935
DONALD A & CLARICE M NIRSCHL LIVING TRUST 04-14-92			14717 CAMINITO MAR DE PLATA	DEL MAR CA	92014
THOMAS F & DENINE L MORIARTY			1561 CONWAY DR	ESCONDIDO CA	92027
MARK T KOSSYTA &			1623 CUYAMACA AVE	SPRING VALLEY	91977

Owner Names			Owner Address	City/State	Zip Code
KIMBERLEE ADAMS				CA	
CARIN HOWARD	ALFRED D HINKLE JR		1625 FERN ST	SAN DIEGO CA	92102
SCOTT PRILL			1648 FARLIN RD	ALPINE CA	91901
RANDY R & LINDA G TORRES			1681 FARLIN RD	ALPINE CA	91901
WILSON FAMILY TRUST 02-25-00			1683 FARLIN RD	ALPINE CA	91901
MCKEAN NATURAL GAS CO			2026 W CALIFORNIA ST	SAN DIEGO CA	92110
LUMSDEN LIVING TRUST 04-06-10			2059 GARFIELD RD	SAN DIEGO CA	92110
ROBERT B & SHARON L BEALE REVOCABLE 2013 TRUST 07-25-13	ROBERT S BEALE		21912 JAPATUL LN	ALPINE CA	91901
BORCHARD ESTATE TRUST 10-13-95			21916 JAPATUL LN	ALPINE CA	91901
CHARLES BIXBY			22150 JAPATUL LN	ALPINE CA	91901
JAMIE G & LENORE SEPARATE PROPERTY TRUST 08-02-06			22340 JAPATUL VALLEY RD	ALPINE CA	91901
RON & CATHARINA M VANLEEUWEN			22356 JAPATUL LN	ALPINE CA	91901
BROC N & MARISOL R THORN			22362 JAPATUL LN	ALPINE CA	91901
KELLY M & CARRIE L HAWES			22405 JAPATUL LN	ALPINE CA	91901
JOHN WIEDENFELD LIVING TRUST 01-16-08			22501 VISTA ESPERANZA LN	ALPINE CA	91901
ROBERT LEE JONES			22680 JAPATUL LN	ALPINE CA	91901
HALL FAMILY TRUST 11-05-04			22750 ILLAHEE DR	ALPINE CA	91901
RONALD S & ALLISON J ROBINSON			22775 JAPATUL VALLEY RD	ALPINE CA	91901
ESTEBAN A LOPEZ			22779 JAPATUL VALLEY RD	ALPINE CA	91901

Owner Names			Owner Address	City/State	Zip Code
LOIS J THIEL DOUGLAS A THIEL			22920 ILLAHEE DR	ALPINE CA	91901
MICHAEL J ABBOTT			22970 JAPATUL VALLEY RD	ALPINE CA	91901
DAVID V & PATRICIA L NUNES			22975 JAPATUL RD	ALPINE CA	91901
VERNON E & KELLY A MORTENSEN FAMILY 2011 TRUST 08-30-11			23002 JAPATUL VALLEY RD	ALPINE CA	91901
CASTELLAW FAMILY TRUST 06-14-00			23008 OLD RANCH RD	ALPINE CA	91901
SARONA L COLE-OLIVARES			23030 OLD RANCH RD	ALPINE CA	91901
DAVID MELLNER			23085 OLD RANCH RD	ALPINE CA	91901
DENNIS & LENORE DUNSON LIVING TRUST 05-01-06			23146 OLD RANCH RD	ALPINE CA	91901
JOHN & JANET PRUITT			23188 OLD RANCH RD	ALPINE CA	91901
RICHARD SWAN			23227 ILLAHEE DR	ALPINE CA	91901
DOBLADO LIVING TRUST 07-27-09			23250 OLD RANCH RD	ALPINE CA	91901
RONALD KEITH & PATRICIA ANN JOHNSON LIVING TRUST 04-18-96 ET AL			23251 OLD RANCH RD	ALPINE CA	91901
JANIS A REVOCABLE TOBEY TRUST 12-02-98	JANIS A TOBEY TRUST 12-02-98		23251 OLD RANCH RD	ALPINE CA	91901
SAMUEL C & LORI J BLEDSOE			23377 ILLAHEE DR	ALPINE CA	91901
RICHARD P & SHAUNA A STARK			23410 OLD RANCH RD	ALPINE CA	91901
JAMES JENSEN			23425 TRAPPERS HOLLOW RD	ALPINE CA	91901
DARRIN P & JEAN F GOODWIN			23428 JAPATUL VALLEY RD	ALPINE CA	91901
SMITH FAMILY TRUST 02-18-			23441 JAPATUL VALLEY	ALPINE CA	91901

Owner Names			Owner Address	City/State	Zip Code
03			RD		
FINCH TRUST 09-20-07			23444 JAPATUL VALLEY RD	ALPINE CA	91901
LEO J FLYNN JR			23449 TRAPPERS HOLLOW RD	ALPINE CA	91901
EDWARD P SCHLOEDER	CANDICE L NAGEL		23453 JAPATUL VALLEY RD	ALPINE CA	91901
ERIN L FEARS			23465 JAPATUL VALLEY RD	ALPINE CA	91901
MICHAEL A & KARRIE L CHAREST			23469 JAPATUL VALLEY RD	ALPINE CA	91901
JASON W FIELDS			23471 JAPATUL VALLEY RD	ALPINE CA	91901
NICOLE HOULIHAN			23475 JAPATUL VALLEY RD	ALPINE CA	91901
STEVEN W & CRISTEN L CARVER			23475 TRAPPERS HOLLOW RD	ALPINE CA	91901
MATHEW & LAURA C NICOLAYSEN			23479 JAPATUL VALLEY RD	ALPINE CA	91901
BRENDA L FOSTER	POLK TODD A		23480 JAPATUL VALLEY RD	ALPINE CA	91901
AXEL & SASHA NIELSEN			23485 JAPATUL VALLEY RD	ALPINE CA	91901
DAVID M & KATHLEEN A DOWNS			23487 JAPATUL RD	ALPINE CA	91901
LOUIS 2007 TRUST 04-05-07			23489 JAPATUL VALLEY RD	ALPINE CA	91901
BARNEY & PINEDA LUZ BARTELLE			23491 JAPATUL VALLEY RD	ALPINE CA	91901
CHARLES LANCEY			23497 JAPATUL VALLEY RD	ALPINE CA	91901

Owner Names			Owner Address	City/State	Zip Code
JAMES & DEBORAH HAYES			23499 TRAPPERS HOLLOW RD	ALPINE CA	91901
RODNEY & SANDRA L MOMINEE			23505 JAPATUL VALLEY RD	ALPINE CA	91901
SHERRON I MCVAY			23509 BELL BLUFF TRUCK TRL	ALPINE CA	91901
ANG FAMILY SURVIVORS 2002 TRUST			23510 BELL BLUFF TRUCK TRL	ALPINE CA	91901
RUSSELL C HEYL			23512 BELL BLUFF TRUCK TRL	ALPINE CA	91901
ELIZABETH A PARKER			23516 BELL BLUFF TRUCK TRL	ALPINE CA	91901
GORDON P & LORA J MORRIS			23522 BELL BLUFF TRUCK TRL	ALPINE CA	91901
MONICA COLEMAN			23523 OLD RANCH RD	ALPINE CA	91901
JAMES A & LYNN L SMITH			23524 BELL BLUFF TRUCK TRL	ALPINE CA	91901
JOHN E & BELINDA L BENSON TRS			23526 BELL BLUFF TRUCK TRL	ALPINE CA	91901
MICHAEL L & PATRICIA G THORPE TRUST 05-09-03			23531 OLD RANCH RD	ALPINE CA	91901
ANTHONY G & GEORGINA WEGNER			23609 JAPATUL VALLEY RD	ALPINE CA	91901
NICHOLAS G & CHRISTINE M SMITH			23613 JAPATUL VALLEY RD	ALPINE CA	91901
KEVIN & MONICA COLEMAN	KRISTINA COLEMAN		23613 OLD RANCH RD	ALPINE CA	91901
WILLIAM L & JEANNE C PITTMAN			23615 JAPATUL VALLEY RD	ALPINE CA	91901
BROWN FAMILY 2011 TRUST 04-21-11			23617 JAPATUL VALLEY RD	ALPINE CA	91901
STEPHEN C & MARY J TUCKER			23648 OLD RANCH RD	ALPINE CA	91901

Owner Names			Owner Address	City/State	Zip Code
JOHN D & JULIE A WILSON			23658 OLD RANCH RD	ALPINE CA	91901
GERALD R & DOROTHY INGRAM			23705 JAPATUL VALLEY RD	ALPINE CA	91901
HANSEN FAMILY TRUST 03-01-95			23758 JAPATUL VALLEY RD	ALPINE CA	91901
MICHAEL & HOFFA-RYE JENNIFER RYE			23820 JAPATUL VALLEY RD	ALPINE CA	91901
PATRICIA ROCKWOOD			23855 JAPATUL VALLEY RD	ALPINE CA	91901
GAIL A WESTER REVOCABLE TRUST 06-20-11			23861 JAPATUL VALLEY RD	ALPINE CA	91901
JOHN & LUCY OLIVIER			23864 JAPATUL VALLEY RD	ALPINE CA	91901
STEWART FAMILY TRUST 05-27-03			2445 ALPINE BLVD	ALPINE CA	91901
JOHN C & KELLY OMAHEN			2680 ELTINGE DR	ALPINE CA	91901
DAVID D & SONIA O SPAULDING			29474 CLEVELAND FOREST DR	CAMPO CA	91906
GLADYS E WILLIAMSON 2006 TRUST 05-30-06			3155 E VICTORIA DR	ALPINE CA	91901
CARYLYN LANDT TRUST 04-08-98	LANDT FAMILY TRUST 01-25-94 ET AL		3201 HERMAN AVE	SAN DIEGO CA	92104
NAVARRO LIVING TRUST 06-06-07			321 ALPINE TRAIL RD	ALPINE CA	91901
DANIEL P & MARY A CUMMINGS			390 FRONT ST	EL CAJON CA	92020
WADE G VANDUSEN TRUST 04-11-06			3972 ALBATROSS ST #209	SAN DIEGO CA	92103
NIELSEN RANCH TRUST 08-16-93			4186 JACKDAW ST	SAN DIEGO CA	92103
CAROL G CURLEY	MARVIN D TRETKOFF	MARY C LEE TR	4517 MORAGA AVE	SAN DIEGO CA	92117

Owner Names			Owner Address	City/State	Zip Code
PATRICIA ROCKWOOD			483 JAPATUL VALLEY RD	ALPINE CA	91901
ERICKSON FAMILY TRUST 06-04-90			5 FIRST AMERICAN WAY	SANTA ANA CA	92707
DELVIN C & CHARITY HANSON	C/O DEL HANSON		5 PO BOX	ALPINE CA	91901
LINDA C HEYSER	SCOTT B LACOUR	NEDRA LACOUR	5630 WILLOWS RD	ALPINE CA	91901
JAMES E & LYNDALL B GERNER	ROBERT & SIMONE CHAN	STEVEN R & LINDA K SINK ET AL	5706 BALTIMORE DR #373	LA MESA CA	91942
GAIL A WHITE TR	VISTA ESPERANZA RANCHO PARTNERSHIP	C/O WHITE|ROBINSON	591 CAMINO DE LA REINA #616	SAN DIEGO CA	92108
ROOT FAMILY TRUST 08-30-96			6102 JAPATUL VISTA LN	ALPINE CA	91901
FRITZ MARY A 2004 TRUST 03-16-04			6185 ALPINE BLVD	ALPINE CA	91901
ROBERT S & DEVEN WOODDY			6187 ALPINE BLVD	ALPINE CA	91901
LAWRENCE R KEYES			6189 ALPINE BLVD	ALPINE CA	91901
LEONARD M NIELSEN LIVING TRUST 11-08-05			6191 ALPINE BLVD	ALPINE CA	91901
SCOTT M & RENEE L CREED			6195 ALPINE BLVD	ALPINE CA	91901
CANDACE L SCHWARTZ			6206 JAPATUL HIGHLANDS RD	ALPINE CA	91901
CURT COPHER			6212 JAPATUL HIGHLANDS RD	ALPINE CA	91901
ALAN J & CHERYL L HALLMARK			6220 JAPATUL HIGHLANDS RD	ALPINE CA	91901
MARVIN L & CARRIE J CHANDLER			6244 JAPATUL HIGHLANDS RD	ALPINE CA	91901
KRAUSIE FAMILY TRUST 12-04-08			6246 JAPATUL VISTA LN	ALPINE CA	91901
KAREN K KUNTZ LIVING	GARY T HOLMES		6248 CAMINITO LUISITO	SAN DIEGO CA	92111

Owner Names			Owner Address	City/State	Zip Code
TRUST 03-27-02					
FRED L CAMERON LIVING TRUST 08-14-96	MARTHA R MANSER		6250 JAPATUL HIGHLANDS RD	ALPINE CA	91901
DANIEL S TRUMAN			6335 JAPATUL HIGHLANDS RD	ALPINE CA	91901
KNOX FAMILY TRUST 05-26-89			6378 JAPATUL VISTA LN	ALPINE CA	91901
LEYVA FAMILY TRUST 06-28-05			6402 JAPATUL HIGHLANDS RD	ALPINE CA	91901
TROY & SUSAN FRYE			6404 JAPATUL HIGHLANDS RD	ALPINE CA	91901
JUDY A STRAUP	ORVILLE C & DEBRA WESCHE		6473 TESTIGO TRL	ALPINE CA	91901
WILLIAM S & EILEEN W PROCTOR			6476 JAPATUL HIGHLANDS RD	ALPINE CA	91901
MICHAEL & LINDA RAPHAEL			6487 JAPATUL HIGHLANDS RD	ALPINE CA	91901
RICHARD NICHOLS			6520 JAPATUL VISTA LN	ALPINE CA	91901
FRED E JR & DIANE K CASTRO FAMILY TRUST 02-25-05			6523 JAPATUL HIGHLANDS RD	ALPINE CA	91901
JENNIFER FORD LIVING TRUST 02-11-05			6643 JAPATUL VISTA LN	ALPINE CA	91901
DAVID E MOMINEE			6689 JAPATUL VALLEY RD	ALPINE CA	91901
ANDREW D & LISA M HEIN			6705 JAPATUL VISTA LN	ALPINE CA	91901
ROBERT B & SHARON L DENSMORE			6777 JAPATUL VISTA LN	ALPINE CA	91901
KIMBERLY S MENZIES			6789 JAPATUL VISTA LN	ALPINE CA	91901
JOHN M TVERBERG			7050 HORSETHIEF CYN	ALPINE CA	91901
MERRILL C DOYLE			741 BALBOA AVE	SAN DIEGO CA	92118
THOMAS G WADDELL			8382 MORNING MIST CT	SAN DIEGO CA	92119

Owner Names			Owner Address	City/State	Zip Code
G R E R R Y L L C	C/O GREGORY CHARLES PERRYMAN		90 N COAST HIGHWAY 101 #305	ENCINITAS CA	92024
ROBERT A PIERCE TRUST 02-10-09			9335 STEVENS RD	SANTEE CA	92071
ERICKSON PIERCE TRUST 08-02-07			945 DAISY AVE	CARLSBAD CA	92011
LARTIGAU TRUST I 04-07-90			LIEU DIT ST MARTIN	ST PIERRE FRANCE	37590
ARTHUR M & MARY E MAZZOLA TRUST 09-06-90			P O BOX 1	ALPINE CA	91903
JOHN VERTULLO			P O BOX 104	SOLANA BEACH CA	92075
ZACKARY B SUMMERS			P O BOX 1171	ALPINE CA	91903
MARGYE A VETTEL 2003 TRUST 12-29-03			P O BOX 1338	ALPINE CA	91903
MICHAEL CARNES			P O BOX 1521	ALPINE CA	91903
SUMMIT L L C WINDMILL			P O BOX 1587	LAKESIDE CA	92040
ADELA GARCIA REVOCABLE LIVING 1993 TRUST	JOHN GARCIA JR REVOCABLE TRUST 08-03-12		P O BOX 1807	ALPINE CA	91903
DANIEL & ROBIN ERVIN TRUST 09-23-04			P O BOX 1839	JULIAN CA	92036
LOIS E LEFEBVRE EST			P O BOX 1839	JULIAN CA	92036
GARY & ARLENE STOLZ TRUST 01-09-02			P O BOX 1878	ALPINE CA	91903
JOLYNN M JEWETT			P O BOX 1890	ALPINE CA	91903
JOHNSON LIVING TRUST 04-18-96			P O BOX 190	DESCANSO CA	91916
GEORGE H CARRELL LIVING TRUST 08-04-03			P O BOX 191	DESCANSO CA	91916
ERIC A ZITO-SVENSSON & SHARON L A SVENSSON			P O BOX 1910	ALPINE CA	91903

Owner Names			Owner Address	City/State	Zip Code
MURPHY FAMILY TRUST	DENNIS J & NANCY A MURPHY		P O BOX 194	DESCANSO CA	91916
MICHAEL SHAFFER FAMILY TRUST 10-13-04	C/O EUGENE MALLIN		P O BOX 202	CARDIFF CA	92007
POULTER REVOCABLE LIVING TRUST 07-08-96			P O BOX 2101	LA MESA CA	91943
RENEE PROCTOR			P O BOX 2168	ALPINE CA	91903
INGALLS FAMILY TRUST 09-23-02			P O BOX 2188	ALPINE CA	91903
KIMBERLY K SERGENT			P O BOX 2230	ALPINE CA	91903
RICHARD P SCHAAF			P O BOX 2254	ALPINE CA	91903
THOMAS L & PAMELA A LAFF TRUST 11-01-02			P O BOX 2355	ALPINE CA	91903
ROBERT A & CLAUDEA A JONES			P O BOX 248	DESCANSO CA	91916
EILEEN M ERICKSON			P O BOX 2505	ALPINE CA	91903
MARIO J & KATHLEEN A MATRANGA			P O BOX 254	DESCANSO CA	91916
RICHARD & JANETTE SLAUGHTER			P O BOX 2552	ALPINE CA	91903
KINCAID FAMILY 1991 TRUST 03-08-91			P O BOX 2573	ALPINE CA	91903
BILL B BROWN			P O BOX 367	DESCANSO CA	91916
DAVID HOWE			P O BOX 399	DESCANSO CA	91916
LISA OCHOA			P O BOX 433	HALFWAY OR	97834
BOOKOUT FAMILY TRUST 03-23-06			P O BOX 453	DESCANSO CA	91916
WALKER FAMILY 1991 TRUST			P O BOX 476	DESCANSO CA	91916
DUB & JENNIFER RASCO			P O BOX 485	DESCANSO CA	91916
BADDOUR FAMILY	C/O JULIA BADDOUR		P O BOX 503	WATERTOWN	02471

Owner Names			Owner Address	City/State	Zip Code
SURVIVORS 1991 TRUST 07-26-91 ET AL				MA	
DEJANOVICH FAMILY TRUST 09-29-97			P O BOX 506	DESCANSO CA	91916
CYRIL P & AMY J HOULIHAN			P O BOX 520	DESCANSO CA	91916
GOODWIN FAMILY TRUST 11-14-78			P O BOX 575	DESCANSO CA	91916
GWENDOLYN L BOND TRUST 11-08-90			P O BOX 596	ALPINE CA	91903
LAWRENCE A & SANTINA M MATRANGA REVOCABLE TRUST 12-06-91			P O BOX 605	DESCANSO CA	91916
JERROLD L & DEBRA J KLOSKA			P O BOX 661	DESCANSO CA	91916
LE DENNIS FAMILY TRUST 12-06-04			P O BOX 668	ALPINE CA	91903
MICHAEL D & RHONDA M MARTIN			P O BOX 687	DESCANSO CA	91916
JOSEPH R ANDREWS			P O BOX 71	ALPINE CA	91903
ALISA ABERASTURY			P O BOX 7141	SAN DIEGO CA	92167
ANDREAS T & CHERYL L MYERS			P O BOX 723	DESCANSO CA	91916
HOLMES LIVING TRUST 1991 04-02-91			P O BOX 74	MT LAGUNA CA	91948
ROGER A JR & GISELLA STONIER			P O BOX 761	ALPINE CA	91903
DEAN R & DEBORAH S WILSON			P O BOX 81676	SAN DIEGO CA	92138
SCOTT G ZIOBRON TRUST 04-13-05			P O BOX 871	DESCANSO CA	91916
ANDERSON W & DIANNE C WACASER			P O BOX 878	DESCANSO CA	91916
DOROTHY E ROBINSON			P O BOX 911	ALPINE CA	91903

Owner Names			Owner Address	City/State	Zip Code
REVOCABLE TRUST 05-03-06					
GARY L JULEEN	CRAIG A & GUADALUPE G D JULEEN		P O BOX 925	ALPINE CA	91903
ORRIN M & CHARLOTTE R DAVIS			P O BOX 935	ALPINE CA	91903

Appendix J-5:

Informational Open House Advertisement for Newspapers

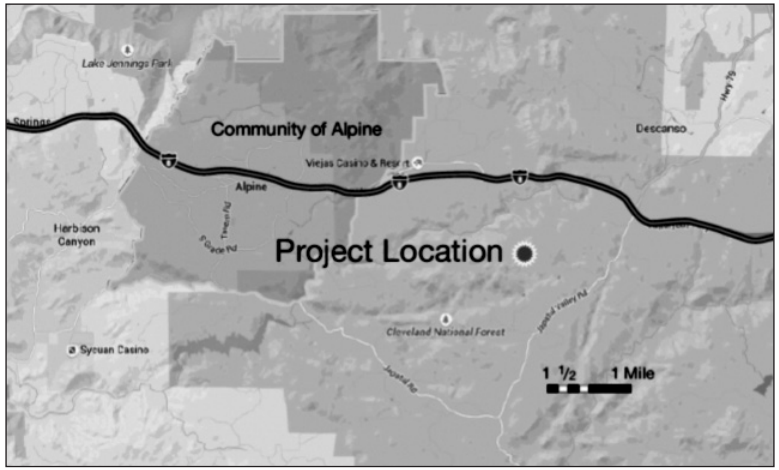
Informational Open House
To Learn About the Suncrest Dynamic Reactive Support Project

What is the Suncrest Dynamic Reactive Support Project?

The Suncrest Project will provide voltage support for the electric transmission system and enhance the ability to bring more renewable energy into Southern California. The project will be built, owned, and operated by NextEra Energy Transmission West, a leader in developing and operating energy transmission assets. The project consists of a new transmission facility that will interconnect with SDG&E's existing Suncrest substation.

Where is the Project Located?

Approximately 6 miles southeast of the community of Alpine, about 2 miles west of Japutul Valley Road and approximately 2 miles south of Interstate 8.



What is an Informational Open House?

Members of the NextEra Energy project team will be present to discuss the project, and will be available to answer your questions.

August 4, 2015
6:00-8:00 pm

Alpine Community Center, 1830 Alpine Boulevard, Alpine CA

Appendix J-6:

Informational Open House Posters

SUNCREST DYNAMIC REACTIVE SUPPORT
PROJECT OVERVIEW

NEXTera ENERGY TRANSMISSION WEST

PROJECT LOCATION OVERVIEW

ANTICIPATED PROJECT SCHEDULE	2014	2015	2016	2017
CAISO SOLICITATION	••••••••••••••••••	••••		
ENGINEERING/PERMITTING		••••••••••••••••••••••••	••••••••••••••••••••••	
CONSTRUCTION			•••••••	•••••••••••

LOCATION / SITE CHARACTERISTICS

— Located west of Japatul Valley Road on Bell Bluff Truck Trail

— Facility is expected to be an approximately two-acre fenced area

— Total project to be located on a six-acre site previously disturbed as part of the Sunrise Powerlink construction

PROJECT APPLICANT

— NextEra Energy Transmission West (NEET West)

— No affiliation with SDG&E

PROJECT COMPONENTS

— Static Volt Ampere Reactive Compensator (SVC), a technology that is used throughout the world, including California, to help stabilize the electrical grid and integrate renewable resources

— One mile, 230-kilovolt (kV) transmission line to be undergrounded beneath existing Bell Bluff Truck Trail

— Will interconnect with existing Suncrest substation owned and operated by SDG&E

BENEFITS

— Will improve integration of renewables into Southern California

— Will provide greater voltage control and stability

— Will improve the reliability of the transmission grid by providing dynamic reactive support

— Will meet the project need in a cost-effective manner

PROJECT APPEARANCE SIMILAR TO A SMALL SUBSTATION

PROJECT SITE OVERVIEW: PREVIOUSLY DISTURBED SITE USED FOR SUNRISE POWERLINK STAGING AREA

WHY THE SUNCREST PROJECT IS NEEDED

NEXTera™ ENERGY TRANSMISSION WEST

CAISO SELECTION PROCESS

— The CAISO Tariff specifies that CAISO's transmission planning process must include a competitive solicitation process for new, stand-alone regional transmission facilities needed for reliability, economic, and/or public policy driven reasons

— CAISO determined that the Suncrest Project was eligible for competitive solicitation

— In January 2015, CAISO selected NextEra Energy Transmission West (NEET West) as the Approved Project Sponsor to finance, construct, own, operate, and maintain the Suncrest Project

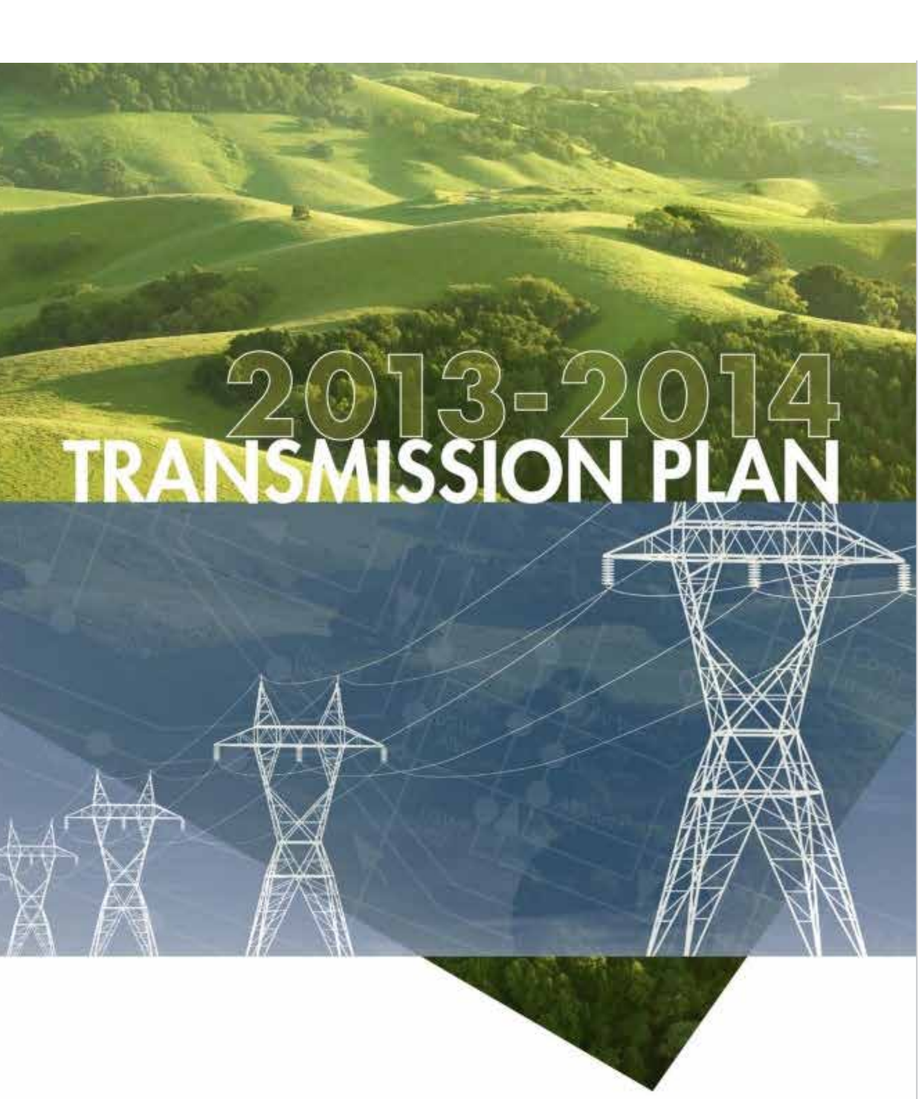
— CAISO selection report can be found at: http://www.caiso.com/Documents/SuncrestProjectSponsorSelectionReport.pdf

PROJECT PURPOSE

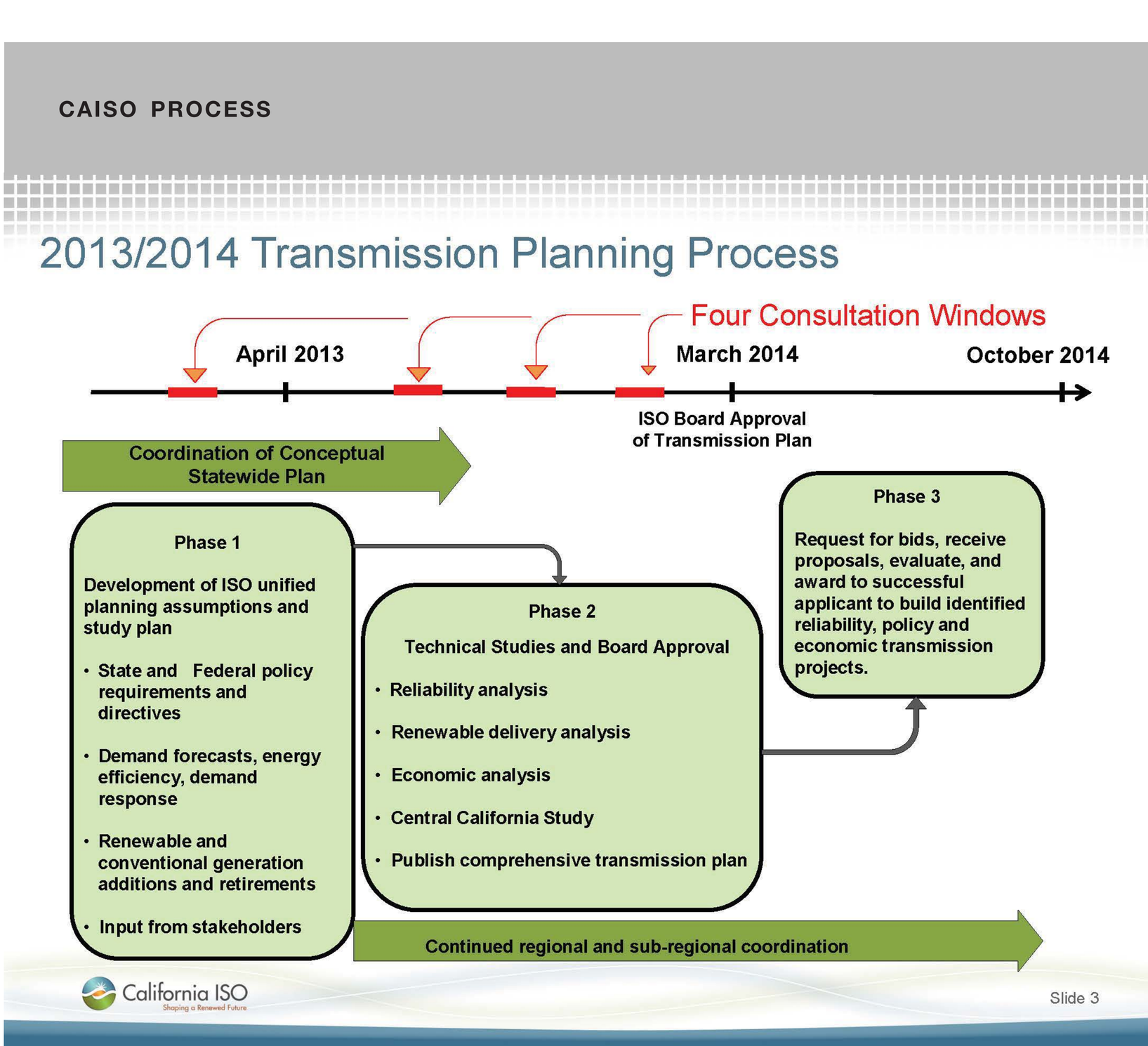
— CAISO's 2013—2014 transmission plan identified a policy-driven need for dynamic reactive power support connected to the Suncrest substation 230 kV bus to meet the 33 percent California Renewable Portfolio Standard

— CAISO governing board approved the Suncrest 230 kV 300 MVAr dynamic reactive power support project on March 25, 2014 as part of its approval of the 2013—2014 transmission plan

— CAISO Planning Process can be viewed at: http://www.caiso.com/planning/Pages/TransmissionPlanning/2013-2014TransmissionPlanningProcess.aspx



CAISO PROCESS



ENVIRONMENTAL SITING AND PROJECT DESIGN

ENVIRONMENTAL PROJECT DESIGN AND SITING CONSIDERATIONS

— Located on a previously disturbed site to minimize environmental impacts

— Designed to minimize ground disturbance

— Underground transmission line to tie SVC to Suncrest substation

— Resource specialists retained from SWCA Environmental Consultants to evaluate potential environmental impacts

— Environmental resources addressed in Proponent's Environmental Assessment (PEA) prepared by NextEra Energy Transmission West (NEET West)

ENVIRONMENTAL REVIEW PROCESS

— California Public Utilities Commission (CPUC), as lead agency under California Environmental Quality Act (CEQA), completes environmental review of PEA filing and Tribal Consultation

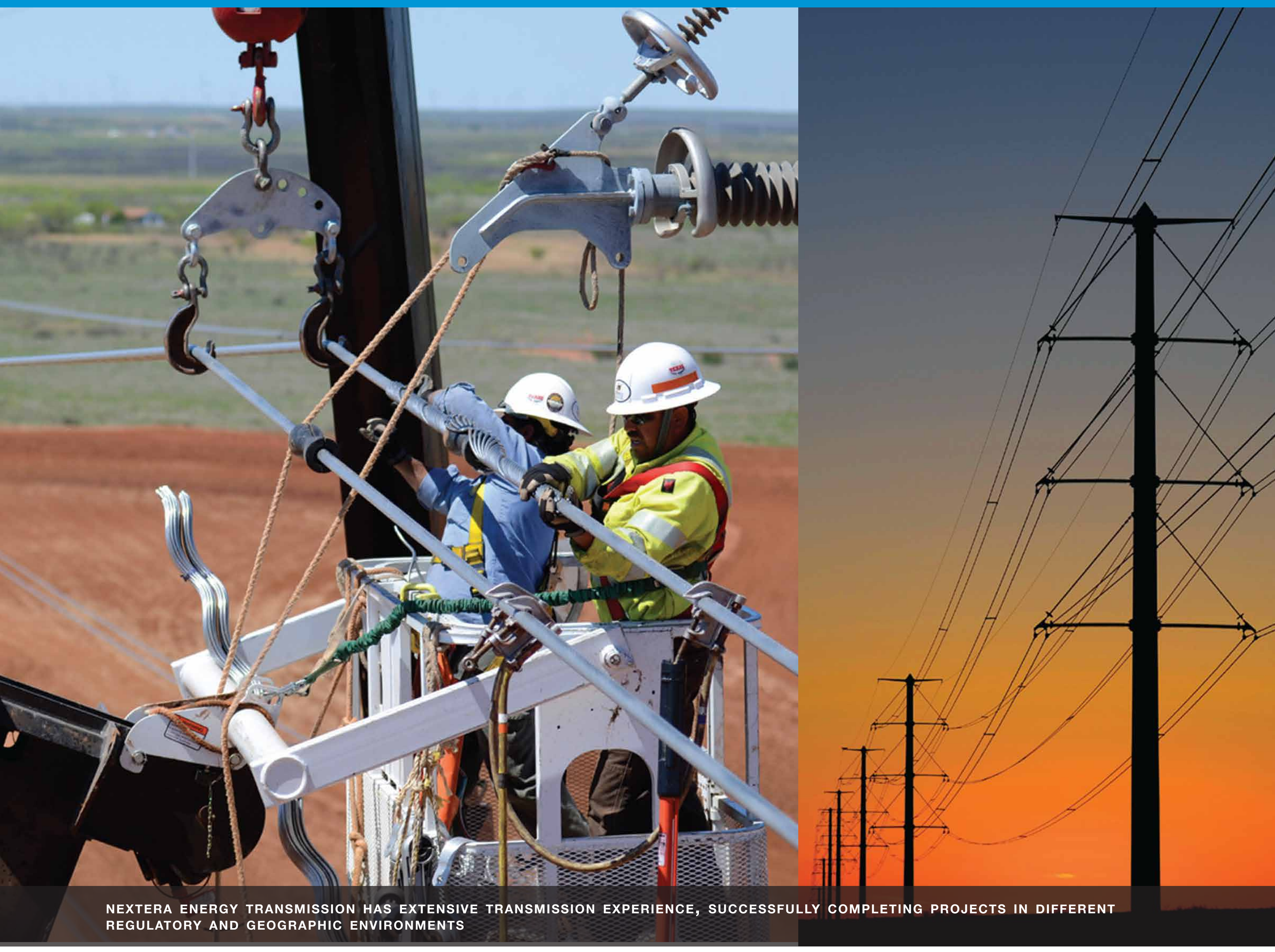
CPUC PROJECT PROCESSING STEPS

NEET West Files PEA	CPUC Reviews PEA	PEA Deemed Complete	Environmental Review Begins by CPUC	CPUC Completes CEQA Initial Study	CPUC Prepares CEQA Document	Public Comments on CEQA Document	Administrative Law Judge Proposes Decision for Comission	Interveners Comment on Proposed Decision	Commission Votes

NEXTERA ENERGY TRANSMISSION

BUILDING TOMORROW'S ENERGY INFRASTRUCTURE

NEXTera ENERGY TRANSMISSION WEST



NEXTERA ENERGY TRANSMISSION HAS EXTENSIVE TRANSMISSION EXPERIENCE, SUCCESSFULLY COMPLETING PROJECTS IN DIFFERENT REGULATORY AND GEOGRAPHIC ENVIRONMENTS

ABOUT NEXTERA ENERGY TRANSMISSON

— World-class transmission construction and operations team

— Recent construction experience on time and under budget

— Awarded the right to develop, finance, construct, own and operate two substation projects in California through its subsidiary, NextEra Energy Transmission West (NEET West)

ABOUT NEXTERA ENERGY

— NextEra Energy, Inc. is a leading clean energy company

— Operates approximately 44,900 megawatts of generating capacity

— Approximately 13,800 employees in 27 states and Canada

For more information, email: Ask-NEET@NextEraEnergy.com or call 888.512.2446

You can also visit www.NextEraEnergy.com and www.lonestar-transmission.com

GETTING INVOLVED AND NEXT STEPS

HOW TO STAY INFORMED

— SuncrestProject@NextEraEnergy.com

NEXT STEPS

— California Public Utilities Commission (CPUC) has jurisdiction over the Suncrest Project

— Suncrest Project will be evaluated under two separate, but parallel paths per CPUC procedures

  » Certificate of Public Convenience and Necessity (CPCN) for project need and costs

  » California Environmental Quality Act (CEQA) for environmental review

— Application and Proponent's Environmental Assessment submittal to CPUC in August 2015

— Look for updates here: *http://www.cpuc.ca.gov/PUC/energy/Environment/Current+Projects/index.htm*

— CPUC will conduct scoping meetings following NextEra Energy Transmission West's (NEET West) application being deemed complete

ANTICIPATED PROJECT SCHEDULE	2014	2015	2016	2017
CAISO SOLICITATION	● ● ● ● ● ● ● ● ● ●			
ENGINEERING/ PERMITTING		● ●		
CONSTRUCTION			● ● ● ● ● ● ● ● ● ●	

Appendix K:

List of Preparers

LIST OF PREPARERS

Team Member	Sections Prepared/Project Role
Next Era Energy Transmission West LLC	
Matt Valle	Vice President, Development
Michael Sheehan	Executive Director, Development
Kenneth Stein	Project Sponsor's Environmental Manager
Andy Flajole	Project Sponsor's Environmental Project Manager
Daniel Mayers	Director, Engineering & Construction
John Bulich	Manager, Engineering & Construction
Aziz Brott	Manager, Engineering & Construction
James Alligan	Project Director, Operations
Tracy Davis, Esq.	Counsel for NEET West
Amie Jamieson, Esq.	Counsel for NEET West
Scott Castro, Esq.	Counsel for NEET West
Seth Sheitelman, Esq.	Counsel for NEET West
Lisa A. Cottle, Esq., Winston & Strawn LLP	Counsel for NEET West
Chris A. Kolostov, Esq., Winston & Strawn LLP	Counsel for NEET West
Sargent and Lundy	
Darsey Moore	Engineering Project Manager
Andrew Steffen, Senior Engineer	Project Engineer
Jason Jocham, Senior Engineer	Project Engineer
SWCA Environmental Consultants	
Project Manager	
Megan Peterson, Permitting and Compliance Program Manager, Half Moon Bay Office Director, and Project Manager for PEA	Overall supervision of environmental analysis team, including resources studies, site selection, and PEA 1.0 PEA Summary 3.0 Project Description
Quality Assurance/Quality Control	
Steve Stielstra, Principal	High-level review of PEA
William Dietrich, Senior Environmental Planner	High-level review of resources studies and PEA
Amanda Tyrrell, Senior Environmental Project Manager	High-level review of PEA
Technical Specialists	
Jenny Addy, Environmental Specialist	4.1. Aesthetics
Lincoln Allen, Senior Biologist	4.9. Land Use and Planning

Team Member	Sections Prepared/Project Role
Alyssa Bell, Ph.D., Principal Investigator	Appendix F. Paleontological Resources Technical Report
Seth Dallmann, Biologist	4.13. Recreation
John Dietler, Ph.D., Cultural Resources Program Director	Appendix E. Cultural Resources Technical Report
William Dietrich, Senior Environmental Planner	Transmission planning aspects 2.0 Project Purpose and Need and Objectives 4.11. Population and Housing 4.15. Utilities 4.16. Cumulative Analysis 5.0 Detailed Discussion of Significant Impacts / Alternatives
Joanna Guest, Air Quality Specialist	4.3. Air Quality and Greenhouse Gas Emissions
Lee Hall, Paleontologist	4.5. Cultural Resources (See 4.6 Geology and Soils) Appendix F. Paleontological Resources Technical Report
Laura Hoffman, Cultural Resources Specialist	4.5. Cultural Resources Appendix E. Cultural Resources Technical Report
Juliana Lehnen, Project Planner/GIS Specialist	4.6. Geology and Soils 4.7. Hazards and Hazardous Materials 4.8. Hydrology and Water Quality 4.16. Cumulative Analysis Appendix L. FAA Notice Criteria Tool Results GIS and Document Graphics
Richard Montijo, Natural Resources Program Director	4.4. Biological Resources
Chelsea Murphy, Biologist	4.4. Biological Resources Appendix D. Biological Resources Technical Report
Steve O'Brien, Environmental Specialist	Appendix G. Phase I Environmental Site Assessment
Kimberly Oldehoeft, Wildlife Biologist	4.4. Biological Resources Appendix D. Biological Resources Technical Report
Brian Parkey, Senior Air Quality Specialist	4.3. Air Quality and Greenhouse Gas Emissions Appendix C. Air Quality Calculations
Ryan Rausch, Environmental Planner	4.1. Aesthetics Appendix B. Photographs of Key Observation Points
DeAnne Reitz, Environmental Specialist	Appendix G. Phase I Environmental Site Assessment
Pauline Roberts, Senior Biologist	4.4. Biological Resources Appendix D. Biological Resources Technical Report
Brad Sohm, Senior Air Quality Specialist/Environmental Planner	4.3. Air Quality and Greenhouse Gas Emissions Appendix C. Air Quality Calculations
Michael Sonenberg, Air Quality and Noise Specialist	4.10. Noise Appendix H. Noise Model and Baseline Survey
Allen Stutz, GIS Specialist	4.1. Aesthetics (simulations)
Ian Todd, Project Planner	4.2. Agriculture and Forest Resources 4.12. Public Services 4.13. Recreation 4.14. Transportation and Traffic 4.16. Cumulative Analysis 6.0 Other Process-Related Data Needs
Jason Wiener, Biologist/GIS Specialist	4.6. Geology and Soils 4.7. Hazards and Hazardous Materials 4.8. Hydrology and Water Quality GIS and Document Graphics
Technical Editing	
Jaimie Jones, Technical Editor	Technical Editing Document Compilation
Kari Chalker, Managing Editor	Technical Editing

Appendix L:

FAA Notice Criteria Tool Results

Federal Aviation Administration

The system will be going offline from 7 pm to 10 pm US/Eastern on Thursday July 30, 2015 for upgrades. We apologize for any inconvenience.

« OE/AAA

Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2014.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	32	Deg	48	M	41.19	S	N ▼
Longitude:	116	Deg	40	M	57.26	S	W ▼
Horizontal Datum:	NAD83 ▼						
Site Elevation (SE):	3551	(nearest foot)					
Structure Height (AGL):	95	(nearest foot)					
Traverseway:	No Traverseway ▼						
	(Additional height is added to certain structures under 77.9(c))						
Is structure on airport:	◉ No						
	○ Yes						

Results

You do not exceed Notice Criteria.