Lead Agency:

California Public Utilities Commission

DRAFT
Mitigated Negative Declaration and Supporting Initial Study Checklist

for

San Diego Gas & Electric's

Vine 69/12-kV Substation Project

(A.14-05-021)

With Technical Support From

Aspen Environmental Group

September 2015

Draft Mitigated Negative Declaration and Supporting Initial Study Checklist

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505 Van Ness Avenue
San Francisco, California 94102

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5020 Chesebro Road, Suite 200
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September 2015

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Appendices

Acronyms List

AAQS	Ambient air quality standards
AB	Assembly Bill
ACSR	Aluminum-clad steel reinforced
ADT	Average daily traffic
AIA	Airport Influence Area
ALUCP	Airport Land Use Compatibility Plan
APLIC	Avian Power Line Interaction Committee
APM	Applicant-Proposed Measure
ARB	Air Resources Board
BACT	Best available control technology
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe
CAA	Clean Air Act
Cal/EPA	The California Environmental Protection Agency
Cal/OSHA	The California Occupational Safety and Health Administration
CalARP	California Accidental Release Prevention Program
CARB	California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CCAA	Clean Air Act
CCCC	California Climate Change Center
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	California Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CGS	California Geological Survey
CI	Coccidioides immitis
CMLUCA	California Military Land Use Compatibility Analysis
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
CY	Cubic yards
DEH	Department of Environmental Health
DPM	Diesel particulate matter

DPR	Department of Pesticide Regulation
DTSC	Department of Toxic Substances Control
EMF	Electromagnetic Fields
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management
FESA	Federal Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
GHG	Greenhouse gas
GO	General Order
GWP	Global Warming Potential
HAs	Hydrologic Areas
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMD	Hazardous Materials Division
HR	Hydrologic Region
HSAs	Hydrologic Subareas
HSWA	Hazardous and Solid Waste Act
HUs	Hydrologic Units
HWCL	Hazardous Waste Control Law
IBC	International Building Code
ICC	International Code Council
IEEE	Institute of Electrical and Electronics Engineers
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
LOS	Level of Service
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MHPA	Multi-Habitat Planning Area
MMRP	Mitigation, Monitoring, and Reporting Program
MND	Mitigated Negative Declaration
MRZs	Mineral Resource Zones
MSCP	Multiple Species Conservation Program
MTS	Metropolitan Transit System
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NCP	National Contingency Plan
NCTD	North County Transit District
NFHL	National Flood Hazard Layer
NOAA	National Oceanic & Atmospheric Administration
NOI	Notice of Intent
NO_x/NO_2	Nitrogen Oxides/Nitrogen Dioxide
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NPPA	Native Plant Protection Act

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSH	National Seismic Hazard
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PEA	Proponent’s Environmental Assessment
PERP	Portable Equipment Registration Program
PFCs	Perfluorocarbons
PGA	Peak ground acceleration
PI	Principal Investigator
PM	Particulate Matter
PM10	Respirable particulate matter
PM2.5	Fine particulate matter
PPV	Peak particle velocity
PRC	Public Resources Code
PRMP	Paleontological Resource Mitigation Plan
RCFZ	Rose Canyon Fault Zone
RCRA	Resource Conservation Recovery Act
RMS	Root mean square
ROWs	Rights-of-way
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCIC	South Coastal Information Center
SDAPCD	San Diego Air Pollution Control District
SDFD	San Diego Fire-Rescue Department
SDNHM	San Diego Natural History Museum
SDRWQCB	San Diego Regional Water Quality Control Board
SEAP	Safety and Environmental Awareness Program
SLF	Sacred Lands File
SO_x/SO_2	Sulfur Oxides/Sulfur Dioxide
SPCC	Spill Prevention, Control, and Countermeasure Plan
SUSMP	Standard Urban Stormwater Mitigation Plan
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TL	Tie-line
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
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DRAFT
Mitigated Negative Declaration

San Diego Gas and Electric's Vine 69/12-kV Substation Project Application No. A.14-05-021

A.1 Introduction

Pursuant to California Public Utilities Commission's (CPUC) General Order 131-D, San Diego Gas & Electric Company (SDG&E) has filed an application (A.14-05-021) with the CPUC for a Permit to Construct a new 69/12 kV substation: Vine Substation Project ("Proposed Project"). The application was filed on May 27, 2014 and includes the Proponent's Environmental Assessment (PEA), prepared by SDG&E pursuant to the CPUC's Rules of Practice and Procedure Rule 2.4 (California Environmental Quality Act (CEQA) Compliance). The Proposed Project includes construction of a new 69/12-kV substation, relocation of nine existing 12-kV distribution circuits, the looping in of an existing 69-kV power line to the Vine Substation, and the extension of an existing telecommunication system.

The new Vine Substation is planned to occupy an area approximately 1.3 acres (approximately 305 feet by 180 feet) within a 1.5-acre parcel, which would be enclosed by an approximately 10-foot-tall concrete masonry wall around the perimeter of the substation. The electrical facilities to be installed include 69/12-kV air-insulated electrical buses, steel support structures, transformers, capacitors, reactors, circuit breakers, disconnect switches, communication equipment, control equipment, and protective relays.

The Proposed Project has been stated by SDG&E to be necessary to maintain existing substation and distribution system reliability standards; provide substation and circuit tie capacity that will provide additional reliability for existing and future system needs; and meet the area's long-term electric distribution capacity needs by constructing a substation near planned load growth.

SDG&E anticipates that Proposed Project construction would take approximately 19 months. Construction would commence following CPUC approval, final engineering, and procurement activities. In order to meet the July 2017 operating date, construction is anticipated to start in January 2016 and would last through July 2017, including testing, commissioning, and energization. In accordance with the CPUC's General Order 131-D, approval of this project must comply with CEQA.

Pursuant to CEQA, the CPUC must prepare an Initial Study for the Proposed Project to determine if any significant adverse effects on the environment would result from project implementation. The IS utilizes the significance criteria outlined in Appendix G of the State CEQA Guidelines. If the Initial Study for the project indicates that a significant adverse impact could occur, the CPUC would be required to prepare an Environmental Impact Report.

According to Article 6 (Negative Declaration Process) and Section 15070 (Decision to Prepare a Negative Declaration or Mitigated Negative Declaration) of the State CEQA Guidelines, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

(a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

(b) The initial study identifies potentially significant effects, but:

(1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Based on the analysis in the Initial Study, it has been determined that all Project-related environmental impacts could be reduced to a less-than-significant level with the incorporation of feasible mitigation measures. Therefore, adoption of a Mitigated Negative Declaration (MND) will satisfy the requirements of CEQA. The mitigation measures included in this MND are designed to reduce or eliminate the potentially significant environmental impacts described in the Initial Study. Where a measure described in this document has been previously incorporated into the Project, either as a specific Project design feature or as an Applicant-Proposed Measure (APM), this is noted in the discussion. Mitigation measures are structured in accordance with the criteria in Section 15370 of the State CEQA Guidelines.

A.2 Project Description

The Proposed Project would include the following major components:

- Construct a new 69/12-kV Vine Substation at the southwestern corner of the intersection of Vine Street and Kettner Boulevard, just west of Interstate 5 (I-5).
- Relocate approximately nine existing 12-kV distribution circuits utilizing a combination of existing and new underground distribution conduits. The relocated distribution circuits would generally be placed within the franchise portion of City of San Diego public streets (public right-of-way [ROW]) in the Project area, including Columbia Street, India Street, Kettner Boulevard, Pacific Highway, Sassafras Street, State Street, Vine Street, West Laurel Street, West Hawthorn Street, West Palm Street, and West Redwood Street.
- Loop in an existing 69-kV power line (TL604) to the proposed Vine Substation, which includes removing two existing wood poles near the corner of California Street and Vine Street and installing three new self-supported tubular steel poles (TSPs) adjacent to the eastern lane of Pacific Highway.
- To connect the proposed Vine Substation and Kettner Substation to SDG&E's telecommunication system, additional fiber optic cable would be installed generally within the underground 12-kV distribution duct banks (approximately 2,850 feet), with an overhead connection of fiber optic cable (100 feet) into the proposed Vine Substation.

For a complete, detailed description of the Proposed Project, including construction activities please see Section B, Project Description.

A.3 Alternatives

The purpose of an alternatives analysis pursuant to CEQA is to identify options that would feasibly attain the project's objectives while reducing the significant environmental impacts resulting from the Proposed Project. CEQA does not require the inclusion of an alternatives analysis in MNDs because the Initial Study concludes that, with incorporation of mitigation measures, there would be no significant adverse impacts resulting from the Proposed Project. Therefore, no alternatives analysis needs to be provided in the Initial Study. However, pursuant to Section IX.B.1.c of CPUC General Order 131-D, SDG&E's application did consider five system alternatives. The application generally discussed advantages and disadvantages of different options, and includes a brief description of the criteria for choosing the substation site identified in the PEA.

A.4 Environmental Determination

The Initial Study was prepared to identify the potential environmental effects resulting from Proposed Project implementation, and to evaluate the level of significance of these effects. The Initial Study relies on information in SDG&E's PEA filed May 27, 2014 and Supplemental PEA filed February 25, 2015 (referred to herein as PEA), SDG&E's responses to data requests, Project site reconnaissance by the CPUC environmental team in February 2015, and other environmental analyses.

SDG&E's PEA identified measures to address potentially significant impacts — the Applicant-Proposed Measures (APMs) — and these APMs are considered to be part of the description of the Proposed Project. Based on the Initial Study analysis, additional mitigation measures are identified for adoption to ensure that impacts of the Proposed Project would be less than significant. The additional mitigation measures either supplement, or supersede the APMs. SDG&E has agreed to implement all of the additional recommended mitigation measures as part of the Proposed Project.

Implementation of the following mitigation measures would avoid potentially significant impacts identified in the Initial Study or reduce them to less-than-significant levels.

Mitigation Measures for Construction-Phase Air Quality

AQ-1 **Control Off-road Equipment Emissions.** Off-road equipment with engines larger than 50 horsepower shall have engines that meet or exceed U.S. Environmental Protection Agency/California Air Resources Board Tier 3 Emissions Standards. Exceptions will be allowed only on a case-by-case basis for two specific situations: (1) an off-road equipment item that is a specialty, or unique, piece of equipment that cannot be found with a Tier 3 or better engine after a due diligence search; and/or (2) an off-road equipment item that will be used for a total of no more than 10 days. Additionally, off-road equipment engine idling shall not exceed five (5) minutes unless required for proper operation and all engines shall be maintained in good operating condition and in tune per manufacturers' specification.

AQ-2 **Control On-road Equipment Emissions.** All construction on-road vehicle engines, with the exception of personal vehicles, shall be turned off when not in use. Engine idling shall not exceed five (5) minutes unless required for proper operation or personnel health and safety (e.g., shelter from the elements). All construction on-road vehicle engines, with the exception of personal vehicles, shall be maintained in good operating condition and in tune per manufacturers' specification.

AQ-3 **Implement Fugitive Dust Control Plan for the Vine Substation.** The Applicant shall develop a Fugitive Dust Control Plan to reduce Particulate Matter (PM) 10 and PM2.5 emissions during construction of the Vine Substation. The implementation of this Plan shall be considered complete when the Vine Substation's final surfacing, as required in part c.viii below, is done. The Fugitive Dust Control Plan shall include:

a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the Plan;

b. Listing of all fugitive dust emissions sources included in the construction of the substation.

c. The following on-site dust control measures, and any other proposed control measures, that will be implemented:

   i. All on-site unpaved areas used by on-road vehicles shall be watered or stabilized with an Air Resources Board-certified soil stabilizer at a sufficient frequency such that no visible dust emissions occur when on-road vehicles traverse unpaved areas on the substation site.

   ii. All material excavated or graded shall be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. Excavated soil piles shall be watered as needed and in compliance with San Diego Air Pollution Control District (SDAPCD) Rule 55 requirements for the duration of construction or covered with temporary coverings.

   iii. Construction activities, but not dust control activities, which occur on unpaved surfaces shall be discontinued during windy conditions when those activities cause visible dust plumes that extend beyond the substation fence line, or in violation with SDAPCD Rule 55 requirements.

   iv. Track-out shall be removed at the conclusion of each workday.

   v. Shaker plates and gravel beds, or equivalently or more effective track-out control, shall be used and maintained throughout the construction period until the site is paved to remove bulk material from tires and vehicle undercarriages before vehicles exit the Vine Substation property.

   vi. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions) or watered, and shall maintain at least two feet of freeboard to reduce spillage from the haul truck.

   vii. Traffic speeds for on-road vehicles and off-road equipment on unpaved areas/temporary roads shall be limited to 15 miles per hour.

   viii. The substation's interior asphalt access road shall be paved as soon as practical during construction. The remaining surface of the substation site shall consist of concrete pads or be graveled, so that there are no open soil areas other than those that are within any vegetated professionally landscaped areas of the site. Concrete and gravel surfaces shall be completed as soon as practical during construction.

ix. Other fugitive dust control measures as necessary to comply with SDAPCD Rule 55 requirements.

Mitigation Measure for Paleontological Resources

C-1 **Paleontological Resource Mitigation Plan.** A Paleontological Resource Mitigation Plan (PRMP) shall be prepared by a Qualified Paleontologist in accordance with SVP Guidelines (2010). The PRMP shall identify construction impact areas with the potential of encountering significant resources and the approximate depths at which those resources are likely to be encountered. The PRMP shall outline a coordination strategy to ensure that one or more qualified paleontological monitors will conduct full-time monitoring of all ground disturbance in sediments determined to have a high to moderate sensitivity (i.e., the Bay Point Formation, and the underlying Lindavista and San Diego Formations, if encountered). The PRMP shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The PRMP shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at an accredited repository, data analysis, and reporting. The PRMP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction.

C-2 **Train Construction Personnel.** Prior to the start of construction, all field personnel shall receive a worker's environmental awareness training module on paleontological resources. The training shall provide a description of the fossil resources that may be encountered in the Project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Qualified Paleontologist and onsite monitor(s). The training shall be developed by the Qualified Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.). The training may also be videotaped or presented in an informational brochure for future use by field personnel not present at the start of the Project.

C-3 **Monitor Construction for Paleontological Resources**. Consistent with Mitigation Measure C-1 (*Paleontological Resource Mitigation Plan*), full-time construction monitoring shall be conducted by the qualified paleontological monitor(s) within previously undisturbed sediments in areas determined to have high to moderate sensitivity (i.e., the Bay Point Formation, and the underlying Lindavista and San Diego Formations, if encountered). Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. The monitor may also screen sediments to check for the presence of microvertebrates, if they are believed to be present. In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance, and collected.

Mitigation Measure for Human Remains

C-4 **Treatment of Human Remains.** If human remains are unearthed during construction activities, construction work in the immediate area of the discovery shall be halted and directed away from the discovery until the county coroner can determine whether the remains are those of a Native American. If they are those of a Native American, the following would apply:

a. The coroner shall contact the Native American Heritage Commission.

b. If discovered human remains are determined to be Native American remains, and are released by the coroner, these remains shall be left in situ and covered by fabric or other temporary barriers.

c. The human remains shall be protected until SDG&E and the Most Likely Descendant, as designated by the Native American Heritage Commission, come to a decision on the final disposition of the remains.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

Mitigation Measure for Emergency Response

T-1 **Construction Traffic Control Plan** (presented below under "Mitigation Measures for Construction Traffic")

Mitigation Measure for Construction Noise

N-1 **Municipal Code Non-Compliance Approval or Prepare Construction Noise Control Plan.** Prior to a Notice to Proceed, SDG&E shall complete one of the following (a) or (b):

(a) Obtain written authorization(s) from the City of San Diego allowing construction of the Project to exceed the noise performance standards identified in Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404(b). Official copies of the written authorization(s) shall be submitted to the CPUC.

(b) Prepare a detailed Construction Noise Control Plan (Plan) for review by the CPUC and City of San Diego. The Plan is intended to minimize noise from construction activities to the maximum extent feasible at work areas within 130 feet of residences. The Plan must include, but not be limited to:

- Methods to reduce mobile and stationary construction noise levels, to the maximum extent feasible, occurring within 200 feet of sensitive receptors (i.e., residences) or expected to exceed 75 dBA during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- Methods to reduce mobile and stationary construction noise levels, to the maximum extent feasible, occurring outside the 12-hour period from 7:00 a.m. to 7:00 p.m. assuming the requirements of Mitigation Measure N-2 are met. Any conditions or performance standards required by the City of San Diego or CPUC through the implementation of Mitigation Measure N-2 shall be met.
- Identification of heavy truck trip routes accessing the Vine Substation site, construction staging yards, 12-kV distribution circuits, and telecommunication routes

to reduce travel on residential streets and avoid noise sensitive receptors to the maximum extent feasible.

- The Plan shall detail how SDG&E and its contractor(s) will respond to noise complaints, and how to document the resolution of those complaints.

In addition to completing either (a) or (b) above, SDG&E shall:

- Establish a telephone number for use by the public to report any nuisance noise conditions associated with construction activities. SDG&E shall ensure that a public liaison is assigned to respond to all public construction complaints in a timely manner, and either (a) the telephone number is staffed by the noise and vibration liaison during construction hours; or (b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. Public complaints shall be forwarded to the CPUC within 48 hours. This telephone number shall be posted at entrances to work areas and construction yards in a manner visible to passersby.
- SDG&E and its contractor(s) shall respond to public complaints and document the resolution of those complaints.
- Methods for conflict resolution shall be documented in the event a noise complaint cannot be resolved.
- A log of all complaints and the current status shall be provided to the CPUC monthly.

N-2 **Construction Work Hours Authorization.** Construction activities shall not occur during the following hours and days without obtaining all necessary authorization(s) from the City of San Diego allowing for construction to occur outside the hours allowable within Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404(a). SDG&E shall provide copies of City authorizations to the CPUC for review.

- Between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, on legal holidays as specified in Section 21.04 of the City of San Diego Municipal Code, or on Sundays.

Mitigation Measure for Construction Traffic

T-1 **Construction Traffic Control Plan.** Prior to the start of construction, SDG&E shall prepare and submit a Construction Traffic Control Plan for review and/or approval to the CPUC and all agencies with jurisdiction over public roads and transportation facilities that would be directly affected by the construction activities and/or would require permits and approvals. The Construction Traffic Control Plan shall include, but not be limited to:

- The locations and use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc. according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual.
- Additional methods to reduce temporary traffic delays to the maximum extent feasible.

- Defining methods to coordinate with all agencies responsible for encroachment permits throughout construction to minimize cumulative lane disruption impacts should simultaneous construction projects affect shared segments/portions of the circulation system.
- Prior to the start of construction, provide (or identify the timing to provide) copies of all approved permits and agreements to the CPUC and methods to comply with all specified requirements, including but not limited to:
  - Public Right-of-Way Permit from the City of San Diego.
  - Right-of-Entry Permit(s) from the North County Transit District (NCTD) and San Diego Metropolitan Transit System (MTS).
  - License Agreement from the MTS.
  - Temporary Occupancy Agreement and a Utility Agreement License from Burlington Northern Santa Fe (BNSF) Railway.
- Plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Police departments and fire departments shall be notified in advance by SDG&E of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions that could impact their effectiveness. At locations where roads will be blocked, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. Documentation of the coordination with police and fire departments shall be provided to the CPUC prior to the start of construction.
- Provisions for ensuring detours or safe movement through all affected pedestrian and bicycle facilities.
- Plans to coordinate with affected bus transit agencies (where applicable) at least one month prior to construction to minimize the impacts associated with the interruption of bus transit service. Documentation of the coordination with bus transit companies shall be provided to the CPUC prior to the start of construction.

A Mitigation Monitoring Plan located in Section C of this document has been prepared to ensure that the APMs and the mitigation measures presented above are properly implemented. The plan describes specific actions required to implement each measure, including information on timing of implementation and monitoring requirements.

Based on the analysis and conclusions of the Initial Study, the impacts of the Project as proposed by SDG&E would be mitigated to less-than-significant levels with the implementation of the APMs and mitigation measures presented herein, which have been incorporated into the Proposed Project.

B. Initial Study

B.1 Project Description

San Diego Gas and Electric (SDG&E) proposes to construct and operate the Vine 69/12 Kilovolt (kV) Substation Project (Proposed Project). The Vine Substation Project is proposed to be located within the southwestern portion of the City of San Diego, California near the San Diego International Airport. The Proposed Project includes four major components: (1) construction of the proposed Vine Substation, located at 3548 Kettner Boulevard at the corner of Vine Street and Kettner Boulevard (SDG&E, 2015a); (2) relocation of several 12-kV distribution circuits within City of San Diego public streets; (3) loop-in of an existing 69-kV power line to the new substation, and (4) upgrade of an existing telecommunication system. The Project is proposed to meet existing and anticipated customer-driven electrical load growth, and to improve distribution equipment reliability to prevent potential long outages or disruption of service to existing SDG&E customers in downtown and the surrounding area.

The location of the Proposed Project is depicted in Figure B.1-1 (Project Location Map), and the four components of the Proposed Project are depicted in Figure B.1-2 (Project Overview Map). Detailed maps are provided in Figure B.1-3a-k (Detailed Project Components). All figures are provided at the end of Section B.1.

The analysis in this document is based on documentation submitted by SDG&E including the Proponent's Environmental Assessment (PEA) in May 2014, PEA Supplement in February 2015, and responses to data requests.

B.1.1 Project Title

San Diego Gas and Electric's Vine 69/12-kV Substation Project

B.1.2 Project Sponsor's Name and Address

San Diego Gas and Electric Company
8330 Century Park Court, CP32D
San Diego, California 92123

B.1.3 Lead Agency Name and Address

California Public Utilities Commission
Energy Division
505 Van Ness Avenue, Fourth Floor
San Francisco, California 94102

B.1.4 Lead Agency Contact Person and Phone Number

Eric Chiang, Project Manager
Energy Division
California Public Utilities Commission
505 Van Ness Avenue, Fourth Floor
San Francisco, California 94102
(415) 703-1956

B.1.5 Project Location

The proposed Vine Substation Project is located in the southwestern portion of the City of San Diego, California approximately two miles northwest of downtown San Diego and directly adjacent to and east of the San Diego International Airport (also known as Lindberg Field). The main activity associated with the Proposed Project involves the construction of the proposed Vine Substation, which would be located at 3548 Kettner Boulevard. The 1.5-acre substation site is approximately rectangular in shape, and is located on the southwest corner of Kettner Boulevard and Vine Street (see Figure B.1-2). The substation site is currently accessed by a gate located off Vine Street. The site is owned by SDG&E and has been leased for use as a Park 'N Fly Airport Parking lot. The Park 'N Fly Airport Parking lot is being relocated to a more centralized rental car facility, which is currently under construction near the airport. The parcel is bordered to the north by Vine Street and a commercial printing business across Vine Street, to the south by an Advantage Rental Car facility, to the east by Kettner Boulevard, and to the west by the North County Transit District Coaster and San Diego Metropolitan Transit System (MTS) Trolley rail tracks. The area is characterized by light- and medium-industrial and office uses, parking lots, and rental car facilities. The substation site is currently surrounded by a chain link fence, and paved with asphalt. The site includes approximately 220 parking stalls, a guard shack, wooden storage shed, and portable toilet.

The Proposed Project also involves the relocation of distribution circuits and looping in of an existing 69-kV power line. The 69-kV loop-in would use the existing overhead power line located adjacent to and to the west of the proposed substation site. The 69-kV loop in would involve removing two existing poles near the corner of California Street and Vine Street and installing three new poles. The 69-kV Loop in is described in greater detail in Section B.1.10.3 (69-kV Loop In). The 12-kV distribution circuit relocations involve the alteration of nine distribution circuits. These circuits would be routed through new and existing underground conduits in City streets including:

- Columbia Street
- India Street
- Kettner Boulevard
- Pacific Highway
- Sassafras Street
- State Street
- Vine Street
- West Laurel Street
- West Hawthorn Street
- West Palm Street
- West Redwood Street

The 12-kV distribution circuit relocations are described in more detail in Section B.1.10.2 (12-kV Distribution Relocation).

The location of the Proposed Project is depicted in Figure B.1-1 (Project Location Map), and the four major components are depicted in Figure B.1-2 (Project Overview Map). Detailed maps are provided in Figure B.1-3a-k (Detailed Project Components). All figures are provided at the end of Section B.1. A more detailed description of the area within and around the Proposed Project is provided in Section B.1.6.

B.1.6 Surrounding Land Uses and Setting

Northwest of the Vine Substation site across Vine Street is a commercial property occupied by Rush Press, and across California Street is a parking lot partially used for rental car parking (Honeywell property); to the northeast across Kettner Boulevard, I-5 Freeway, and India Street are a gasoline service station, commercial properties, and a residence; to the southeast is a vacant rental car facility including a car wash, fueling area, and parking lot; and to the southwest across a railroad corridor and Pacific Highway are parking lots (see Figure B.1-2).

Existing uses along the distribution circuit route within Kettner Boulevard include I-5 to the east and rental car facilities, offices, and airport parking lots to the west. Along India Street, existing uses include a gas station, a rental car facility, residential uses, and a mix of commercial and industrial uses. Existing uses along West Redwood Street and Columbia Street are predominately residential, with I-5 to the west. Budget and Alamo rental car facilities are located on West Palm Street. Along West Laurel Street, uses consist of offices, parking lots, and residences. Along State Street, existing uses include offices and residences. The relocation process would utilize a combination of existing and new underground distribution conduits, as depicted in Figure B.1-2 (Project Overview Map) and in Figure B.1-3a-k (Detailed Project Components).

B.1.7 General Plan Designation

The CPUC has preemptive jurisdiction over the Proposed Project because it authorizes the construction, operation, and maintenance of public utility facilities. Although such projects are exempt from local land-use and zoning regulations and permitting, CPUC General Order 131-D Section 1X.B states that "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the Commission's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." SDG&E has considered local and State land use plans as part of the environmental review process.

Based on the City of San Diego General Plan, the proposed Vine Substation and 69-kV loop-in would be located on a site that is designated Industrial Employment. Lands adjacent to the relocated distribution circuits have a General Plan designation of Industrial Employment at the northern end of the line and Multiple Use and Commercial Employment Retail and Services at the southern end. A wide variety of land uses are specified as being appropriate within these designations, including offices, general commercial uses, civic facilities, and light and heavy industrial uses. While utility uses are not explicitly designated as being allowed under these General Plan designations, the General Plan specifically discusses the need to integrate design elements and space requirements necessary for public utilities into planning efforts throughout the City. Figure B.1-4 (Land Use Map) presents a depiction of the general land use categories within the Project area. Table B.1-1 details the various designations and land uses within the Project area.

Due to the large size of the City of San Diego, the City's General Plan Land Use Element includes community plans for specific geographic areas. The Proposed Project is located within the boundaries of the Midway/Pacific Highway Corridor Community Plan and Downtown Community Plan, both of which are also the approved local coastal programs in this area. The substation site and 69-kV loop-in would be located within the Light Industrial community plan land use designation, which allows for light industrial uses, and the 12-kV distribution lines would be located within public ROWs along the Residential and Multiple Use community plan land use designations.

Table B.1-1: Existing and Designated Land Uses				
Proposed Project Component	Existing Land Use	General Plan Designation	Zoning Designation	Community Plan Designation
Vine Substation	Parking Lot	Industrial Employment	IS-1-1	Light Industrial
12-kV Distribution Relocation	Public Street ROW	Residential, Multiple Use	MCCPD-CL-6, MCCPD-MR-1500, CC-4-5	Residential, Commercial
69-kV Loop-In	Public Street ROW	Industrial Employment	IS-1-1	Light Industrial

Source: SDG&E, 2014 (Table 4.10-1), 2015b (Table 3.10-1, 12-kV distribution relocation).

A small portion of the 12-kV distribution work for the Proposed Project is within the Coastal Zone. Such work is exempt from Coastal Development Permit requirements. Section 3060(f) of the California Public Resources Code provides that no Coastal Development Permit is required for the "installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility and any development approved pursuant to the Coastal Act." The California Coastal Commission has interpreted this exemption in a document entitled "Repair, Maintenance, and Utility Hook-up Exclusions from Permit Requirements" that was adopted on September 5, 1978. Section II.B.2.b of that document states "a coastal permit is not required to install, test, place in service, maintain, replace, modify or relocate underground facilities…provided that work is limited to public road or railroad rights-of-way or public utility easements." The small portion of the distribution work that is in the Coastal Zone is limited to installation of new duct banks within public roads and under the railroad. Therefore, no Coastal Development Permit is necessary and the Proposed Project is exempt from California Coastal Commission review (SDG&E, 2015a).

B.1.8 Zoning

The Proposed Project is located within the City of San Diego and is subject to the City of San Diego General Plan, which provides a framework of policies, objectives, and land use designations to guide long-term development. The City of San Diego Municipal Code supports the General Plan and provides specific development regulations for lands within the individual zoning designations. The Proposed Project area is also subject to the Midway/Pacific Highway Corridor Community Plan and Downtown Community Plan, which identify goals, objectives, and recommendations for the area and establishes a vision for the future form of the community. The Proposed Project area is located east of the San Diego International Airport within the Approach Overlay Zone, and is subject to the regulations, policies, and requirements contained within the San Diego International Airport's applicable Airport Land Use Compatibility Plan (ALUCP). These plans, along with the existing uses, are described in relation to the Proposed Project in the following sections.

B.1.9 Project Overview

The Proposed Project is located in the southwestern portion of the City of San Diego, California. Specifically, the Proposed Project is approximately two miles northwest of downtown San Diego and directly adjacent to and east of the San Diego International Airport. The main components of the Proposed Project are provided below, with detailed descriptions of these components provided in Section B.1.10 (Project Components):

- Construct a new 69/12-kV Vine Substation at the southwestern corner of the intersection of Vine Street and Kettner Boulevard, just west of Interstate 5 (I-5).

- Relocate approximately nine existing 12-kV distribution circuits utilizing a combination of existing and new underground distribution conduits. The relocated distribution circuits would generally be placed within the franchise portion of City of San Diego public streets (public right-of-way [ROW]) in the Project area, including Columbia Street, India Street, Kettner Boulevard, Pacific Highway, Sassafras Street, State Street, Vine Street, West Laurel Street, West Hawthorn Street, West Palm Street, and West Redwood Street.
- Loop in an existing 69-kV power line (TL604) to the proposed Vine Substation, which includes removing two existing wood poles near the corner of California Street and Vine Street and installing three new self-supported tubular steel poles (TSPs) adjacent to the eastern lane of Pacific Highway.
- To connect the proposed Vine Substation and Kettner Substation to SDG&E's telecommunication system, additional fiber optic cable would be installed generally within the underground 12-kV distribution duct banks (approximately 2,850 feet), with an overhead connection (100 feet) into the proposed Vine Substation.

The location of the Proposed Project is depicted in Figure B.1-1 (Project Location Map), and the four major components are depicted in Figure B.1-2 (Project Overview Map). Detailed maps are provided in Figure B.1-3a-k (Detailed Project Components). All figures are provided at the end of Section B.1. A more detailed description of the area within and around the Proposed Project follows.

B.1.9.1 Project Objectives

SDG&E has identified the following objectives to meet the purpose and need described below:

- Maintain existing substation and distribution system reliability standards;
- Provide substation and circuit tie capacity that would provide additional reliability for existing and future system needs;
- Meet the area's long-term electric distribution capacity needs by constructing a substation near planned load growth; and
- Utilize existing SDG&E-owned land previously purchased for substation use to meet the scheduled in-service date of July 2017.

B.1.9.2 Project Need

SDG&E is a regulated public utility that provides electric service to approximately 1.4 million customers within an approximately 4,100-square-mile service area, covering 25 cities and unincorporated areas within San Diego County and a portion of Orange County. To better understand the need for the Project, a description of the existing distribution system in the Project area is provided.

Existing System

SDG&E currently operates four substations to provide electrical service to downtown and the surrounding area: Kettner Substation, Urban Substation, Station B Substation, and Sampson Substation. SDG&E also operates the Grant Hill Substation, which is located outside of the desired coverage area. Figure B.1-5 (Existing System Configuration) provides a schematic diagram of the existing distribution system in the Project area. As shown in Figure B.1-5, one existing tie-line (TL), TL604, connects the Kettner Substation to the existing Old Town Substation. Six existing distribution lines, circuits (C) 135, C138, C139, C367, C457, and C458, currently connect to the Kettner Substation. The remaining three distribution lines (to be relocated), C102, C108, and C113, originate at the existing Station B Substation.

Increased commercial and residential growth in the downtown area is loading these existing substations to their maximum capacities. Recent load additions in downtown and the surrounding area include an expansion of San Diego International Airport and construction of Ballpark Village, as well as a new mixed-use development which is expected to commence construction at the end of 2015. Of particular concern is Kettner Substation, which is an aging facility with a variety of reliability concerns that provides service to the San Diego International Airport and the Point Loma Wastewater Treatment Plant. SDG&E has determined that the proposed Vine Substation is needed to offload the existing substations and to maintain its current reliability of service to existing and new customers in downtown and the surrounding areas (see Section B.1.9.3, Project Capacity, below).

Because the projected load indicates that the Station B and Urban Substations would exceed 100 percent of their capacity, and the Kettner and Sampson Substations would exceed 85 percent of their capacity in 2018, SDG&E has determined that an additional 30 megavolt-amperes (MVA) are needed by mid-2017 to address reliability concerns and serve the projected electric distribution load growth (SDG&E, 2015a). The optimum maximum substation load is 85 percent, as it allows for transformer bank loads to be transferred in the event of a transformer bank outage. Optimum operating conditions maintain substation reliability and reduce outage times. All of the substations—with the exception of the Grant Hill and Sampson Substations—are near capacity and would begin to exceed their 85-percent ratings in 2015 or sooner. The Grant Hill Substation has approximately 33 MVA of remaining capacity; however, SDG&E has identified that expansion of this facility would likely require substantial power line and distribution upgrades, and as noted above is located outside of the desired coverage area. Therefore, SDG&E has determined that the proposed Vine Substation is needed by mid-2017 to eliminate existing reliability concerns at the Kettner Substation and to provide additional capacity to help offload the existing congested substations in downtown and the surrounding area.

The prime driving factors in SDG&E's determination of the need to construct a new substation in the area are:

- The need to maintain reliable service to SDG&E commercial and residential customers in the San Diego downtown and surrounding area,
- The expected electrical load growth of 30 MVA by mid-2017, and
- The need to prevent extended outages and disruption of services to new and existing customers in the area.

SDG&E considers additional substation transformer capacity when the loss of a single transformer may cause an interruption to major commercial/industrial load that cannot be restored through use of 12-kV circuit ties to other substations. The downtown and surrounding area is approaching this threshold. Therefore, SDG&E is considering planning and design of the proposed Vine Substation to provide tie capacity in the event of a loss of a single transformer.

Each of the Proposed Project objectives, as noted in Section B.1.9.1 (Project Objectives), is more thoroughly described in the subsections that follow within the context of the need for the Project.

Maintain Existing Reliability Standards

The addition of the proposed Vine Substation would help to maintain reliability for existing distribution and substation systems within downtown and the surrounding area, including reliability concerns at the Kettner Substation. The Kettner Substation is an aging substation that provides service to major customers that serve critical regional needs, including San Diego International Airport and the Point Loma Wastewater Treatment Plant. The Kettner Substation has a variety of reliability issues including its physical configuration and aging infrastructure. Construction of the proposed Vine Substation would allow the reliability concerns at the Kettner Substation to be addressed by adding operational flexibility and ultimately provide 90 MVA of additional capacity. The proposed Vine Substation would offload approximately 30 MVA from the Station B Substation and 40 MVA from the Kettner Substation, bringing them within the optimum loading standards. (See Section B.1.9.3, Project Capacity, discussion below)

Improve Substation and Circuit Reliability

Installation of the proposed Vine Substation would allow for new circuits to serve downtown and the surrounding area, and provide increased circuit and substation reliability by freeing up capacity at the existing substations. The proposed Vine Substation would add substation capacity enabling the Station B Substation to be off-loaded, and provide additional new transformer banks and circuits, thus increasing the number of circuit ties available to transfer load in the event of a circuit or substation component outage (SDG&E, 2015a). The reliability and flexibility of the local electrical grid improves with balanced circuit loading and an increased number of circuits to transfer load in the event of a circuit or branch outage.

Meet Area Electrical Capacity Needs

The downtown San Diego area is fed primarily from the Kettner Substation, Urban Substation, Station B, and Sampson Substation. These four substations would exceed their maximum capacity by 2018. The proposed Vine Substation would have an initial capacity of 90 MVA; however, a single 30 MVA transformer bank would be transferred from Kettner Substation to Vine Substation such that the realized increase in capacity of the distribution system would be 60 MVA. The ultimate Vine Substation design includes an additional 30 MVA transformer bank, which would increase the capacity of the Vine Substation to 120 MVA, resulting in a total system increase in capacity of 90 MVA. This would allow SDG&E to accommodate future load growth beyond that of existing forecasts (SDG&E, 2015a). See Section B.1.9.3 (Project Capacity) for further information on capacity-related issues.

Meet Scheduled In-service Date

The Vine Substation is proposed to be located on an approximately 1.5-acre parcel currently owned by SDG&E within the Midway/Pacific Highway Corridor Community Plan area. The property was purchased in 1976 in anticipation of constructing the Laurel Street Substation. The Laurel Street Substation was never constructed and in 1988, it was leased as a parking lot. Because the site is already owned by SDG&E, no time is required to acquire the property. Because the property is already owned by SDG&E and the current use of the site as a parking lot is being relocated, no difficulties in meeting the scheduled in-service date are anticipated.

B.1.9.3 Project Capacity

The power line component of the Proposed Project involves looping in the existing TL604 line, which comes from the Old Town Substation, to the proposed Vine Substation forming a new tie-line (TL6976) between Vine Substation and Kettner Substation, as shown in Figure B.1-6 (Proposed System Configuration). The 69-kV loop-in serves as the incoming electrical source to the Vine Substation from the larger electrical grid. The existing TL604 line is rated at 193 MVA and is adequate to handle the ultimate configuration of the proposed Vine Substation (see Section B.1.10.1). Therefore, no additional reinforcement of the 69-kV system is anticipated at this time (SDG&E, 2015a).

The distribution portion of the Proposed Project involves relocating nine existing 12-kV distribution circuits from either Kettner Substation or Station B Substation (approximately 30 MVA of load) to the proposed Vine Substation, as shown in Figure B.1-6 (Proposed System Configuration). As a result of the relocation, the nine existing circuits would be renamed and split into 11 new circuits (C139 and C108 would each be split into two new circuits). See Table B.1-2 (Distribution Relocation Summary) in Section B.1.10.2, below.

The Project would be constructed in phases to accommodate the additional capacity needed. Under the initial configuration, two new 30-MVA transformer banks would be installed at Vine Substation and one existing 30-MVA transformer bank would be relocated from Kettner Substation to Vine Substation (SDG&E, 2015a). Therefore, the initial capacity of Vine Substation would be 90 MVA; however, the realized increase in capacity to the distribution system would be 60 MVA. To accommodate future load growth beyond that of existing forecasts, the ultimate configuration of the Vine Substation includes installation of a fourth 30-MVA transformer, which would result in a total substation capacity of 120 MVA (90 MVA increase in the distribution system) (SDG&E, 2015a).

B.1.10 Project Components

B.1.10.1 Proposed Vine 69/12-kV Substation

The proposed Vine Substation would measure approximately 305 feet by 180 feet, requiring approximately 1.3 acres of a 1.5-acre parcel located on the southwest corner of Kettner Boulevard and Vine Street. The proposed substation site is detailed in Figure B.1-2 (Project Overview Map) and Figure B.1-3a (Detailed Project Components). The existing concrete-lined channel located on the substation property would be located outside the Proposed Project footprint; it would not be altered (realigned or modified) as part of the Proposed Project (SDG&E, 2015a).

Build-out of the Vine Substation would occur in two phases, initial and ultimate build-out. As depicted in Figure B.1-7 (Vine Substation Initial Arrangement), the initial build-out of the proposed substation to provide 90 MVA of capacity would include the following major equipment:

- Two 69-kV tie-line terminations
- Six 69-kV gas circuit breakers
- Three 69-kV potential transformers
- Three 69/12-kV standard profile, low-sound 30 MVA transformers
- Three ¼ sections of switch gear to accommodate twelve 12-kV circuits
- Three 12-kV metal-enclosed capacitor banks
- One 12-kV metal-enclosed reactor bank
- One approximately 30-foot-tall standard steel rack consisting of a 69-kV bus
- One approximately 20-foot-wide by 40-foot-long by 11-foot-tall masonry block control shelter

Ultimately, the substation is planned to be a 120-MVA, 69/12-kV distribution substation. As depicted in Figure B.1-8 (Vine Substation Ultimate Arrangement), the substation would include the following major equipment (includes the initial equipment noted above):

- Four 69-kV tie-line terminations
- Nine 69-kV gas circuit breakers
- Three 69-kV potential transformers

- Four 69/12-kV standard profile, low-sound 30 MVA transformers
- Four ¼ sections of switch gear to accommodate sixteen 12-kV circuits
- Four 12-kV metal-enclosed capacitor banks
- Two 12-kV metal-enclosed reactor banks
- One approximately 30-foot-tall standard steel rack consisting of a 69-kV bus
- One approximately 20-foot-wide by 40-foot-long by 11-foot-tall masonry block control shelter

Figure B.1-9 (Vine Substation Profile View) provides two profile views of the proposed substation.

The steel structures within the substation would be comprised of galvanized steel, while the transformers, breakers, switchgear, and capacitors would be painted ANSI 70 Grey. The control shelter would be constructed from "La Paz" brown masonry blocks, and would include a welded metal roof. Oil spill containment basins would be installed around the transformers to capture any oil accidentally leaked from these components. The basins would be designed to have a capacity that exceeds the transformer capacity by 10 percent. Under the ultimate build-out arrangement, the four transformers would contain approximately 24,100 gallons of oil (varies slightly by manufacturer). As described above, the proposed Vine Substation would be equipped with nine 69-kV circuit breakers under the ultimate configuration. Each circuit breaker would contain approximately 33 pounds of sulfur hexafluoride (SF_6). SF_6 is used in the electrical industry as a gaseous dielectric medium for high-voltage equipment such as circuit breakers or switchgear. The main purpose of the gas is to prevent or rapidly stop electrical discharges. Therefore, approximately 297 pounds of SF_6 would be used at the proposed Vine Substation under the ultimate configuration (SDG&E, 2015a).

Substation Lighting

Substation lighting would be provided by a mixture of high-pressure sodium and metal halide lights that would be installed to adhere to the following SDG&E standards:

- Provide enough light for a safe entry and exit from the substation;
- Allow for safe driving around busses/racks, corners, and roadways; and
- Allow for a preliminary visual inspection of the substation.

With the exception of the gate entry lights, which would remain on at night for safety purposes, the remaining substation lighting would not be turned on unless it is required for nighttime work and/or an emergency. One light would be installed at the main gate, one light would be installed on each side of the control shelter, and a minimum of two lights would be installed on each substation wall. Lights may also be installed on the end of the steel rack, if required. All on-site lighting would be oriented downward to minimize glare onto the surrounding property.

Substation Access

The primary access would be from Vine Street and would require relocation of the existing driveway approximately 50 feet southwest. An existing driveway from Kettner Boulevard would also be relocated, approximately 125 feet southeast, and would provide secondary access to the site. The two gates would be locked and monitored remotely to limit access to only authorized personnel. Warning signs would be posted on the substation wall and gates in accordance with federal, State, and local safety regulations.

The access road within the proposed Vine Substation would be asphalt-paved with an approximate width of 30 feet. The road would connect the primary and secondary access to the control shelter, located in the southern corner of the proposed Vine Substation. This interior road would be approximately 425 feet long, occupying approximately 0.3 acre (see Figures B.1-7 and B.1-8).

Substation Perimeter

An approximately 10-foot-tall, "La Paz" brown colored masonry wall would enclose the entire substation. Two approximately 10-foot-tall and 30-foot-wide sliding gates would be installed within the perimeter wall to provide primary and secondary access to the substation. The gates would be constructed from chain-link material and would be designed to accommodate standard brown slats. Five strands of barbed wire would be installed horizontally along the interior of the wall and gates so as to not be visible from the exterior of the substation. Following construction of the proposed Vine Substation wall, landscaping and irrigation would be installed. Landscaping around the proposed Vine Substation property would be designed to filter views for the surrounding community and other potential sensitive receptors, consistent with SDG&E's Landscape Plan. The conceptual landscape plan calls for informal clusters of small and medium height shrubs outside the perimeter wall along Vine Street and Kettner Boulevard (SDG&E, 2014). Water supply for the irrigation would be provided by a permitted municipal service connection to a water supply system that can provide an adequate supply to the site.

B.1.10.2 12-kV Distribution Relocation

As indicated in Table B.1-2 (Distribution Relocation Summary), approximately nine existing distribution circuits would be intercepted and relocated to the proposed Vine Substation. As part of the relocation process, some of the circuits would be renumbered, as noted in Table B.1-2 and depicted in Figures B.1-5 and B.1-6.

Table B.1-2: Distribution Relocation Summary

Existing Distribution Circuit Number	Approximate Interception Point	Proposed Distribution Circuit Number
135	Kettner Boulevard and Sassafras Street	135
138	State Street and Maple Street	138
139	Sassafras Street and India Street	1479
	West Laurel Street and State Street	139
367	Adjacent to Kettner Substation	367
457	West Laurel Street and Pacific Highway	457
458	Adjacent to the proposed Vine Substation	458
108	Kettner Boulevard and Ivy Street	1481A
	Pacific Highway and West Hawthorn Street	1481B
113	Reynard Way and West Maple Street	1482
102	Kettner Boulevard and West Hawthorn Street	1483

Source: SDG&E, 2014 (Table 3-1), 2015b (Table 2-1, 12-kV distribution relocation).

The relocated distribution circuits would generally travel within public ROW along the following streets:

- Kettner Boulevard between Vine Street and West Hawthorn Street;
- Vine Street between California Street and India Street;

- India Street between Vine Street and West Redwood Street;
- West Redwood Street between India Street and Columbia Street;
- Columbia Street between West Redwood Street and State Street;
- West Laurel Street between Kettner Boulevard and State Street; and
- State Street between West Laurel Street and Maple Street.

The distribution circuits would primarily be located within the franchise position of City of San Diego public streets; no additional ROW would be acquired. The distribution route would cross the MTS railroad at West Palm Street just east of Kettner Substation, which requires a Right-of-Entry Permit (see Section B.1.14, Permits and Approvals). Jack-and-bore construction would occur in this location, therefore it is not anticipated that railroad closure would be necessary (SDG&E, 2015a).

The relocation process would utilize a combination of existing and new underground distribution conduit, as depicted in Figure B.1-2 (Project Overview Map) and in Figure B.1-3a-k (Detailed Project Components). A total of approximately 9,720 feet of new duct bank would be installed to relocate the 12-kV distribution circuits. Up to an additional 500 feet of new duct bank would be installed to facilitate connecting the new duct banks with existing underground conduit and aboveground facilities (SDG&E, 2015a).

In addition to the new underground duct banks, approximately 10,000 feet of existing duct bank would be utilized to relocate the 12-kV distribution circuits. These existing facilities are located within the following roadways:

- Pacific Highway, between West Palm Street and West Laurel Street;
- Pacific Highway, between West Laurel Street and West Hawthorn Street;
- Kettner Boulevard, between West Palm Street and West Hawthorn Street;
- West Laurel Street, between Kettner Boulevard and State Street; and
- State Street, between West Laurel Street and West Maple Street.

Underground Duct Banks and Vaults

As described previously, approximately 10,220 feet (9,720 feet + 500 feet) of new underground duct banks would be installed to facilitate relocating the 12-kV distribution circuits from existing substations to the proposed Vine Substation. Each underground duct bank would be comprised of eight five-inch diameter polyvinyl chloride (PVC) conduits encased in concrete. In locations where a telecommunications cable would be collocated with the distribution cables, an additional pair of four-inch diameter PVC conduits would also be placed in the duct bank. The finished duct bank would be approximately 32 inches tall and 18 inches wide. A typical drawing of the proposed underground duct bank is provided in Figure B.1-10 (Typical 12-kV Underground Duct Bank).

In addition to the underground duct banks, approximately 16 new underground vaults would be installed to facilitate pulling and splicing of conduit during the installation process, as well as to facilitate inspections, maintenance, and repairs during operation. The proposed locations of these facilities are depicted in Figure B.1-3a-k (Detailed Project Components). The design would utilize three sizes of pre-cast concrete vaults, as summarized in Table B.1-3 (Vault Dimensions).

Table B.1-3: Vault Dimensions

Vault Type	Approximate Quantity	Dimensions (Feet) Length	Width	Depth	Approximate Excavation Dimensions (feet) Length	Width	Depth
3325	10	15	9	10.5	17	10	13.7
3326	4	21	9	10.5	23	10	13.7
3327	2	26	12	10	28	14	12.6

Source: SDG&E, 2015b (Table 2-2 12-kV Distribution Relocation)

Distribution Switches and Capacitors

Approximately eight above ground distribution switches and one aboveground capacitor would be installed along the underground duct bank routes to facilitate the relocation of the distribution circuits. Five of the proposed aboveground switches would be located adjacent to the proposed Vine Substation on the sidewalk where no additional trenching is required. The remaining three would be installed at the following locations:

- On the south side of West Laurel Street near the intersection with State Street.
- On Pacific Highway, approximately 400 feet north of the intersection with West Laurel Street.
- On Harbor Drive near a new parking facility designed to serve the San Diego International Airport.

In addition to the switches, one above ground capacitor will be installed at the southwest corner of West Juniper Street and Kettner Boulevard (SDG&E, 2015a). Each distribution switch would be installed on a concrete pad measuring approximately 70 inches long by 44 inches wide by 32 inches tall. The switches would be contained within a steel enclosure mounted atop the pad that would measure approximately 67 inches long by 41 inches wide by 50 inches tall. The single capacitor would be installed on a concrete pad, similar in size to those for the switches, and would measure approximately 60 inches long by 44 inches wide, by 60 inches tall. Typical drawings of the concrete pad, switch, and capacitor are provided in Figure B.1-12 (Typical Switch and Capacitor Pad), Figure B.1-13 (Typical 12-kV Switch), and Figure B.1-14 (Typical 12-kV Capacitor). The proposed locations of these facilities are depicted in Figure B.1-3a-k (Detailed Project Components).

Underground Cable

All underground distribution circuits would utilize 1,000-kcmil aluminum cross-linked polyethylene insulation (XPLE) cables. The distribution getaways, located between the proposed Vine Substation and the two adjacent underground vaults located in Kettner Boulevard, would contain 1,000-kcmil copper XLPE cables.

B.1.10.3 69-kV Loop-in

The power line component of the Proposed Project would consist of looping in an existing 69-kV tie-line, TL604, to the proposed Vine Substation. The existing overhead power line is located adjacent to and west of the proposed substation site. TL604 travels generally south from the Old Town Substation by spanning existing railroad tracks and Witherby Street, then traveling southeast along Kurtz Street. The line then spans Noell Street and continues parallel to and adjacent to the south side of the existing railroad tracks. Near the intersection of California Street and Vine Street, the line spans the railroad tracks, reaching the existing wood pole at the intersection of California Street and Vine Street. The line then spans the railroad tracks again and travels southeast parallel to the railroad tracks. After spanning West Palm Street, the line turns northeast, travels along West Palm Street, and terminates at the Kettner Substation.

Poles

SDG&E is proposing to loop the existing double-circuit TL604 into the proposed Vine Substation. This would require the removal of two approximately 70-foot-tall, directly buried, dead-end wood poles; the removal of one approximately 28-foot-tall, self-supported stub guy pole; and the installation two new, approximately 100-foot-tall, self-supported, dead-end TSPs (see Figure B.1-3a). These new poles range in diameter from five to seven feet at the base and two to three feet at the top. New 69-kV overhead conductor would be used to connect these new poles to the existing power line and the proposed substation, creating the loop-in. The new TSPs would be equipped with six dead-end insulators to carry the three bundled conductors from the existing steel poles to the proposed Vine Substation. One existing wood distribution pole would also be replaced by a new approximately 100-foot-tall self-supported TSP, for a total of three new TSPs. All pole designs would comply with the requirements of G.O. 95, and meet or exceed the designated safety factors (SDG&E, 2015a). The new power line poles would be installed within the franchise position along Pacific Highway. SDG&E would obtain a License Agreement from MTS for the approximately 80 feet of new, approximately 320-foot-wide ROW for the overhead conductors. The remainder of the 69-kV loop-in would be installed within the franchise position of City of San Diego public streets.

All towers and poles would be built and replaced in accordance with Avian Power Line Interaction Committee guidelines. This is achieved by either getting 60 inches of separation between phases or by using avian protection/cover-ups (SDG&E, 2015a). Typical drawings of the existing wood pole, stub guy pole, and new TSPs are provided in Figure B.1-15 (Typical Existing 69-kV Wood Pole), Figure B.1-16 (Typical Existing Stub Guy Pole), and Figure B.1-17 (Typical Proposed 69-kV Tubular Steel Pole).

Overhead Conductor

TL604 is currently configured as a bifurcated-circuit (two conductors per phase) power line, where six individual conductors are supported by the associated poles. To facilitate the loop-in of this power line, these six conductors would travel from the existing and replacement steel poles to the new TSPs. From each new TSP, six conductors would traverse the railroad tracks and terminate within the Vine Substation (SDG&E, 2015a). TL604 currently utilizes 1,033-kcmil aluminum-clad steel reinforced (ACSR) conductor, and the new loop-in would also use 1,033-kcmil ACSR. The overhead span lengths between poles would vary, but would generally be between 100 and 300 feet. The distance from the ground to the lowest conductor would be at least 35 feet, and the conductors' vertical spacing would be approximately nine feet. As described in Section B.1.10.4 (Telecommunication System Extension), fiber optic telecommunication cables would also be collocated on the 69-kV loop-in poles.

B.1.10.4 Telecommunication System Extension

Once operational, the Vine Substation would be unmanned. SDG&E's substations typically utilize a telecommunication system composed of SDG&E fiber optic cable and an AT&T telephone line to facilitate off-site monitoring and operation. In order to connect the proposed Vine Substation and Kettner Substation to this system, additional fiber optic cable would be installed as part of the Proposed Project.

In order to bring fiber communication from the proposed Vine Substation to Kettner Substation, approximately 2,850 feet of new underground fiber optic cable would be installed within the previously described underground 12-kV distribution duct banks (see discussion below). The proposed Vine Substation would be connected to the existing telecommunication network by adding approximately 100 feet of fiber optic cable from an existing underground handhole located within Pacific Highway to one of the new 69-kV TSPs that would be installed as part of the 69-kV loop-in. The fiber optic cable would then travel overhead, across the existing railroad tracks, to the proposed Vine Substation within the power line's ROW. The proposed connection between the existing underground vault located in Pacific highway and the new 69-kV TSP would be located within new underground conduit. Once at the new 69-kV TSP, the telecommunications line would transition from an underground to overhead configuration. The telecommunications line would then travel overhead from the 69-kV TSP to the proposed Vine Substation (SDG&E, 2015a).

The AT&T phone line would be upgraded and relocated from a current system feeding the existing customer at the site. As depicted in Figure B.1-3a (Detailed Project Components), one of three potential interconnection points located adjacent to the proposed Vine Substation would be used to facilitate the connection.

Underground Duct Bank

As part of the 12-kV distribution relocation (discussed above in Section B.1.10.2), approximately 2,850 feet of new underground duct banks would be installed along Kettner Boulevard between the proposed Vine Substation and Kettner Substation. Approximately 100 additional feet of new underground duct bank would be installed between an existing handhole located within Pacific Highway and one of the new TSPs that would be installed as part of the 69-kV loop-in. These underground duct banks would include two additional four-inch diameter PVC conduits as depicted in Figure B.1-10 (Typical 12-kV Underground Duct Bank). In locations where this duct bank would enter 12-kV underground vaults, a separate underground duct bank, comprised of two four-inch-diameter PVC conduits encased in a slurry mixture, would be used to route the telecommunication cable separate from the distribution vaults. This separate underground telecommunication duct bank would be approximately 3 feet tall and 1.5 feet wide. A typical drawing of the proposed underground duct bank is provided in Figure B.1-18 (Typical Telecommunication Underground Duct Bank). In addition to the underground duct banks, approximately four underground handholes would be installed to facilitate pulling and splicing during construction and inspection, maintenance, and repair during operation. These precast concrete handholes measure approximately 44 inches long, 32 inches wide, and 24 inches deep. A typical drawing of the proposed telecommunication handhole is provided in Figure B.1-19 (Typical Telecommunication Underground Handhole). The proposed locations of these facilities are depicted in Figure B.1-3a-k (Detailed Project Components).

Underground and Overhead Cable

The telecommunication system extension would utilize all dielectric self-supporting-48 fiber optic cable that measures approximately 0.685 inch in diameter.

B.1.11 Project Construction

Proposed Project construction would include activities associated with the following:

- Land surveying,
- Development of access,
- Substation construction,
- Replacement of existing poles,
- Installation of new subtransmission poles,

- Installation of new duct banks and vaults
- Underground distribution installation,
- Telecommunications installation, and
- Overhead distribution installation.

SDG&E anticipates that Proposed Project construction would take approximately 19 months. Construction would commence following CPUC approval, final engineering, and procurement activities. In order to meet the July 2017 operating date, construction is anticipated to start in January 2016 and would last through July 2017, including testing, commissioning, and energization (see "Construction Schedule" below for additional details). The following subsections describe the construction activities associated with the Proposed Project.

B.1.11.1 All Components

Construction methods for the proposed Vine Substation, 12-kV distribution relocation, and 69-kV loop-in are described in this section. The methods used to extend the telecommunication system are similar to those that would be used to relocate the 12-kV distribution circuits. As a result they are not discussed further.

Dust Control

There are two construction areas that would be unpaved and may require watering during construction to control fugitive dust. The first would be the approximately 1.5-acre (340-foot by 190-foot) proposed Vine Substation site. This location would transition from paved to unpaved during the site development process with the current surface first being removed, then grading the site to engineering specifications, followed by covering the site with an approximately 12-inch layer of Class II aggregate base (SDG&E, 2014). The second would be the transmission work area located adjacent to Pacific Highway. This work area would be used during the installation process for the two new 69-kV TSPs located adjacent to the proposed Vine Substation. Portions of this site (approximately 250 feet by 15 feet) are currently unpaved (SDG&E, 2015a). All unpaved construction areas would be watered up to two times daily during construction to reduce fugitive dust emissions and to meet San Diego Air Pollution Control District (SDAPCD) Rule 55 requirements. SDG&E or its contractor would keep the construction area sufficiently dampened to control dust caused by construction and hauling, and would provide at all times reasonable dust control of areas subject to windblown erosion. The Proposed Project would use potable water for fugitive dust control during construction and landscaping. The water would be obtained from the City of San Diego (SDG&E, 2015a).

Traffic Control

SDG&E would prepare and implement traffic control plans to address potential disruption of traffic circulation during construction activities and address any safety issues. These traffic control plans would be prepared by the project engineer or contractor and subject to approval by the appropriate jurisdictional agency, such as the City of San Diego

Storm Water Pollution Prevention Plan

SDG&E would be required to obtain a Construction General Permit-2009-0009-DWQ (2009 CGP) from the State Water Resources Control Board (SWRCB) as the Proposed Project construction would disturb a surface area greater than one acre. To obtain coverage under the Construction General Permit, Permit Registration Documents, including a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), risk assessment, site map, certification, and annual fee must be submitted electronically to the

SWRCB. A Waste Discharger Identification number must be assigned to the Project prior to initiating construction activities. The SWPPP would include the following:

- Identification of pollutant sources and non-storm water discharges associated with construction activity
- Specifications for Best Management Practices (BMPs) that would be implemented, inspected, and maintained during Proposed Project construction to minimize erosion, the potential for accidental releases, and pollutants in the runoff from the construction areas (including pollutants from storage and maintenance areas, as well as laydown areas for building materials)
- Specifications for spill response and implementation
- A record of training provided to persons responsible for implementing the SWPPP
- Reporting and record-keeping requirements.

Access to the Substation Location

Primary access to the proposed Vine Substation would be from Vine Street during construction via the relocated driveway. Access to the 69-kV loop-in would primarily occur from Vine Street, California Street, and Pacific Highway. The 12-kV distribution relocation activities would primarily be accessed from Kettner Boulevard. As described previously, secondary access to the proposed Vine Substation would be from Kettner Boulevard for use during operation and maintenance activities. No new permanent access roads would be constructed.

Temporary Staging Yards

The majority of construction equipment, vehicles, personnel, and material staging areas would be accommodated within the proposed Vine Substation property and within the work areas described below. Equipment staging would also be conducted at existing SDG&E facilities. Existing SDG&E facilities have been detailed in Table B.1-4 (Existing SDG&E Staging Facilities) below. No additional improvements at these sites would be required prior to construction. Additional existing SDG&E facilities or disturbed areas may be identified for use following the completion of final engineering. Temporary parking of some vehicles along Vine Street may be required depending on actual construction activities occurring at the proposed Vine Substation.

Table B.1-4: Existing SDG&E Staging Facilities

Staging Facility	Approximate location	Approximate Size (Acres)
Kearny Construction and Maintenance Staging Area	Overland Avenue and Clairemont Mesa Boulevard	11.4
Metro Staging Yard	Sunrise Street and 33rd Street	11.6
Beach Cities Staging Yard	Santa Fe Street and Damon Avenue	9.2
Clairemont Drive Staging Yard	Clairemont Drive and Denver Street	1.1

Source: SDG&E, 2015b (Attachment G).

Work Areas

In addition to the temporary staging yards discussed above, temporary work areas would be required for each Proposed Project component in order to facilitate construction. The anticipated workspace requirements are described in detail in the following subsections, and are summarized in Table B.1-5 (Temporary Workspace Requirements), and are depicted in Figure B.1-3a-k (Detailed Project Components). Temporary work areas would all be accessed by construction equipment using existing access roads

(SDG&E, 2015a). All work areas would be restored to pre-construction conditions to the extent practicable following the completion of construction. Further discussion of the restoration process is provided in Section B.3.4 (Biological Resources). Because the new telecommunication system facilities would be installed adjacent to the proposed distribution circuits or would be collocated with the overhead 69-kV loop-in, minimal additional workspace would be required.

Table B.1-5: Temporary Workspace Requirements

Proposed Project Component	Workspace Type	Required Improvements	Quantity	Approximate Dimensions (Feet)	Total Approx. Area (Acres)	Vegetation Type	Temp. Impact	Perm. Impact
Proposed Vine Substation	Substation Pad Installation Area	Grading, excavation, boundary wall and gate installation, substation component installation, and driveway installation	1	340 x 190	1.48	Disturbed/ Developed	0.00	1.48
12-kV Distribution Relocation	Underground Work Area	Excavation, duct bank installation, and cable installation	1	10,220 x 30	7.04	Disturbed/ Developed	7.04	0.00
	Vault Installation Work Area	Excavation, vault installation, and cable installation	16	60 x 40 each	0.88	Disturbed/ Developed	0.88	0.00
	Pull Site	None	56	50 x 30 each	1.93	Disturbed/ Developed	1.93	0.00
	Jack-and-bore work area	Excavation	2	100 x 25	0.06	Disturbed/ Developed	0.06	0.00
				20 x 16	0.01	Disturbed/ Developed	0.01	0.00
		None	1	100 x 55	0.13	Disturbed/ Developed	0.13	0.00
	Switch and Capacitor Installation Work Area	Excavation and Pad Installation	9	50 x 30 each	0.31	Disturbed/ Developed	0.31	<0.01
69-kV Loop-In	Work Area	Excavation, and pole and foundation installation (WA 5)	1	250 x 55	0.28	Disturbed/ Developed	0.28	<0.01
		Pole and Foundation Removal (WA 3)	1	140 x 50	0.16	Disturbed/ Developed	0.16	0.00
		Pole Removal (WA 2)	1	100 x 50	0.11	Disturbed/ Developed	0.11	0.00
		Pole Removal and Installation (WA 4)	1	85 x 50	0.15	Disturbed/ Developed	0.15	<0.01
		Conductor Installation and	1	80 x 40	0.07	Disturbed/ Developed	0.07	0.00

Table B.1-5: Temporary Workspace Requirements								
Proposed Project Component	Workspace Type	Required Improvements	Quantity	Approximate Dimensions (Feet)	Total Approx. Area (Acres)	Vegetation Type	Temp. Impact	Perm. Impact
		Removal (WA 1)						
		Conductor Installation and Removal (WA 6)	1	75 x 40	0.07	Disturbed/ Developed	0.06	0.00
Telecom-munications System Extension	Underground Work Area	Excavation, duct bank installation, and cable installation	1	625 x 30	0.43	Disturbed/ Developed	0.43	0.00
	Handhole Installation Work Area	Excavation, handhole installation, and cable installation	4	50 x 30 each	0.14	Disturbed/ Developed	0.14	0.00
Total	--	--	--	--	13.11	--	11.76	1.49

Source: SDG&E, 2015a (Attachment B).

Note: The temporary workspaces provided are approximate and subject to change pending final engineering. Some of the workspaces indicated would overlap. These overlapping areas have not been removed from the above calculations. The vault installation and switch/capacitor installation work areas would also serve as pull sites.

Construction Equipment and Personnel

Construction equipment would include bulldozers, excavators, loaders, graders, and trucks for excavating, compacting, and hauling. All exported soil and new fill would be transported using street-legal dump/loader trucks. Concrete trucks, backhoes, ditch-witches, and skid steers would be used for the foundation and below-grade work. Portable cranes and heavy hauling trucks would be employed to bring in the 69/12-kV transformers. Substation crews, assist vehicles, forklifts, man lifts, and boom trucks would be used to construct the substation, along with pickup trucks and vans for the wiring and control testing of the substation equipment. Overhead and underground line trucks, assist vehicles, and cable dolly trailers would be used for the construction of the power line and distribution circuits. Table B.1-6 (Construction Equipment Requirements) provides the anticipated construction equipment that would be used for each construction activity.

It is anticipated that up to 33 workers would be employed for the site development phase of the Proposed Project. Between 12 and 24 workers are expected during the foundation and below-grade work, as well as the construction of the proposed substation. The relocation of the 12-kV distribution circuits would require between 12 and 63 workers depending on the activity and locations. Final testing and checkout would require nine electricians and/or engineers. SDG&E would employ an average of 46 workers throughout the 19-month construction period, with a peak of up to 83 workers (SDG&E, 2015b). The workers would consist of existing SDG&E employees and contract workers. SDG&E does not anticipate any of the workforce needed to construct the Proposed Project would come from outside of San Diego County (SDG&E, 2015a). A summary of the anticipated construction personnel by Proposed Project component is provided in Table B.1-7 (Construction Personnel Requirements).

Table B.1-6: Construction Equipment Requirements			
Vehicle/Equipment Type	**Use**	**Hours Operating at Site/Day (per vehicle)**	**Quantity Required**
Proposed Vine 69/12-kV Substation			
Site Development and Grading			
Off-road Water Truck	Suppress dust	7	1
Backhoe	Excavate and load material	6	2
Compactor	Compact soil	7	2
Dozer	Grade pads and access roads	6	2
Excavator	Excavate and load material	6	1
Loader	Load dump trucks and stockpile material	6	2
Paver	Pave access roads	6	1
Roller	Compact soil	6	2
Scraper	Grade pads and access roads	7	2
Skid-steer Loader	Move material	3	2
Trencher	Excavate trenches	6	1
Retaining/Boundary Wall Construction			
Compactor	Compact soil	9	1
Excavator	Excavate and load material	9	1
Loader	Load dump trucks and stockpile materials	9	3
Motor Grader	Grade pads and access roads	9	1
Walk-behind Compactor	Compact soil	9	3
Below-Grade Construction			
Backhoe	Excavate and load material	6	1
Loader	Move bulk material	6	2
Skid-steer Loader	Move rebar, equipment, masonry, and other material	4	1
Trencher	Excavate trenches	6	1
Substation Equipment Installation			
Cable Dolly (Trailer)	Transport reels of conductor	No Engine	1
Boom Truck	Place materials and set steel	6	2
Manlift	Set steel and install equipment	6	1
Bucket Truck	Set steel and install equipment	5	4
Oil Rig (Trailer with Generator)	Process transformer oil	24 (10 days for manufacturer setup)	1
Stringing Rig (Trailer)	Assist with conductor installation	2	No Engine
12-kV Distribution Relocation			
Duct Bank Construction and Vault Installation – Daytime			
Air Compressor	Power tools	3	4
Asphalt Spreader	Spread asphalt	6	2
Backhoe	Excavate and load material	6	2
Emulsion Trailer	Assist with repaving	5	2
Generator	Power tools and equipment	5	2
Grinding Machine	Prepare surface for repaving	5	2
Large Crane	Set vaults	4	2
Roller	Compact pavement	5	2
Saw-cutting Machine	Cut pavement	6	2
Skid-steer Loader	Excavate, move, and load materials	2	2
Small Backhoe	Excavate and load materials	2	2
Trackhoe	Excavate and load materials	6	2
Vacuum	Clean construction site	6	2
Duct Bank Construction and Vault Installation – Nighttime			
Air Compressor	Power tools	3	4
Asphalt Spreader	Spread asphalt	6	2
Backhoe	Excavate and load material	6	2
Emulsion Trailer	Assist with repaving	5	2

Table B.1-6: Construction Equipment Requirements

Vehicle/Equipment Type	Use	Hours Operating at Site/Day (per vehicle)	Quantity Required
Generator	Power tools and equipment	5	2
Grinding Machine	Prepare surface for repaving	5	2
Large Crane	Set vaults	4	2
Light tower with generator	Light construction areas	8	8
Roller	Compact pavement	5	2
Saw-cutting Machine	Cut pavement	6	2
Skid-steer Loader	Excavate, move, and load materials	2	2
Small Backhoe	Excavate and load materials	2	2
Trackhoe	Excavate and load materials	6	2
Vacuum	Clean construction site	6	2
Cable Installation and Cutover			
Pulling Rig	Pull cable into position	2	1
Jack-and-Bore Installation			
Air Compressor	Power tools	3	1
Backhoe	Excavate bore pits and load material	6	1
Boom Truck	Setup K-rails and casing stock	6	1
Crew Truck with Welding Equipment	Install casings	4	1
Drill/Bore Rig	Install casing	6	1
Excavator	Excavate bore pits	6	1
Large Crane	Setup pit shoring and baker tanks	3	2
Pickup with Generator	Cut roads for bore pits	4	1
Pump	Dewater bore pits	6	1
Sawcutting Machine	Cut roads for bore pits	4	1
Pump	Dewater bore pits	6	1
Sawcutting Machine	Cut roads for bore pits	4	1
Skid-steer Loader	Load materials, clean construction site	3	1
Small Crane	Set bore rig	4	1
Vacuum Truck	Clean construction site	4	1
69-kV Loop-In			
Foundation Installation			
Backhoe	Excavate soil	4	1
Boom Truck	Place rebar cage	3	1
Drill/Bore Rig	Excavate soil	8	1
Forklift	Place materials	4	1
Generator	Provide power to the work area	4	1
Pole Installation and Removal			
Jack Hammer	Break up existing foundation	8	1
Air Compressor	Power tools	8	1
Boom Truck	Erect poles	8	1
Bucket Truck	Erect poles and install conductor	8	1
Conductor Installation and Cutover			
Boom Truck	Move materials and install conductor	7	1
Bucket Truck	Move materials and install conductor	7	2
Pulling Rig	Pull conductor into position	7	1
Telecommunication System Extension			
Duct Bank Construction and Vault Installation			
Backhoe	Excavate trench	3	1
Skid-steer Loader	Excavate, move, and load materials	3	1

Source: SDG&E, 2015d (Attachment A: Revised Construction Equipment and Vehicle Summary).
Note: Telecommunication cable installation would use the same equipment as the distribution cable installation; vehicles with an operating time of zero would be driven to the site and parked.

Table B.1-7: Construction Personnel Requirements		
Activity	**Position**	**Approximate Number**
Proposed Vine 69/12-kV Substation		
Site Development and Grading Construction	Construction Manager	1
	Superintendent	1
	Foreman	2
	Operator	15
	Laborer	10
	Inspector	2
	Grade Checker / Surveyor	2
Retaining/Boundary Wall Construction	Construction Manager	1
	Superintendent	1
	Operator	4
	Laborer	8
	Inspector	1
Below-Grade Construction	Foreman	1
	Laborer	4
	Concrete Finisher	2
	Equipment Operator	1
	Haul Truck Driver	1
	Concrete Truck Driver	1
	Water Truck Driver	1
	Standby Electrician	1
Substation Equipment Installation	Crew Foreman	2
	Journeyman	8
	Apprentice	2
	Assistant	1
	Operator	2
	Wiring Foreman	1
	Wiremen	2
	Relay Inspector	2
	Relay Technician	4
12-kV Distribution Relocation		
Duct Bank Construction and Vault Installation – Daytime/Nighttime [a]	Foremen	1 to 2
	Inspector	1 to 2
	Journeyman	1 to 2
	Operator	4 to 8
	Laborer	13 to 26
Cable Installation and Cutover	Foreman	3
	Journeyman	6
	Apprentice	3
Jack-and-Bore	Foreman	1
	Welder	1
	Helper	2
	Laborer	3
	Surveyor	1
69-kV Loop-In		
Foundation Installation	Foreman	1
	Laborer	4
Pole Installation and Removal	Foreman	1
	Lineman	4
Conductor Installation and Cutover	Foreman	1

Table B.1-7: Construction Personnel Requirements

Activity	Position	Approximate Number
	Lineman	4
Telecommunication System Extension [b]		
Cable Installation	Foreman	1
	Inspector	1
	Journeyman	1
	Laborer	4
	Splicer	2
Energization		
Testing and Commissioning	Foreman	2
	Journeyman	6
	Engineer	1

Source: SDG&E, 2014 (Table 3-5), 2015b (Table 2-5 12-kV Distribution Relocation), and 2015d (Attachment C, Duct Bank Construction Vault Installation – Daytime/Nighttime).

Notes:

(a) Because a construction contractor has not been selected, SDG&E has assumed up to four crews, two during daytime hours and two during nighttime hours, may work on the 12-kV duct bank construction and vault installation each day. As a result, a range of personnel has been included for this activity.

(b) Construction personnel responsible for the installation of the 12-kV distribution relocation underground duct banks will also construct the underground duct banks required for the telecommunications system extension.

Construction Truck and Vehicle Trips

A summary of the number of truck trips required to construct each of the Proposed Project's components has been provided as Table B.1-8 (Construction Truck Trip Summary). Table B.1-9 (On-Road Vehicle Trips) provides a detailed list of all on-road vehicle requirements for the Proposed Project (SDG&E, 2015a).

Table B.1-8: Construction Truck Trip Summary

Proposed Project Component	Approximate Truck Trips Required
Proposed Vine Substation	2,650
12-kV Distribution Relocation and Telecommunication System Extension	1,900
69-kV Loop-In	400

Source: SDG&E, 2014 (Table 3-3), 2015b (Section 2.6.5, Construction Schedule for 12-kV Distribution Relocation).

Table B.1-9: On-Road Vehicle Trips

Component	Vehicle Type	Vehicle Category	Trips per day	Total Trips
Proposed Vine Substation				
Site Development	Commuter Trip	Worker	33	--
	Dump Truck	Hauling	--	909
	Maintenance Truck	Vendor	2	--
	Asphalt	Hauling	--	13
	Delivery	Vendor	5	--
Wall Construction	Commuter Trip	Worker	15	--
	Delivery	Vendor	1	--
	Maintenance Truck	Vendor	1	--
Below Grade	Commuter Trip	Worker	12	--
	Dump Truck	Hauling	--	50
	Concrete Truck	Hauling	--	83

Table B.1-9: On-Road Vehicle Trips				
Component	**Vehicle Type**	**Vehicle Category**	**Trips per day**	**Total Trips**
	Delivery	Vendor	2	--
Substation Equipment Installation	Commuter Trip	Worker	24	--
	Crew Truck	Worker	5	--
	Delivery	Vendor	3	--
12-kV Distribution Relocation				
Duct Bank and Vault Installation – West of Interstate (I-) 5	Commuter Trip	Worker	20	--
	Dump Truck	Hauling	--	280
	Construction Truck	Worker	3	--
	Pickup Truck	Worker	3	--
	Pickup with Saw Cutter	Worker	2	--
	Concrete Truck	Hauling	--	398
	Asphalt	Hauling	--	--
	Delivery	Vendor	2	--
Duct Bank and Vault Installation – East of I-5	Commuter Trip	Worker	20	--
	Pickup Truck	Worker	8	--
	Equipment Truck	Worker	32	--
	Dump Truck	Hauling	--	187
	Concrete Truck	Hauling	--	259
	Crew Truck	Worker	1	--
	Tractor Truck/Trailer	Vendor	2	--
	Emulsion Trailer	Vendor	2	--
Cable Installation	Commuter Trip	Worker	12	--
	Line Truck	Worker	1	--
	Splice Truck	Worker	1	--
	Pickup truck	Worker	1	--
	Delivery	Vendor	2	--
69-kV Loop-In				
Foundation Installation	Commuter Trip	Worker	5	--
	Pickup Truck	Worker	2	--
	Concrete Truck	Hauling	--	20
	Dump Truck	Hauling	--	15
	Delivery	Vendor	2	--
Pole Installation and Removal	Commuter Trip	Worker	5	--
	Delivery	Vendor	2	--
Conductor Installation	Commuter Trip	Worker	5	--
	Wire Truck/Split Reel	Vendor	1	--
	Delivery	Vendor	2	--
Telecommunications System Upgrade				
Duct Bank and Vault Installation	Commuter Trip	Worker	--	--
	Dump Truck	Hauling	--	10
	Concrete/Asphalt Truck	Hauling	--	14
	Delivery	Vendor	2	--
Cable Installation	Commuter Trip	Worker	9	--
	Delivery	Vendor	2	--
Energization				
Testing and Commissioning	Commuter Trip	Worker	9	--

Source: SDG&E, 2015a (Attachment H: On-Road Vehicle Trips).

Construction Schedule

The total construction time including grading, construction, energizing, and testing of the Proposed Project is expected to take approximately 19 months, starting in January 2016. Substation construction would generally take place between 7:00 a.m. and 7:00 p.m. from Monday through Saturday (SDG&E, 2015b). Due to the potential traffic impacts related to relocation of the distribution circuits, construction within Kettner Boulevard would occur during the evenings. In addition, some concrete pours may take place during an extended day, depending on the size of the pour. Transformer oil filling may also require vacuum pulls and oil installation, which in turn may require continuous work through the night. Actual cutovers of the power line and distribution circuits to the substation would be dependent on loading requirements, and would be done in a manner that maintains uninterrupted service to customers. This may require part or all of this work to be done after normal business hours or on the weekend and/or nights.

Construction efforts for the Proposed Project would occur in accordance with Chapter 5, Article 9.5, Division 4 of the City of San Diego Municipal Code (Noise Ordinance) and would generally occur between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. Construction activities would generally adhere to the noise ordinance of the local jurisdiction. While the final construction schedule for the 12-kV distribution work within Kettner Boulevard would be determined during through the encroachment permit process with the City of San Diego, the anticipated working hours on Kettner Boulevard would be from 10:00 p.m. to 5:00 a.m. to reduce potential traffic impacts associated with the relocation of the distribution circuits (SDG&E, 2015b). All other distribution relocation activities would occur during the normal construction hours. During nighttime hours, standard lighting units (i.e., a trailer with a lighting tower) would be set up within each work area (SDG&E, 2015a).

In the event construction activities are necessary on days or hours outside of what is specified by the local ordinance (for example, if existing lines must be taken out of service for the work to be performed safely and the line outage must be taken at night or on a weekend for system reliability reasons), SDG&E would obtain variances as necessary from appropriate jurisdictions where the work would take place. SDG&E has informed the City of San Diego that a permit from the Noise Abatement and Control Administrator per Municipal Code Section 59.5.0404 will be sought for the work occurring after 7:00 p.m. (SDG&E, 2015a).

A detailed construction schedule is provided in Table B.1-10 (Proposed Construction Schedule).

Table B.1-10: Proposed Construction Schedule

Proposed Project Component	Activity	Approximate Duration (Months)	Anticipated Start Date	Anticipated End Date
Proposed Vine Substation	Site Development and Grading	3	January 2016	March 2016
	Retaining Wall/Boundary Wall Construction	2	March 2016	April 2016
	Below-Grade Construction	6	April 2016	September 2016
	Substation Equipment Installation	10	September 2016	June 2017
12-kV Distribution Relocation	Duct Bank Construction and Vault Installation	6	October 2016	March 2017
	Cable Installation and Cutover	3	April 2017	June 2017
	Jack-and-Bore	0.75	January 2017	January 2017

Table B.1-10: Proposed Construction Schedule				
Proposed Project Component	Activity	Approximate Duration (Months)	Anticipated Start Date	Anticipated End Date
69-kV Loop-In	Foundation Installation	0.5	November 2016	November 2016
	Pole Installation and Removal	3.5	Mid-November 2016	February 2017
	Conduit Installation and Cutover	2	January 2017	February 2017
Telecommunication System Extension	Duct Bank Construction and Vault Installation	1	April 2017	April 2017
	Cable Installation	1	May 2017	May 2017
Energization	Testing and Commissioning	5	February 2017	June 2017
	Energization	0.5	July 2017	July 2017

Source: SDG&E, 2015b (Table 2-6).

B.1.11.2 Vine Substation Construction

Site Development and Grading

Prior to installation and construction of the proposed Vine Substation, the site would need to be prepared/developed. This would ensure that the site conditions reflect the engineering requirements. Site preparation and development would start with the removal of the existing paved parking lot surface, which would require the use of excavators, front-end loaders, concrete saws, and/or bulldozers (see Table B.1-6, Construction Equipment Requirements).

Once cleared, remedial grading would take place based on the recommendations of the geotechnical investigation, which would determine the appropriate on-site pad elevation and foundation support that also maintains adequate site drainage. On-site material would be reused to the extent possible, as recommended by a Geotechnical Engineer. These activities are anticipated to generate approximately 4,200 cubic yards (CY) of material for off-site disposal. Approximately 4,600 CY of select fill would be imported to help achieve the conceptual design elevation. Site grading would be accomplished primarily with bulldozers and backhoes, which would condition, cut and fill, and blend the native soil and imported material to the desired pad elevations. Construction of the boundary walls described in Section B.1.10.1 under “Substation Perimeter” would begin once grading is complete. An approximately 12-inch layer of Class II aggregate base (approximately 2,100 CY) would also be imported and installed over the building pad area for the finished surface.

Construction of the proposed Vine Substation would require approximately 6,700 CY, or an estimated 1,470 haul truckloads, of imported fill to develop the proposed substation site. Potential sources of import material include Carrol Canyon Rock, Asphalt & Ready Mix (10051 Black Mountain Road, San Diego, CA); Superior Reach Mix Concrete, L.P. (7500 Mission Gorge Road, San Diego, CA); and Vulcan Material Company (2041 Heritage Road, Chula Vista, CA) (SDG&E, 2015d). Haul trucks would operate periodically, as needed, during the grading phase of construction. In general, an average of no more than 20 truck trips per day for an estimated five months would be required to complete the proposed substation grading and boundary wall installation. In addition, approximately five additional trips per day are anticipated for the delivery of materials and equipment for the duration of construction.

Construction trip details are summarized above in Table B.1-8 (Construction Truck Trip Summary), and Table B.1-9 (On-Road Vehicle Trips) provides a detailed list of all on-road vehicle requirements for the Proposed Project.

Below-Grade Construction

Following site development, below-grade work would begin, which would include the construction of structure and equipment foundations, underground ducts, the ground grid, and erection of the control shelter. The construction of the distribution circuits and tie lines surrounding the Vine Substation would start while the substation is under construction. Concrete trucks, backhoes, ditch-witches, and skid steer loaders would be used for the below-grade work (see Table B.1-6, Construction Equipment Requirements).

Above-Grade Construction

Once the grading activities and below-grade construction are complete, major equipment and structures would be installed and anchored on their respective foundations. The following steps would be taken to install the above-grade equipment:

- The 69-kV rack would be erected.
- The 69-kV circuit breakers would be installed on their foundations.
- The control shelter would be constructed, and relay panels, controls, battery, and station lighting and power would be installed.
- The ground grid, control, communication, and power ducts would be installed and wiring of the equipment controls and protection devices would follow.
- The 69/12-kV transformers would be installed on their foundations, assembled, and filled with oil.
- The 12-kV switchgear, capacitors, and reactor would be installed on their foundations.

Power lines and distribution circuits would be completed and connected inside the substation following final installation of the substation structures and equipment. The communication equipment for the operation of the Proposed Project would be connected inside the control shelter. Testing would be performed on all equipment after the equipment is installed and wired, and before placing it in service.

Equipment would be placed in service once the 12-kV circuits and 69-kV loop-in are ready to be energized and are tested outside the substation. Portable cranes and heavy hauling trucks would be employed to bring in the 69/12-kV transformers. Substation crews, assist vehicles, forklifts, man lifts, and boom trucks would be used to construct the substation. Oil-processing equipment and vacuum pumps would be used to fill transformers with oil. Pickup trucks and vans would be used for the wiring and control testing of the substation equipment. Line trucks, assist vehicles, and cable dolly trailers would be used for construction of the power line and distribution circuits.

A temporary tap to an existing distribution line may be installed to provide electrical service to the substation staging area during construction. This temporary tap may be used to power construction trailers, lighting, or small hand-held machinery or tools until the substation is energized. The temporary tap may require up to three directly buried wood poles (approximately 20 feet in height) to connect a distribution line from an existing underground distribution transformer located adjacent to the substation site.

Cleanup and Post-Construction Activities

All areas that are temporarily disturbed during construction would be restored to preconstruction conditions, to the extent practicable, once construction of the substation is complete. Cleanup efforts would include removal of all construction debris for recycling and/or disposal off site. In addition, landscaping would be installed consistent with SDG&E's Landscape Plan, which is described above in Section B.1.10.1 under "Substation Perimeter". In the event that non-hazardous, non-contaminated construction materials, such as concrete or asphalt, are generated, these materials would be recycled at either Vulcan Materials Landfill (10051 Black Mountain Road, San Diego, CA 92126) or at Ennis, Inc. (12535 Vigilante Road, Lakeside, CA 92040) (SDG&E, 2015b).

B.1.11.3 12-kV Distribution Relocation

As part of the Proposed Project, portions of the existing 12-kV distribution system would need to be relocated. This requires the installation of new underground duct banks and vaults using temporary workspaces located within City of San Diego streets and public areas. The cable installation process would require a network of pull sites located adjacent to the proposed and existing underground vaults, as shown in Figure B.1-3a-k (Detailed Project Components). These pull sites would be used to stage the equipment necessary to pull the underground cable through the installed conduit (see "Work Areas" discussion below). A truck holding a reel of cable is set up on one end of the pull and a winch/line truck/similar piece of equipment on the other end. Rope is installed when the conduit is put in, which allows the line crew to pull larger rope or steel cable into the conduit with it (SDG&E, 2015c). These pull sites would be approximately 50 feet long by 20 to 30 feet wide. With the exception of the two pull sites that would be established near the intersections of Kettner and West Hawthorn Street and Pacific Highway and West Hawthorn Street, all pull sites would be located within the underground trench work area. All pull sites would be located within the paved portion of existing City streets or associated sidewalks and road shoulders; therefore, no improvement would be required prior to use.

Work Areas

In addition to the staging areas discussed above, temporary workspace would be required for the installation of new duct banks and vaults associated with the 12-kV distribution circuit relocations. Generally, underground trench work area would be approximately 30 feet wide, centered on the distribution circuit alignment. In locations where vaults would need to be installed (see Figure B.1-3a-k, Detailed Project Components), additional workspace would be established measuring approximately 60 feet by 40 feet centered on the vault location. These work areas would support all cable installation activities, including telecommunication system extension, as well as the associated construction equipment to perform the work. A total of approximately 4,320 linear feet (2.98 acres) of workspace would be required to install the duct banks (SDG&E, 2015a).

Site preparation for the underground trench work area and vault installation work areas would involve site mark out, with offsets of the proposed trench alignment, as well as setting up traffic controls according to the applicable traffic control plan prior to construction. Additional temporary work spaces measuring approximately 50 feet by 30 feet would be established to facilitate the installation of switches and capacitors. These anticipated workspace requirements are summarized in Table B.1-5 (Temporary Workspace Requirements) and depicted in Figure B.1-3a-k (Detailed Project Components).

As described below under "Jack-and-Bore," the portion of the new underground duct bank that crosses the MTS railroad line on West Palm Street would be installed using the jack-and-bore method of construction. In order to excavate the required entry and receiving pits, and to operate the associated construction equipment, an approximately 100-foot by 25-foot jack-and-bore work area would be established at the entry pit and a second approximately 20-foot by 16-foot work area would be established at the exit pit. In addition, an approximately 100-foot by 55-foot paved, fenced lot at the intersection of West Palm Street and Pacific Highway currently used by Budget Rent A Car would be used for the staging and operation of equipment and materials. The jack-and-bore work areas are depicted on Figure B.1-3h (Detailed Project Components). The temporary work area specifications for the Proposed Project are provided above in Table B.1.5 (Temporary Workspace Requirements).

Access

The 12-kV distribution relocation activities would be access from Kettner Boulevard, Vine Street, India Street, Redwood Street, West Laurel Street, Columbia Street, and State Street. No new permanent access roads would be constructed.

Trenching

Other utility companies would be notified prior to trenching to allow the utilities time to locate and mark existing underground utilities along the proposed underground alignment. Exploratory excavations (i.e., potholing) would also be conducted within the ROW to verify the exact location of other existing facilities. All known underground facilities crossed by or in close proximity to the trench would be potholed, surveyed, and indicated on the plan and profile drawings for use during construction. The required pothole frequency depends on the number of facilities to be crossed or located in close proximity to the proposed trench. The pothole frequency would be determined during the final engineering phase (SDG&E, 2015a). Potholing activities would be conducted using hydro excavation (a high pressure water spray) to remove the soil. The soil would then be vacuumed into a sealed container and disposed of at an off-site location in accordance with all applicable laws and regulations. Once a utility is located, it would be measured, photographed, and documented. Silica sand would then be placed over the utility and the rest of the pothole would be backfilled with clean fill material (SDG&E, 2015a).

Coordination with the City may be required to secure encroachment permits for trenching in the City's ROW. It is anticipated that between one and two lanes of Kettner Boulevard would occasionally be closed during trenching activities. During the trenching in the intersection of West Palm Street and Kettner Boulevard, the intersection would be closed for a three- to five-day period (SDG&E, 2015a). Traffic controls would be implemented as required by the Encroachment Permit.

Trenching operations would be staged in intervals so that a maximum of 500 feet of trench would be left open at any one time, or as allowed by permit requirements. At any one time, open trench lengths would not exceed that required to facilitate the installation of the duct bank. Steel plating would be placed over the trenches to maintain vehicular and pedestrian traffic across areas that are not under active construction. A typical drawing of the proposed underground construction activities is provided in Figure B.1-20 (Typical Underground Construction Process within Roadways).

The duct bank would be installed using open-cut trenching techniques. Most of the duct bank would have a single-circuit vertical configuration, as shown in Figure B.1-10 (Typical 12-kV Underground Duct Bank). Transitions to a flat configuration may be required in certain areas to clear substructures in highly congested areas, or to fan out to termination structures at the transition area.

The typical trench dimensions for installation of each duct bank would be between three to six feet deep and two to seven feet wide, depending on the necessary duct bank configuration. Depths may vary depending on soil stability and the presence of existing substructures. The trench would be widened and shored where necessary to meet California Occupational Safety and Health Administration requirements. A photograph of a typical 12-kV trenching installation with shoring is included as Figure B.1-21A (Typical 12-kV Trench Photograph).

Fill generated by excavation activities would be transported to an SDG&E-approved disposal site as described above in Section B.1.11.2 (Cleanup and Post-Construction Activities). Trenches would be dewatered using a portable pump if ground water is encountered. The water would be disposed of in accordance with acquired permits. For a more detailed list of the permits and approvals necessary for the Proposed Project, see Section B.1.14 (Permits and Approvals). As described previously, traffic controls would also be implemented to direct local traffic safely around work areas. SDG&E would coordinate provisions for emergency vehicle and local access with local jurisdictions as necessary.

Duct Bank Installation

After the trenches for the underground 12-kV duct banks are completed, SDG&E would install the cable conduits (separated by spacers) and pour concrete around the conduits in the trenches to form the duct banks. The duct banks would typically consist of eight five-inch-diameter PVC conduits, which house the electrical cables, as shown in Figure B.1-10 (Typical 12-kV Underground Duct Bank) and in Figure B.1-21B (Typical 12-kV Duct Bank Photograph). The dimensions of the duct banks would be approximately 1.5 feet wide by 2.7 feet tall for a vertical configuration. The duct package would consist of a single 12-kV distribution circuit. Two four-inch conduits would also be installed within the distribution duct bank between the proposed Vine Substation and Kettner Substation for telecommunication purposes.

Once the PVC conduits are installed in the trench, engineered slurry backfill would be imported, placed, and compacted. A road base backfill or slurry concrete cap would be applied and the disturbed road surface would be restored in compliance with local permits. While the completed trench sections are being restored, additional trench would be opened farther down the street. This process would continue until the 12-kV distribution circuits are completed. Each duct bank would have a minimum of 30 inches of cover. Larger trenches would be excavated where vaults are installed, as described in the subsection that follows.

Radial clearance between the distribution duct bank and existing substructures would depend on the soil temperature surrounding the existing substructure. Where the distribution duct bank would cross other substructures that operate at normal soil temperature (e.g., gas lines, telephone lines, water mains, storm drains, and sewer lines), a minimal radial clearance of 12 inches would be required. A minimum radial clearance of 24 inches would be required when the duct bank would be installed parallel to other substructures. Ideally the distribution duct bank would maintain clearances of two to five feet from nearby substructures. Where the duct banks cross or run parallel to substructures that operate at temperatures significantly exceeding normal soil temperature (e.g., other underground power line circuits, primary distribution cables, steam lines, and heated oil lines), additional radial clearance may be required to preserve structural integrity and stability of the distribution duct bank. All work would be done in conformance with SDG&E's current construction and operating practices.

Vault Installation

SDG&E would excavate and install pre-formed concrete splice vaults during trenching for the 12-kV circuit duct banks. The proposed trench alignment and vault locations are shown on Figure B.1-3a-k (Detailed Project Components). The installation of each vault would require an excavation measuring approximately 11 feet by 7.5 feet by 29 feet. The vaults would be used to pull distribution and telecommunications cable through the conduits and splice the cables together during construction. During operation of the Proposed Project, the vaults would provide access to the underground cables for maintenance, inspections, and repairs.

Vaults would be constructed of prefabricated, steel-reinforced concrete and designed to withstand the maximum credible earthquake in the area and traffic loading. The installation process for each vault would occur over a one-week period, beginning with the excavation and shoring of the vault pit, followed by delivery and installation of the vault, filling and compacting the backfill, and repaving the excavated area where necessary. Vault dimensions are detailed above in Table B.1-3 (Vault Dimensions) and shown in Figure B.1-11 (Typical 12-kV Underground Vault). Photographs of typical vaults similar to the type the Proposed Project would utilize are provided in Figure B.1-22 (Typical Type 3327 Vault and Installation Photographs).

Jack-and-Bore

SDG&E would use the horizontal jack-and-bore construction technique to install approximately 200 feet of proposed conduit near the intersection of West Palm Street and the MTS railroad tracks. Horizontal jack-and-bore is an auguring operation that simultaneously pushes a casing under an obstacle, while removing the displaced material using a rotating auger inside the pushed casing. Boring operations would begin with excavating pits at each end of the bore. The entry pit for the casing would measure approximately 40 feet by 12 feet and the exit or receiving pit would measure approximately 10 feet by six feet. The proposed bore pits would be between 10 and 20 feet deep, depending on the soil type and facilities that would be crossed. In addition, an approximately 30-foot-long section of the existing raised island in the roadway would be temporarily removed to maintain access for the surrounding businesses.

Once the bore pits are complete and shored, boring equipment would be delivered to the site and installed into the entry pit. It is anticipated that a 42-inch casing size made of either steel or a fiberglass-polymer mix would be used for the crossing. A 20-foot section of the casing would be lowered into the pit with the auger inserted and attached to the auguring machine. As the casing is bored toward the receiving pit, additional 20-foot sections of casing would be attached to the previous casing until the casing breaks through at the receiving pit. It is anticipated that water would be used to lubricate the auger during the boring process.

A conduit package, which consists of 12 five-inch PVC ducts supported by polyethylene spacers, would then be pulled through the casing. The casing would then be grouted to secure the conduit package. It is anticipated that between approximately 275 to 500 CY of material would be excavated during the jack-and-bore installation. Following the installation, the bore pits would be backfilled using native material, and the duct bank exiting the casing would be covered with at least 36 inches of slurry. All soil not used for backfill would be hauled off site and disposed of at an approved facility.

A depiction of a typical jack-and-bore installation is provided in Figure B.1-23 (Typical Jack-and-Bore Installation). SDG&E would secure the necessary permits to conduct these specialized construction activities and would implement standard best management practices, including silt fencing and straw wattles, in accordance with the Proposed Project's SWPPP.

Cable Pulling, Splicing, and Termination

After installation of the conduit, SDG&E would install three cables per distribution circuit in the duct banks. Each cable segment would be pulled into the duct bank, spliced at each of the vaults along the route, and terminated at the proposed Vine Substation. To pull the cable through the ducts, a cable reel would be placed at one end of the section and a pulling rig would be placed at the other end. A larger rope would then be pulled into the duct using a previously installed pull line and would be attached to the cable-pulling eyes to pull the cable into the duct. A lubricant would be applied to the cable as it enters the duct to decrease friction during pulling. Generally, the interior of the vault would be rigged with pulling shaves so that the pulling rope and cable enters the conduit in a straight line to avoid damage to the cable or the conduit (SDG&E, 2015c). The electric cables and the communication cable would be pulled through the individual ducts at the rate of two or three segments between vaults per day.

The vaults must be kept dry at all times to keep the unfinished splices dry and prevent other impurities from affecting the cables. Splicing typically takes between two and four hours per 12-kV circuit to complete (SDG&E, 2015a). At each end of the underground segment, the cables would rise out of the ground and terminate within the substation.

Cleanup and Post-Construction Restoration

Following completion of construction, all areas that are temporarily disturbed by the 12-kV distribution relocation activities would be restored to pre-construction conditions, to the extent practicable. Restoration would include the removal of all construction debris for recycling or disposal off site and repaving, as appropriate.

B.1.11.4 69-kV Loop-In

Work Areas

The 69-kV Loop-in would require an approximately 150-foot-long by 40-foot-wide temporary workspace along Vine Street to accommodate construction equipment and activities during the removal of the existing wood power line pole and associated guy pole. A second work area, approximately 100 feet long by 40 feet wide, would be established along California Street to remove a second wood pole. No grading or vegetation removal is anticipated as the poles are located within the existing sidewalk.

In order to install the three new poles that would facilitate the loop-in of TL604, two additional work areas would be established. The first work area would measure approximately 250 feet long by 55 feet wide and would be located along Pacific Highway. The work area would be located directly adjacent to the existing fence that separates Pacific Highway from the existing railroad ROW. This placement would require the closure of up to two lanes of traffic along the northbound direction of Pacific Highway during the installation of the new poles, conductor installation, and removal activities. The existing vegetation within this pole work area may be cleared to establish safe operating conditions for construction equipment. The second work area would be located adjacent to the existing distribution pole. The second work area would be used to facilitate the installation of a new power line pole for the 69-kV loop-in. This work area would measure approximately 130 feet long by 50 feet wide and would be placed within an existing parking lot along Pacific Highway. The work areas necessary for the 69-kV Loop-in are shown in Figure B.1-3a (Detailed Project Components).

Conductor installation and removal would require two additional work areas. The first work area would be located along Frontage Road and would measure approximately 80 feet long by 40 feet wide. The second work area would measure approximately 75 feet long by 40 feet wide. The work area would be located along Pacific Highway. The work areas necessary for conductor installation and removal are also detailed in Figure B.1-3a (Detailed Project Components).

Access

The 69-kV loop-in would primarily be accessed from Vine Street, California Street, and Pacific Highway. Access to the temporary work areas would be provided by overland travel from California Street and Vine Street within newly acquired ROW. No new permanent access roads would be constructed for the 69-kV loop-in. (SDG&E, 2014)

Clearing and Grading

Minimal grading and vegetation removal are anticipated for the 69-kV loop-in since the power line poles would be located adjacent to Pacific Highway. If vegetation removal is required, mowers would be used to clear the area required for pole installation. Material removed from the clearing site during construction would be spread over the existing area as appropriate, or would be disposed of off site in accordance with all applicable laws. The vegetation and habitat communities that exist at the potential clearing sites are discussed in Section B.3.4 (Biological Resources).

Wood Pole Removal

The existing wood pole removal would begin with crews dismantling the hardware on the existing poles using cranes and aerial manlifts. The old poles would be cut off at ground level and transported off site by flatbed truck for disposal at an approved facility. The base of the poles would be abandoned in place if they cannot be removed. If the base of the poles are removed, then the voids would be backfilled and compacted with native soil, and the surrounding area would be restored. Figure B.1-15 (Typical Existing 69-kV Wood Pole) serves as an example of the type of pole to be removed.

Steel Pole Removal

The existing steel guy pole and associated guy wires would be dismantled and removed by cranes and aerial manlifts. The pole and guy cables would be transferred to a flatbed truck using a small, truck-mounted crane. The material would then be transported off site for recycling or disposal at an approved facility. Once the pole has been removed, the reinforced concrete foundation for the steel guy pole would be jack-hammered to approximately 12 to 18 inches below grade. All debris located near the vicinity of the foundation would be removed from the site and would be recycled or disposed of at an approved facility. The remaining hole would then be backfilled with material similar to the surrounding area, and the site restored. Figure B.1-16 (Typical Existing Stub Guy Pole) serves as an example of the type of pole to be removed.

Steel Pole Installation

Foundations

Additional geotechnical investigations would be conducted prior to installation of the new subtransmission poles. Two eight-inch diameter borings, up to 35 feet deep, would be performed in the vicinity of the proposed pole locations (SDG&E, 2015a).

The three steel poles that would be installed as part of the Proposed Project would be placed on new drilled concrete pier foundations. Following the preparation of the pole work areas, the foundation process would begin with the excavation of a hole using a truck-mounted excavator with augers of various diameters to match the diameter and depth requirements of the foundation.

Each foundation hole would measure approximately nine feet in diameter and approximately 40 feet deep, requiring the excavation of 95 CY of soil, depending on the conditions determined during the geotechnical investigations. Following the excavation of the foundation hole, a reinforcing steel cage and anchor bolts would be assembled at one of the Proposed Project’s staging areas, transported to the foundation site, and installed within the foundation hole.

After completing the cage installation, a form would be built and concrete would be poured to a height of approximately two feet above grade. Each foundation would require approximately 80 CY of concrete to be delivered to the foundation location. Concrete would be delivered directly to the pole’s location in concrete trucks with a capacity of up to 12 CY. Steel plating would be placed over excavated areas, where appropriate, to maintain vehicular and pedestrian traffic

Pole Installation

Steel poles would be delivered in one or more sections to the pole installation sites via flatbed truck and assembled on site using a small, truck-mounted crane. The poles would typically have three crossarms, supporting one circuit on one side of the pole. The crossarms would be bolted to the pole, and the insulators would then be bolted to the crossarms. After assembly, a large crane would be used to lift and set the poles into place on the anchor bolts embedded in the concrete foundation. The nuts on the foundation anchor bolts would then be tightened and secured to complete the installation. Figure B.1-17 (Typical Proposed 69-kV Tubular Steel Pole) shows a typical design of the poles to be installed.

Overhead Conductor Installation

Conductor-stringing operations would be facilitated with the installation of sheaves or "rollers" on the pole crossarms during using aerial manlifts (e.g., bucket trucks). The sheaves would allow the conductor to be pulled through each pole until the entire line is ready to be pulled up to the final tension position.

The installation would first begin with the placement of a pull rope in the sheaves. Once the rope is in place, it would be attached to a steel cable and pulled back through the sheaves. The conductor would then be attached to the cable and pulled back through the sheaves using conventional tractor-trailer pulling equipment located at the pull site. This process would be repeated for each conductor.

After the conductor is pulled into place, the sags between the structures would be adjusted to a pre-calculated level. The line would be installed with a minimum ground clearance of 35 feet from the ground to the lowest conductor. The conductor would then be clipped into the end of each insulator, the sheaves would be removed, and vibration dampers and other accessories would be installed. This process would be repeated for each conductor. A typical drawing of the conductor installation procedure is provided as Figure B.1-24 (Typical Overhead Conductor Installation).

The work areas located along Pacific Highway would be used to facilitate the pulling activities. These work areas would be used to load the tractors and trailers with reels of conductors, and the trucks with tensioning equipment. These sites would also be used to collect conductor after it is removed from the existing lines and placed onto reels for transport off site. Figure B.1-3a-k (Detailed Project Components Map) details the locations of the work areas.

Dewatering

Previous cable underground projects in the region have not encountered water during construction activities (SDG&E, 2015c). Due to this prior knowledge, no dewatering is anticipated during construction. However, in the event that groundwater is encountered, it would potentially occur during construction of the duct bank, handhole installation for the 12-kV distribution circuits and telecommunication system extension, or foundation excavation for the 69-kV loop-in. Should dewatering be necessary, the following construction dewatering procedures would be implemented during construction:

- A submersible pump would be installed.
- The groundwater would be pumped to a desiltation tank (i.e., baker tank) for sediment and filtering. Baffles would be installed in the tank to increase sedimentation, and the water in the tank would be allowed to flow out from the opposite end for testing.
- The water would then be tested to ensure compliance with the Regional Water Quality Control Board (RWQCB) National Pollutant Discharge Elimination System requirements. If the water quality does not meet permit requirements, additional baker tanks would be used and/or additional treatment or filtering would be performed until the applicable requirements are met.
- The water would be disposed of at an approved SDG&E disposal site.

Cleanup and Post-Construction Restoration

With the exception of areas around poles that would be kept clear of shrubs and other obstructions for inspection and maintenance purposes, all other areas that are temporarily disturbed would be restored to pre-construction conditions, to the extent practicable, following the completion of the 69-kV loop-in. Post-construction restoration would include grading to original contours, reseeding, and repairing the current pavement, as appropriate. This process will be completed using the personnel identified in Table B.1-7 (Construction Personnel Requirements) and with the equipment identified in Table B.1-6 (Construction Equipment Requirements). The drainage patterns in the Proposed Project area will be returned to near pre-construction conditions (SDG&E, 2015a).

B.1.11.5 Fiber Optic Telecommunication System Construction

As described in Section B.1.10.4 (Telecommunication System Extension), new fiber optic cable would be installed from an existing underground vault located on Pacific Highway to the proposed Vine Substation. The new fiber-optic cable would also be installed from the proposed Vine Substation to the Kettner Substation. The connection from Pacific Highway to the proposed Vine Substation would be located in an overhead configuration along a new power line ROW, while the connection between the proposed Vine substation and Kettner Substation would be located in a new underground duct bank constructed during the 12-kV distribution relocation. An existing AT&T telephone line at the proposed Vine Substation site would be upgraded and relocated from the existing service to the new substation. The connection would originate from one of three locations located along the perimeter of the proposed Vine Substation site as depicted in Figure B.1-3a (Detailed Project Components). The final location of the telephone line connection would be determined during final engineering and through additional coordination with AT&T.

Underground Duct Bank

The fiber-optic telecommunication extension would be installed within approximately 2,850 feet of new underground duct banks constructed along Kettner Boulevard between the proposed Vine Substation and Kettner Substation as part of the 12-kV circuit relocation work. Approximately 100 additional feet of new underground duct bank would be constructed between an existing handhole located within Pacific Highway and one of the new TSPs that would be installed as part of the 69-kV loop-in. The underground duct banks, where the telecommunications system would be installed, would include two additional four-inch-diameter PVC conduits as depicted in Figure B.1-10 (Typical 12-kV Underground Duct Bank). The construction methods used to install the underground duct banks for the fiber-optic telecommunication system extension would be similar to those discussed above in Section B.1.11.3 under “Duct Bank Installation.”

In locations where duct banks contain both fiber-optic telecommunication lines and 12-kV distribution lines and a vault is required, a separate underground duct bank comprised of two four-inch-diameter PVC conduits encased in a slurry mixture would be used to separate the telecommunication cable and route it around the vault to a handhole. This separate underground telecommunication duct bank would be approximately 3 feet tall and 1.5 feet wide. A typical drawing of the proposed underground duct bank is provided in Figure B.1-18 (Typical Telecommunication Underground Duct Bank).

Approximately four underground handholes would be installed along the duct bank to facilitate pulling and splicing during construction and inspection, maintenance, and repair during operation. These precast concrete handholes measure approximately 44 inches long, 32 inches wide, and 24 inches deep. A typical drawing of the proposed telecommunication handhole is provided in Figure B.1-19 (Typical

Telecommunication Underground Handhole). The proposed locations of these facilities are depicted in Figure B.1-3a-k (Detailed Project Components).

B.1.12 Operation and Maintenance

B.1.12.1 Proposed Vine 69/12-kV Substation

Once the proposed Vine Substation is constructed and placed in service, it would be unmanned. The proposed Vine Substation would be monitored and controlled by SDG&E's Remote Control Center. As described in Section B.1.10.2 (Substation Perimeter), a boundary wall would be constructed around the proposed Vine Substation and all access gates would be locked to prevent unauthorized entry. In addition, signage would be posted on the substation's exterior and at the entryway to restrict entry to authorized SDG&E personnel.

Ongoing maintenance would involve testing, monitoring, and repair of the equipment, as well as emergency and routine operations. Operation and maintenance (O&M) activities would be performed by current SDG&E employees (SDG&E, 2015b). Routine maintenance is expected to require approximately six trips per year by a two- to four-person crew. Routine operations would require one or two workers in a light utility truck to visit the substation on a daily or weekly basis. It is anticipated that one annual major maintenance inspection would occur, requiring an estimated 10 personnel. It is anticipated that this inspection would take approximately one week to complete. This procedure would include a full inspection of the 69-kV circuit breakers and may include an overhaul of the 69/12-kV transformer load tap control settings. The crews would access the site using standard construction pick-up trucks and line trucks via existing access routes. The line trucks would carry the maintenance tools necessary for inspections. A majority of the inspections would be visual in nature. The work would generally be conducted between the hours of 7:00 a.m. and 7:00 p.m. (SDG&E, 2015a). Nighttime maintenance activities are not expected to occur more than once a year.

Landscape maintenance would occur on an as-needed basis for purposes of enhancing the streetscape along the perimeter of the substation and for safety and/or access. Such activities would generally require the presence of one to two maintenance vehicles and one or more employees to clear and/or trim vegetation to ensure that an adequate working space is maintained around the substation facilities.

B.1.12.2 12-kV Distribution Relocation

Maintenance requirements for the 12-kV distribution may include replacement of damaged cables or connectors. Maintenance crews would consist of four to six personnel and require a tool truck, cable truck, assist truck, and/or trouble shooter truck. Routine inspections would occur annually to identify connection problems and inspect for equipment degradation.

B.1.12.3 69-kV Loop-In

It is anticipated that the power line circuit that loops into the substation would be inspected once per year. Non-emergency major maintenance may include activities such as the replacement of damaged insulators. Maintenance crews may consist of as many as four people and may require a tool truck, an assist vehicle, and a large bucket lift truck. Polymer insulators have been selected for the Proposed Project and do not require washing (SDG&E, 2015a).

Operations and maintenance activities for the 69-kV loop-in would include routine inspection, maintenance, and repair activities. Both routine preventive maintenance and emergency procedures would occur in order to ensure that integrity of the system is maintained over the long term. Inspections may occur through ground patrols visiting the facilities. At a minimum, such routine inspections would occur annually to identify potential corrosion, equipment misalignment, loose fittings, and/or other mechanical problems.

B.1.12.4 Telecommunication System Extension

Typically, ongoing or routine maintenance activities for a fiber optic telecommunications cable is not required. As a result, the only activities associated with the operation and maintenance of this Proposed Project component would stem from emergency repairs or future changes to the fiber optic network design.

B.1.13 Applicant-Proposed Measures

In addition to the above Project design features and ordinary construction/operating restriction included as part of the Proposed Project, SDG&E would also incorporate applicant-proposed measures (APMs) developed by SDG&E specifically for the Proposed Project. Table B.1-11 (Applicant-Proposed Measures) identifies the APMs and indicates which Proposed Project component they apply to. These measures are considered part of the Proposed Project and are considered in the evaluation of environmental impacts. CPUC approval would be based upon SDG&E adhering to the Proposed Project as described in this document, including this project description and the APMs, as well as any adopted mitigation measures.

Implementation of Applicant-Proposed Measures

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

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

If conditions occur where construction may potentially adversely affect a known or previously unknown environmentally sensitive resource, or if construction activities significantly deviate from Proposed Project requirements, SDG&E monitors and/or contract administrator(s) would have the authority to halt construction activities until an alternative method or approach can be identified. Any concerns that arise during implementation of the APMs would be communicated to the appropriate authority to determine if corrective action is required, or the concerns would be addressed on site, as applicable.

As the proposed APMs are implemented, environmental monitors from SDG&E would be responsible for the review and documentation of such activities. Field notes and digital photographs would be used to document and describe the status of APMs as necessary.

Table B.1-11: Applicant Proposed Measures

APM Number	Description	Justification	Proposed Project Component: Proposed Vine 69/12-kV Substation	12-kV Distribution Relocation	69-kV Loop-In	Telecommunication System Extension
BIO-01	A nighttime emergent bat survey will be conducted no more than five days prior to the removal of the palm trees located on the proposed Vine Substation Site. During This survey, an AnaBat System will be used to detect bat activity in the vicinity of the trees, and the trees will be visually monitored for the emergence of bats. This survey will be conducted from 30 minutes prior to sunset to 90 minutes after sunset. Following the survey, the tree removal will proceed as follows: -If no bats are detected during the emergent survey, the trees will be removed within five days. If the trees are not removed within five days, the emergent survey will be repeated. -If bats are detected in the trees outside of the pupping season (typically April through July), emergent surveys will be repeated. If no bats are detected for two consecutive nights, the trees will be removed within five days. If the trees are not removed within five days, the emergent survey will be repeated. -If bats are detected in the trees during the pupping season, tree removal will wait until the end of pupping season and the emergent surveys will be repeated. In addition to the above pre-construction survey SDG&E will perform quarterly day/night emergent surveys (one night each quarter) between now and the start of construction to confirm presence/absence of bats at each palm tree.	Based on recent scientific studies and observations, several bat species have been known to utilize palm trees for roosting. A suitable prey base (in the form of insects) exists due to the abundant use of artificial nighttime lighting in the vicinity of the proposed Vine Substation site.	Yes	No	No	No
CUL-01	An archaeological monitor(s) familiar with the types of prehistoric and historic resources that could be encountered within the Project area will be present during ground-disturbing activities associated with the Vine Substation. In addition, an archaeological monitor(s) will be present during all trenching activities associated with the underground 12-kilovolt lines along Kettner Boulevard. In the event that cultural resources are discovered, the archaeological monitor will have the authority to divert or temporarily halt ground disturbance to allow evaluation of the potentially significant cultural resources. The archaeological monitor will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeological monitor, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program would be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the history of the area. Faunal material will be identified to the species level. If locomotive and/or electric rails are discovered during construction and fall within a recommended period of significance, and cannot be preserved in place, they will be immediately documented using standard documentation. All materials that cannot be preserved in place will be offered to the Pacific Southwest Railway Museum for preservation. If preservation is not feasible, the monitor will	This measure ensures that ground-disturbing activities are monitored so that impacts can be mitigated through proper investigation and recovery of cultural resources.	Yes	Yes	Yes	Yes

Table B.1-11: Applicant Proposed Measures

APM Number	Description	Justification	Proposed Project Component			
			Proposed Vine 69/12-kV Substation	12-kV Distribution Relocation	69-kV Loop-In	Telecommunication System Extension
	photograph, map and document the location of the resource and summarize the results in a Department of Parks and Recreation (DPR 523) form that will be submitted to the South Coastal Information Center (SCIC). A monitoring results report—which includes appropriate graphics and describes the results, analyses, and conclusions of the monitoring program—will be prepared and submitted to SDG&E's Cultural Resource Specialist and Environmental Project Manager following completion of the program. Any cultural sites or features encountered will be recorded on appropriate Department of Parks and Recreation forms. All forms and reports will be submitted to the SCIC at San Diego State University and to the City of San Diego Development Services Department.					
CUL-02	A paleontological monitor will be on site to observe excavation operations that involve the original cutting of deposits with high paleontological resource sensitivity (i.e., Bay Point Formation) to depths greater than 3.5 feet. In the event that fossils are encountered, the paleontological monitor will have the authority to divert or temporarily halt construction activities in the area of discovery to allow the recovery of fossil remains. The paleontological monitor will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. When fossils are discovered, a paleontologist (or the paleontological monitor) will recover them, along with pertinent stratigraphic data. Fossil remains collected during monitoring and salvage would be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final summary report will be completed that outlines the results of the mitigation program. The report will discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.	This measure ensures that excavation in areas containing Pleistocene-age deposits of the Bay Point Formation and Lindavista Formation are monitored so that impacts can be mitigated through proper investigation and recovery of cultural resources.	Yes	Yes	Yes	Yes
HAZ-01	Prior to approval of the final construction plans for the Proposed Project, a project-specific Hazardous Materials and Waste Management Plan will be prepared for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations. The Hazardous Materials and Waste Management Plan will reduce or avoid the use of potentially hazardous materials for the purposes of worker safety, protection from groundwater contamination, and proper disposal of hazardous materials. The plan will include the following information related to hazardous materials and waste, as applicable: ▪ A list of the hazardous materials that will be present on site during construction, including information regarding their storage, use, and transportation; ▪ Any secondary containment and countermeasures that will be required for	The Hazardous Materials and Waste Management Plan will reduce or avoid the use of potentially hazardous materials for the purposes of worker safety, protection from groundwater contamination, and proper disposal of hazardous materials.	Yes			

Table B.1-11: Applicant Proposed Measures

APM Number	Description	Justification	Proposed Project Component			
			Proposed Vine 69/12-kV Substation	12-kV Distribution Relocation	69-kV Loop-In	Telecommunication System Extension
	onsite hazardous materials, as well as the required responses for different quantities of potential spills; ▪ A list of spill response materials and the locations of such materials at the Proposed Project site during construction; ▪ A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials; ▪ A description of the waste-specific management and disposal procedures that will be conducted for any hazardous materials that will be used or are discovered during construction of the Proposed Project; and ▪ A description of the waste minimization procedures to be implemented during construction of the Proposed Project.					

Source: SDG&E, 2014 (Table 3-8); SDG&E, 2015a (APM BIO-01); SDG&E, 2015e (APM CUL-01 revised).

Project Design Features

The Proposed Project includes design features and ordinary construction and operating restrictions that avoid and minimize environmental impacts. The design features and ordinary construction and operating restrictions incorporated into the Proposed Project include measures that are routinely implemented by SDG&E on other projects that involve ground disturbance. Many of these features and restrictions have been developed over time to avoid and minimize environmental impacts, to comply with SDG&E's Subregional Natural Community Conservation Plan (NCCP – PEA Attachment 4.4-C), and to comply with applicable environmental laws and regulations. Consistent with its existing practices, SDG&E would implement these operating restrictions as appropriate during construction, operation, and maintenance to avoid and minimize potential environmental impacts.

A description of many of the design features and ordinary construction and operating restrictions incorporated into all phases of the Proposed Project follows.

- Safety and Environmental Awareness Program. SDG&E would prepare a Safety and Environmental Awareness Program (SEAP) for project-personnel. The SEAP may include training for relevant topics such as:
  - General safety procedures,
  - General environmental procedures,
  - Fire safety,
  - Biological resources,
  - Cultural resources,
  - Paleontological resources,
  - Hazardous materials protocols and BMPs, and
  - Storm Water Pollution Prevention Plan (SWPPP).

The program would include a multi-level approach that is commensurate to each worker's role on the Proposed Project. Supervisors, including construction foremen, would be required to actively participate in a training session to identify the specific requirements of the Proposed Project. SDG&E crews and other staff would also be given training and a review of the Proposed Project requirements prior to the commencement of any grading or construction work.

- **Galvanized Steel Structures.** New structures would utilize galvanized steel to avoid potential adverse effects due to high moisture content in coastal areas. The dulled aspect of the galvanized steel poles would also minimize the potential for visual impacts relating to glare.
- **Aerial Marking**. SDG&E would consult with the FAA concerning aerial marking and lighting requirements for all new overhead facilities. As required, lighting and aerial marking would be added to applicable overhead facilities, including new structures. The FAA confirmed on October 8, 2014 that the proposed TSPs will not require marking or lighting. The FAA's determination is valid for 18 months, at which point SDG&E can apply for a one-time 18-month extension, if necessary (SDG&E, 2015a).
- **Construction Scheduling**. To the greatest extent practical, SDG&E would plan construction of the Proposed Project such that any potential overlap with other SDG&E projects would be coordinated such that net impacts would be minimized.

- **Hazardous Materials**. SDG&E would address potential impacts relating to the handling and use of hazardous materials through compliance with numerous state and federal regulations, including, but not limited to:
  - Federal Occupational Safety and Health Administration (OSHA) regulations for worker safety in hazardous material remediation and hazardous waste operations (29 CFR Section 1910.120),
  - Federal OSHA regulations hazard communication for workers (29 CFR Section 1910.1200),
  - Federal OSHA regulations for toxic air contaminants for workers (29 CFR Section 1910.1000),
  - CalOSHA regulations for worker safety in hazardous material remediation and hazardous waste operations (8 California Code of Regulations [CCR] 5192),
  - CalOSHA regulations for hazard communication for workers (8 CCR 5194), and
  - Department of Toxic Substances Control (DTSC) regulations implementing Resource Conservation and Recovery Act of 1976 (RCRA) and the California Hazardous Waste Control Law (HWCL) (22 CCR Division 4.5).
- **Health and Safety Plan.** SDG&E will prepare and implement a Health and Safety Plan to guide construction workers on how to properly manage any contamination discovered during construction. (SDG&E, 2014, p. 4.8-13)
- **SDG&E Subregional NCCP**. The Proposed Project would avoid and minimize impacts to biological resources through implementation of the SDG&E Subregional NCCP. The SDG&E Subregional NCCP establishes a mechanism for addressing biological resource impacts incidental to the development, maintenance, and repair of SDG&E facilities within the SDG&E Subregional NCCP coverage area.
- **SDG&E Water Quality Construction BMP Manual**. SDG&E's Water Quality Construction BMPs Manual (BMP Manual – PEA Attachment 4.8-B) organizes and presents SDG&E's standard water quality protection procedures for various specific actions that routinely occur as part of SDG&E's ongoing construction, operation, and maintenance activities. The primary focus of most BMPs is the reduction and/or elimination of potential water quality impacts during construction. The BMPs described within the BMP Manual were derived from several sources including the State of California guidelines as well as the California Department of Transportation (Caltrans) Water Quality BMPs.
- **Erosion and Sediment Control and Pollution Prevention During Construction**. Projects that disturb one acre or more of soil are required to obtain coverage under the California SWRCB's General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ (Construction General Permit). To obtain coverage under the Construction General Permit, Permit Registration Documents, including a Notice of Intent, SWPPP, risk assessment, site map, certification, and annual fee, must be submitted electronically to the SWRCB, and a Waste Discharger Identification number must be assigned prior to initiating construction activities. The SWPPP would include the following:
  - Identification of pollutant sources and non-storm water discharges associated with construction activity
  - Specifications for BMPs that would be implemented, inspected, and maintained during Proposed Project construction to minimize erosion, the potential for accidental releases, and pollutants in the runoff from the construction areas (including pollutants from storage and maintenance areas, as well as laydown areas for building materials)
  - Specifications for spill response and implementation

- A record of training provided to persons responsible for implementing the SWPPP
- Reporting and record-keeping requirements

- **Hazardous Waste and Spill Prevention.** During construction, the San Diego RWQCB would oversee and inspect for compliance with the Construction General Permit for the SWRCB. In addition, a Hazardous Materials Business Plan (HMBP) and Spill Prevention, Control, and Countermeasure Plan (SPCC) would be prepared prior to construction of the Proposed Project, and would be implemented during construction to ensure that any potential release or spill of hazardous materials is properly handled. All non-hazardous soil and grub material that would be transported off site may be disposed of at the Miramar Landfill (5180 Convoy Street, San Diego, CA), located approximately 7.2 miles northeast of the proposed Vine Substation (approximately 12.4-mile one-way trip distance [SDG&E, 2015d]). All other construction waste (i.e., refuse, spoils, trash, oil, fuels, poles, pole structures, etc.) would be disposed of properly and in accordance with all applicable federal, State, and local laws regarding solid and hazardous waste disposal.
- **Temporary Lighting**. Temporary lighting at staging and storage areas would be directed on site and away from any sensitive receptors.
- **Visual Screening of Staging Yard**. Where the proposed Vine Substation is visible to the public, opaque mesh or slats (or equivalent material) would be installed along a temporary six-foot tall construction fence that would soften the view of the site from roads, residences, and other public vantage points.
- **Materials.** Non-specular conductor and galvanized steel poles would be used in order to reduce potential glare.
- **Restoring Appearance of Temporarily Disturbed Areas**. When Proposed Project construction has been completed, all temporarily disturbed terrain would be restored, as needed and as appropriate, to approximate pre-construction conditions.
- **Soil Stabilization**. Disturbed areas must be stabilized per the SWPPP.
- **Fugitive Dust Control**. All unpaved construction areas would be watered up to two times daily during construction to reduce dust emissions and to meet SDAPCD Rule 55 requirements. SDG&E or its contractor would keep the construction area sufficiently dampened to control dust caused by construction and hauling, and would provide at all times reasonable dust control of areas subject to windblown erosion.
- **Bulk Material Transport**. All loads would be secured by covering or be sufficiently watered and use of at least two feet of freeboard to avoid carry-over. Bulk material transport will include the removal of spoils from excavation activities during remedial grading and duct bank installation, as well as the import of fill during site development activities. The bed of all trucks hauling this material will be covered with a tarp or similar material. If a cover is not used, the material will be sufficiently watered and at least two feet of freeboard will be maintained to avoid carry-over (SDG&E, 2015b).
- **Equipment Emissions**. SDG&E or its contractor would maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would have their engines turned off after five minutes when not in use. Construction activities would be phased and scheduled to avoid emission peaks, and equipment use would be curtailed during second-stage smog alerts.
- **Volatile Organic Compound (VOC) Reduction**. Low- and non-VOC-containing coatings, sealants, adhesives, solvents, asphalt, and architectural coatings would be used to reduce VOC emissions.

- **Mufflers**. Functioning mufflers would be maintained on all equipment.
- **Resident Notification**. Residents within 300 feet of the Proposed Project would receive notification of the start of construction at least one week prior to the start of construction activities within that area.
- **Construction Noise**. For locations where the Proposed Project could exceed the noise ordinances, SDG&E would meet and confer with the City of San Diego to discuss temporarily deviating from the requirements of the Noise Ordinance.
- **Standard Traffic Control Procedures**. SDG&E would implement traffic control plans to address disruption of traffic circulation during construction activities and address any safety issues. These traffic control plans would be prepared by the project engineer or contractor and subject to approval by the appropriate jurisdictional agency, such as the City of San Diego.
- **Encroachment Permits**. SDG&E would obtain the required encroachment permits from the City of San Diego for work within City streets (see Table B.1-12) and would ensure that proper safety measures are in place while construction work is occurring within and near public roadways. These safety measures include the use of flagging, proper signage, and orange cones to alert the public to construction activities near and within the roadway.

B.1.14 Permits and Approvals

The CPUC is the lead California agency for the Proposed Project. SDG&E must comply with the CPUC's GO No. 131-D Section III-B, which contains the permitting requirements for the construction of the Proposed Project. In addition to the Permit to Construct, SDG&E is required to obtain a number of other permits from federal, state, and local agencies. Table 3-11: Permit, Approval, and Consultation Requirements lists the permits, approvals, and licenses that SDG&E anticipates obtaining from jurisdictional agencies.

Table B.1-12: Permit, Approval, and Consultation Requirements

Agency	Permit, Approval, or Consultation	Jurisdiction/Purpose
Federal Agencies		
USFWS	Implementation of SDG&E's NCCP	Activities within NCCP coverage areas that impact biological resources (required only for review of the Proposed Project, and no approval or permit is involved)
State Agencies		
CPUC	Permit to Construct	Overall project approval and California Environmental Quality Act (CEQA) review
SWRCB	National Pollutant Discharge Elimination System General Construction Permit	Storm water discharges associated with construction activities disturbing more than one acre of land
CDFW	Implementation of SDG&E's NCCP	Activities within NCCP coverage areas (required only for the review of Proposed Project, no approval or permit is involved)
Local Agencies		
North County Transit District (NCTD)	Right-of-Entry permit	Access to NCTD Property during construction
MTS	Right-of-Entry Permit	Access to MTS property during construction

Table B.1-12: Permit, Approval, and Consultation Requirements

Agency	Permit, Approval, or Consultation	Jurisdiction/Purpose
MTS	License Agreement	Operation and maintenance within, under, or over a railroad ROW.
Burlington North Santa Fe (BNSF) Railway	Temporary Occupancy Agreement	Access to BNSF property during construction
BNSF Railway	Utility Agreement License	Operation and maintenance, within, under, or over a railroad ROW
City of San Diego	Encroachment Permit	Construction, operation, and maintenance within, under, or over city or county road ROW
City of San Diego	Grading Permit	On-site grading activities
City of San Diego	Noise Abatement and Control Administrator Permit	For work occurring after 7:00 p.m.
City of San Diego	Traffic Management Plan	SDG&E will submit the plan to the City of San Diego prior to construction and will abide by the requirements set forth in the permit as it pertains to ingress and egress routes.

Source: SDG&E, 2014 (Table 3-7), 2015a.

Right of Way Requirements

As described previously, SDG&E currently owns the approximately 1.5-acre parcel on which the proposed Vine Substation would be constructed; therefore, no new ROW would be required to install this Proposed Project component. Because the new and relocated 12-kV distribution circuits and underground portions of the telecommunication system extension would be placed entirely within City of San Diego public streets, they would occupy the franchise position and no new ROW would be obtained. SDG&E would obtain a License Agreement from MTS for the approximately 80 feet of new, approximately 320-foot-wide ROW for the overhead 69-kV loop-in conductors. The remainder of the 69-kV loop-in would be installed within the franchise position of City of San Diego public streets.

PROJECT DESCRIPTION FIGURES

Project Location

Source: SDG&E,2014

1 inch = 2 miles

0 1 2 Miles

Figure B.1-1: Project Location Map

Proposed Vine 69/12 kV Substation
Existing Kettner Substation
Existing 69 kV Overhead
Existing 69 kV Overhead to be Removed
Proposed 69 kV Overhead
Existing 12 kV Duct Bank
Proposed 12 kV Duct Bank
Proposed 12 kV and Telecommunications Duct Bank
Proposed Telecommunications Duct Bank

Source: SDG&E,2015b

1:8,000
0 500 1,000 Feet

N

Figure B.1-2: Project Overview Map

Source: SDG&E,2015b

1:1,600

0 100 200 Feet

N

Figure B.1-3a: Detailed Project Components

Source: SDG&E,2015b

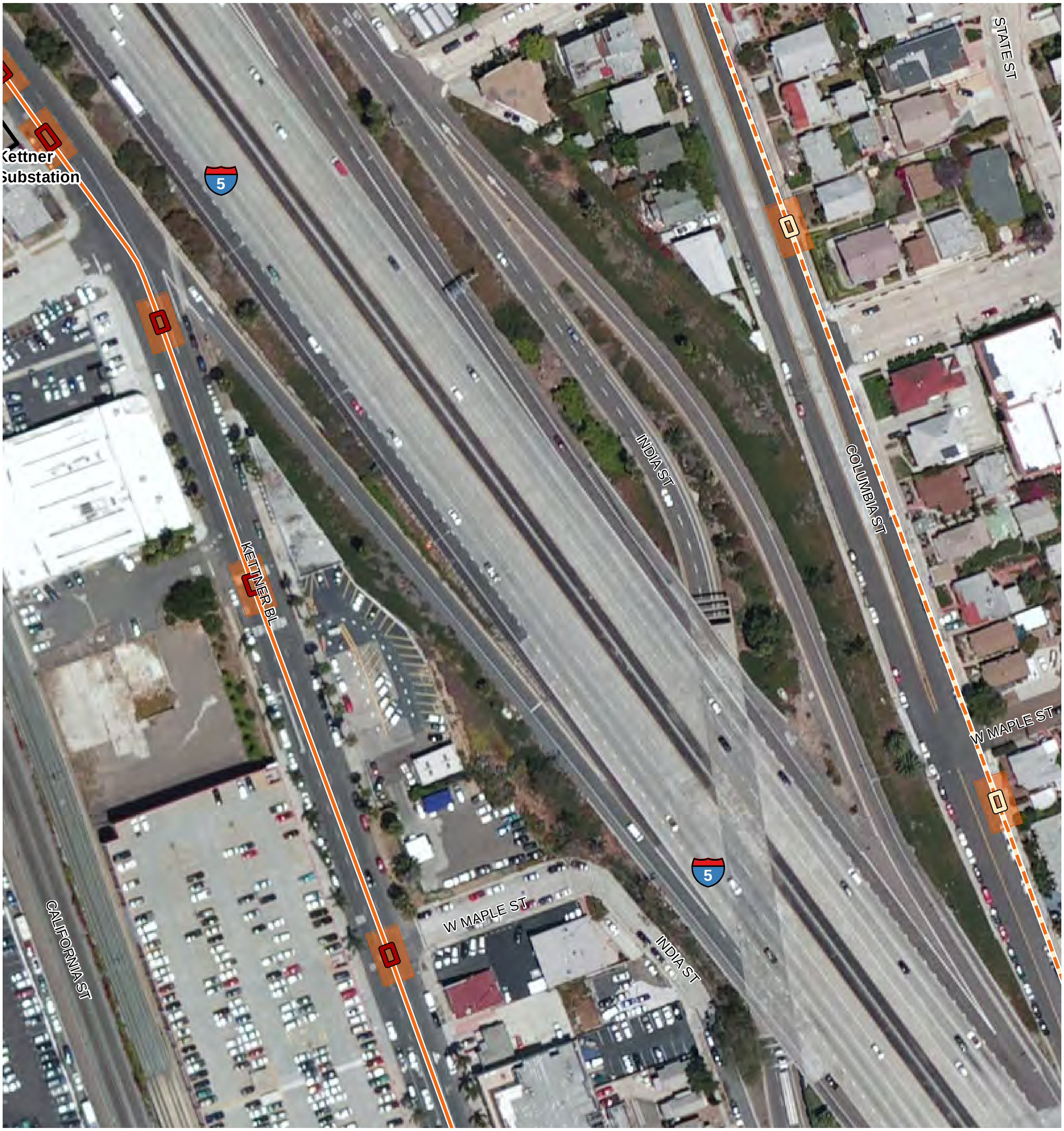
Figure B.1-3b: Detailed Project Components

Source: SDG&E,2015b

Figure B.1-3c: Detailed Project Components

Source: SDG&E,2015b

Figure B.1-3d: Detailed Project Components



- Proposed Vine 69/12 kV Substation
- Existing Kettner Substation
- Transmission Work Area
- Jack-and-Bore Work Area
- Existing 12 kV Distribution Vault
- Proposed 12 kV Distribution Vault
- Proposed Telecommunication Handhole
- Proposed 12 kV Distribution Pull Site
- Existing Pole
- Install New TSP
- Replace Existing Pole with TSP
- Remove Existing Pole
- Remove Existing Stub Guy Pole
- Potential AT&T Interconnection Point
- Proposed Capacitor Bank
- Proposed Switch
- Existing 69 kV Overhead
- Existing 69 kV Overhead to be Removed
- Proposed 69 kV Overhead
- Existing 12 kV Duct Bank
- Proposed 12 kV Underground
- Proposed 12 kV and Telecommunications Duct Bank
- Proposed Telecommunications Duct Bank

Source: SDG&E,2015b

1:1,600
0 100 200 Feet

N

Figure B.1-3e: Detailed Project Components

Source: SDG&E,2015b

Figure B.1-3f: Detailed Project Components

Source: SDG&E,2015b

Figure B.1-3g: Detailed Project Components

Source: SDG&E,2015b

Figure B.1-3h: Detailed Project Components

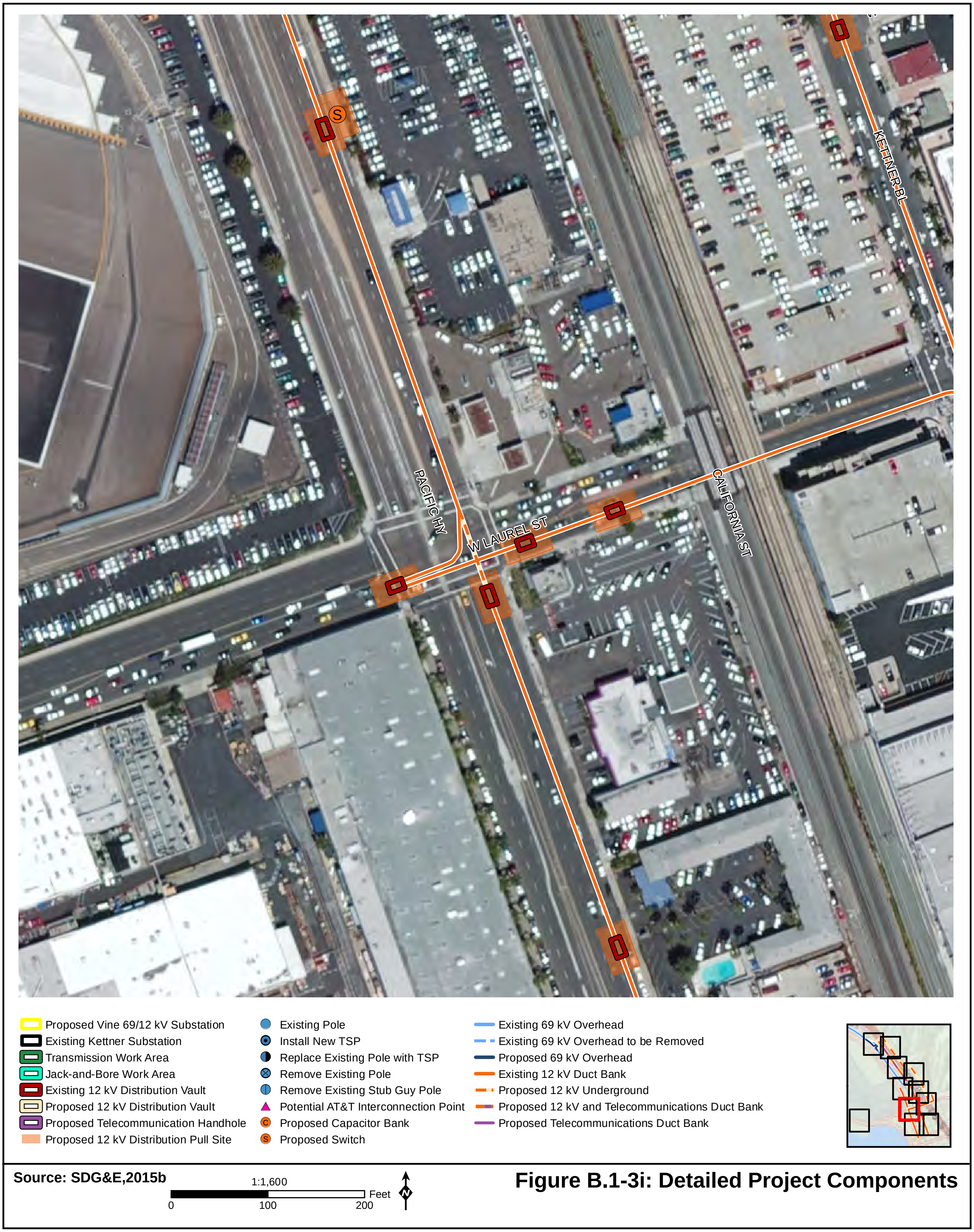
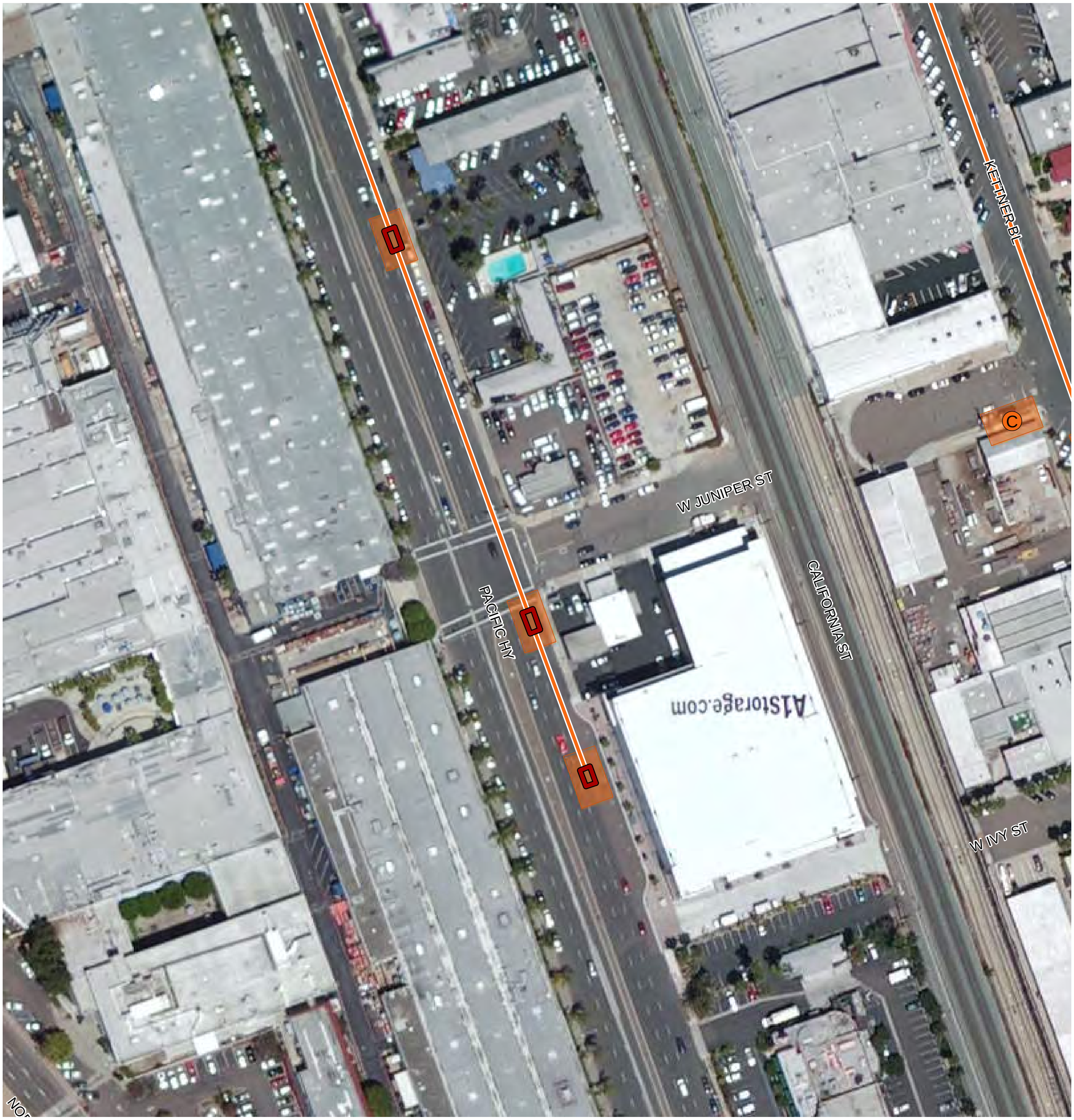
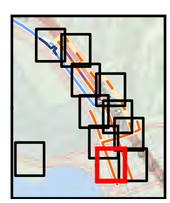


Figure B.1-3i: Detailed Project Components



- Proposed Vine 69/12 kV Substation
- Existing Kettner Substation
- Transmission Work Area
- Jack-and-Bore Work Area
- Existing 12 kV Distribution Vault
- Proposed 12 kV Distribution Vault
- Proposed Telecommunication Handhole
- Proposed 12 kV Distribution Pull Site
- Existing Pole
- Install New TSP
- Replace Existing Pole with TSP
- Remove Existing Pole
- Remove Existing Stub Guy Pole
- Potential AT&T Interconnection Point
- Proposed Capacitor Bank
- Proposed Switch
- Existing 69 kV Overhead
- Existing 69 kV Overhead to be Removed
- Proposed 69 kV Overhead
- Existing 12 kV Duct Bank
- Proposed 12 kV Underground
- Proposed 12 kV and Telecommunications Duct Bank
- Proposed Telecommunications Duct Bank



Source: SDG&E,2015b

1:1,600

0 100 200 Feet

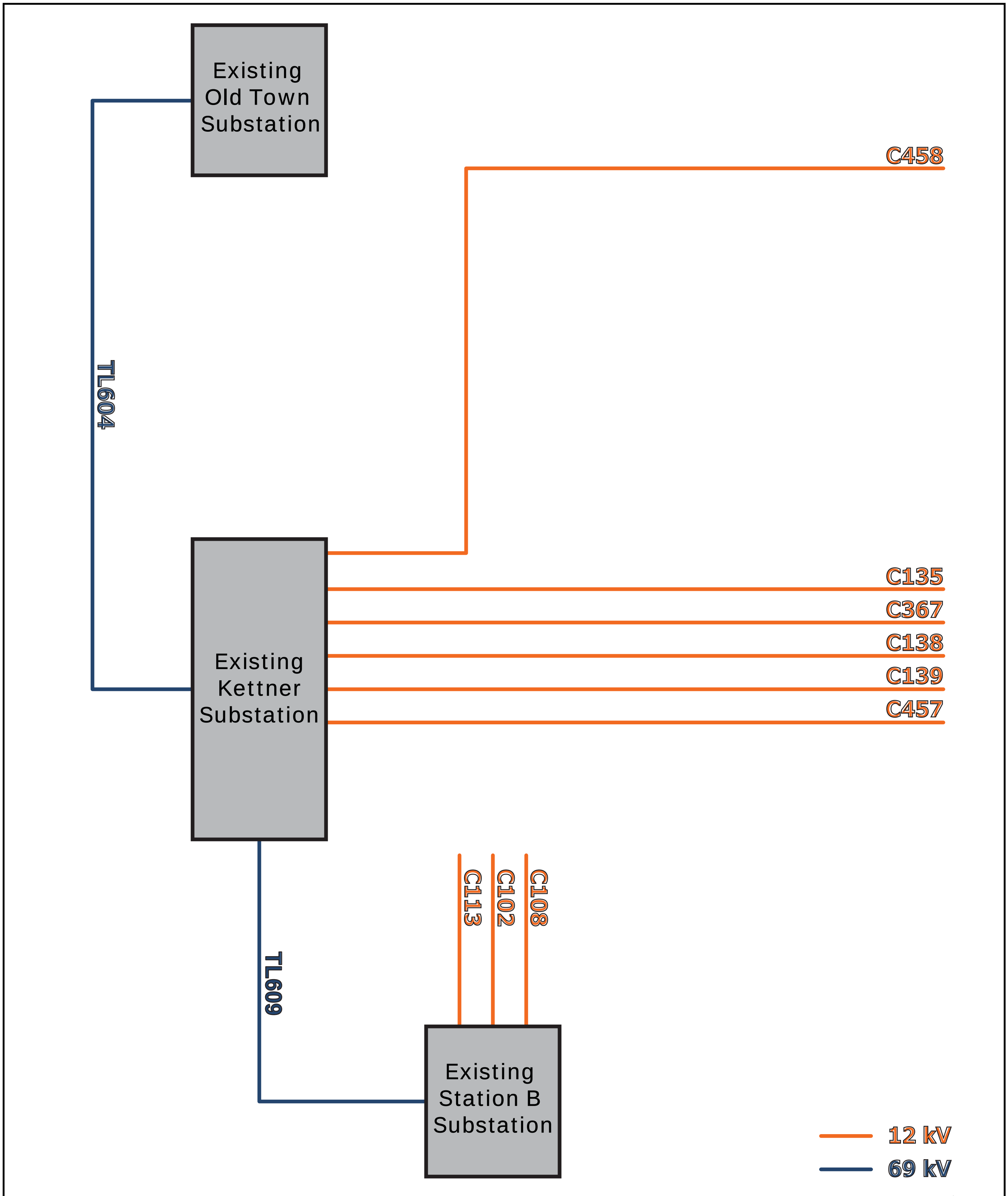
N

Figure B.1-3j: Detailed Project Components

Figure B.1-3k: Detailed Project Components

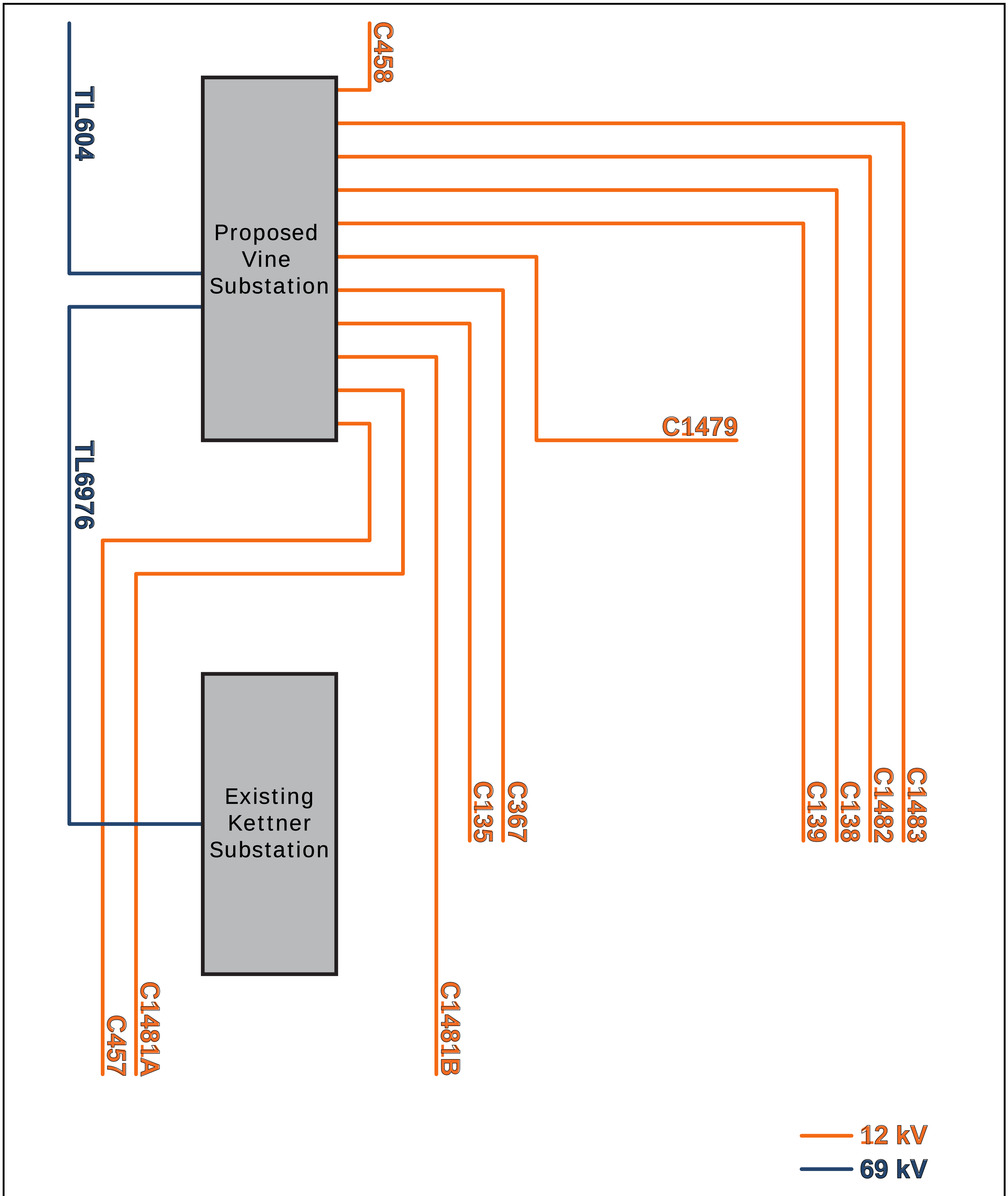
Source: SDG&E,2015b

Figure B.1-4: Land Use Map



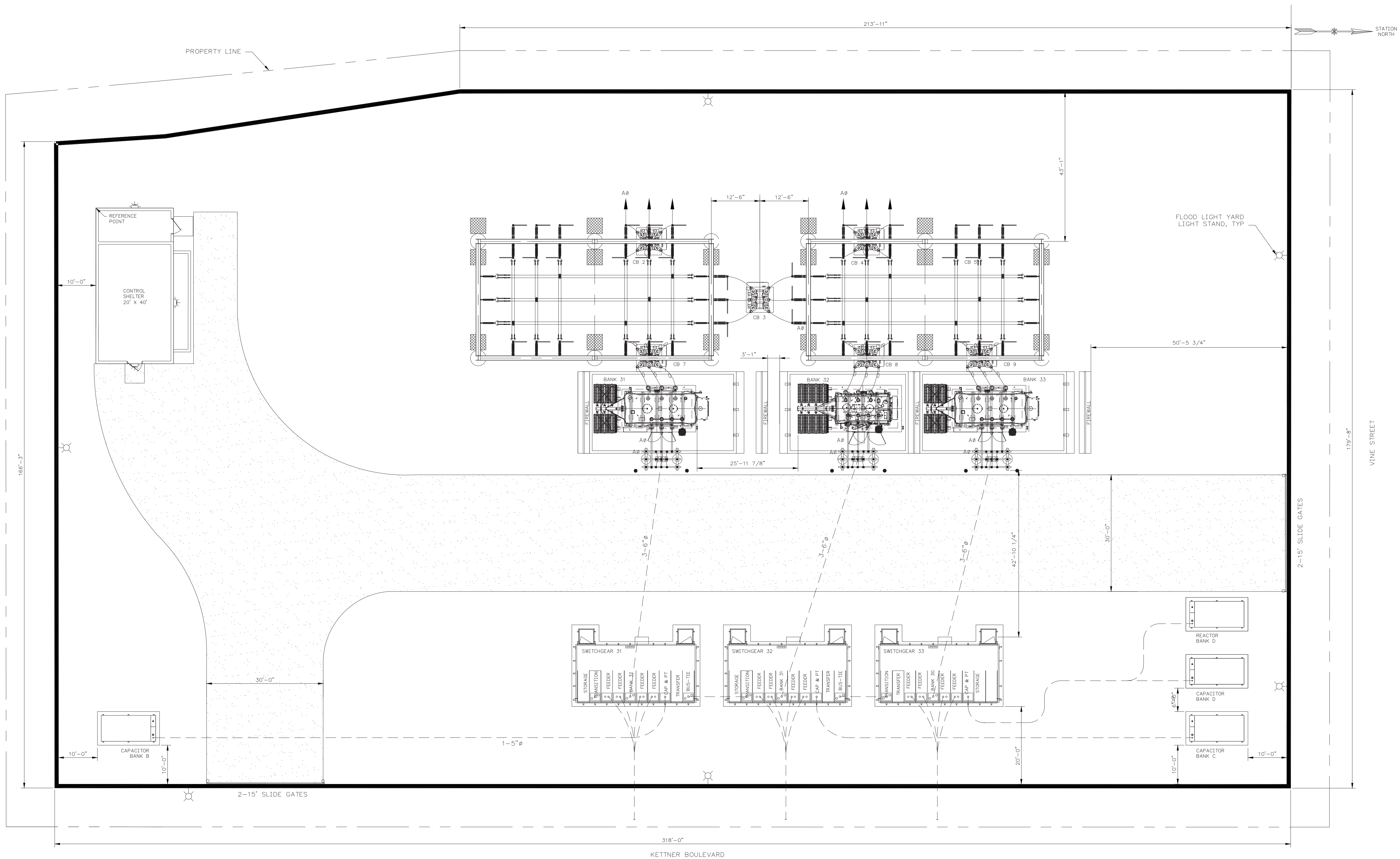
Source: SDG&E,2015b

Figure B.1-5: Existing System Configuration



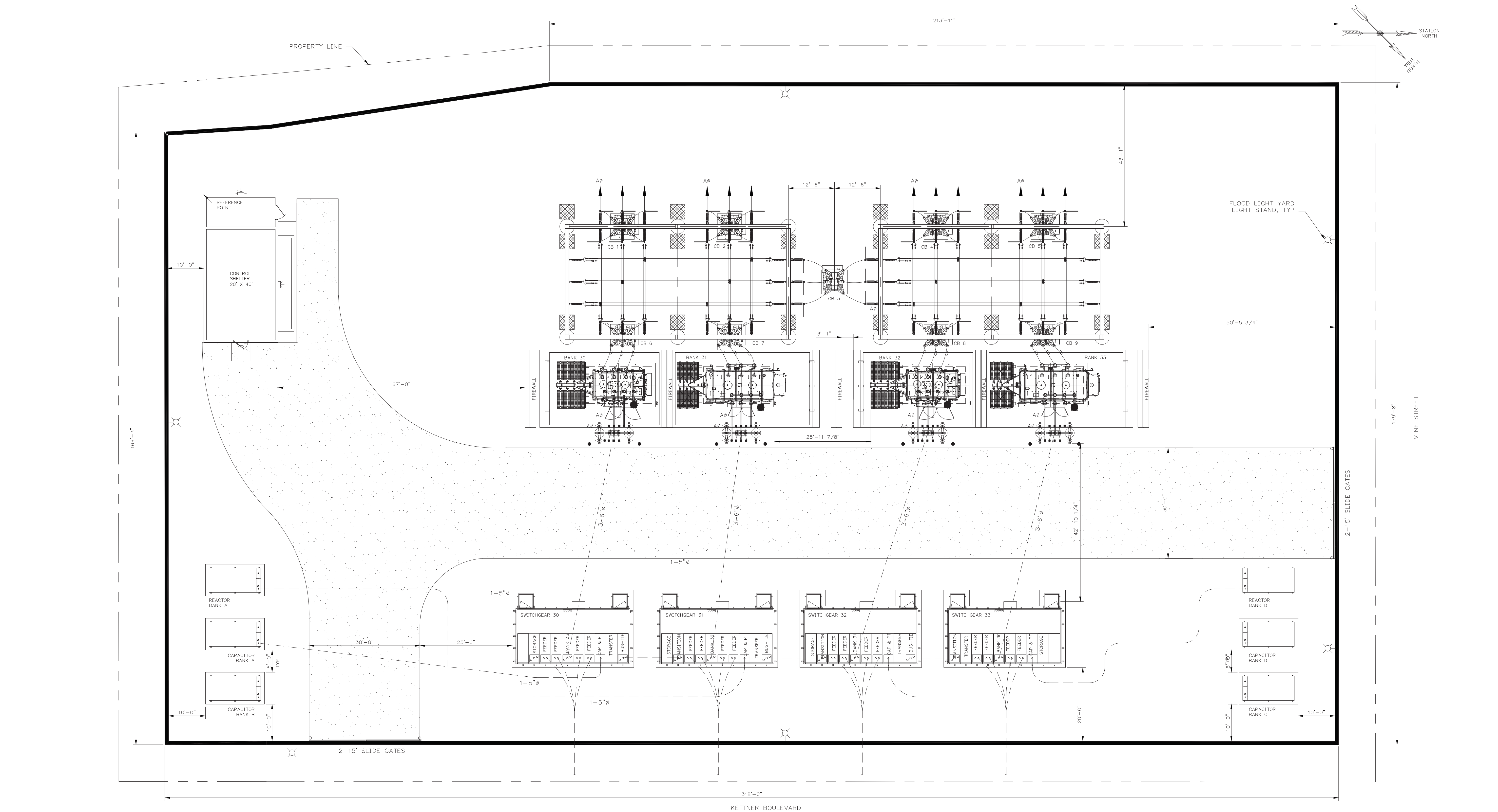
Source: SDG&E,2015b

Figure B.1-6: Proposed System Configuration



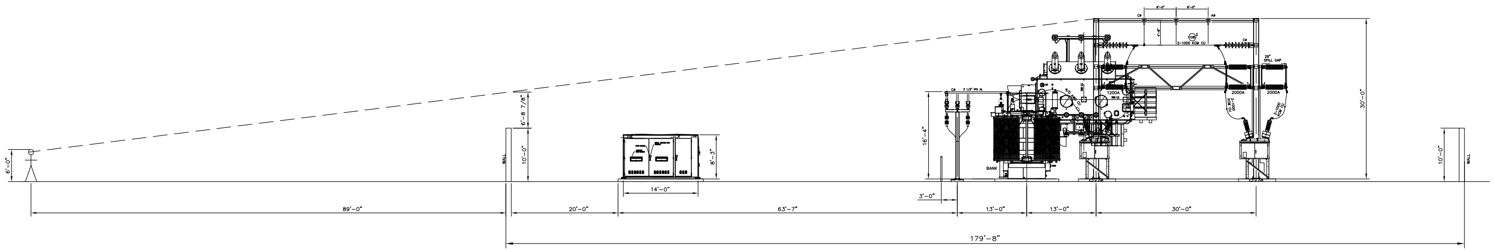
Source: SDG&E,2014

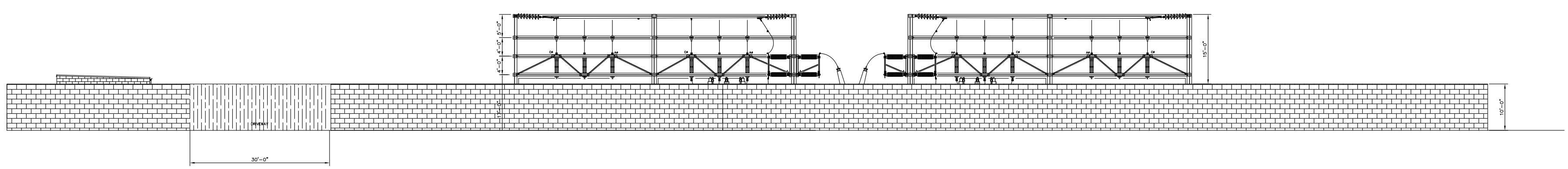
Figure B.1-7: Vine Substation Initial Arrangement



Source: SDG&E,2014

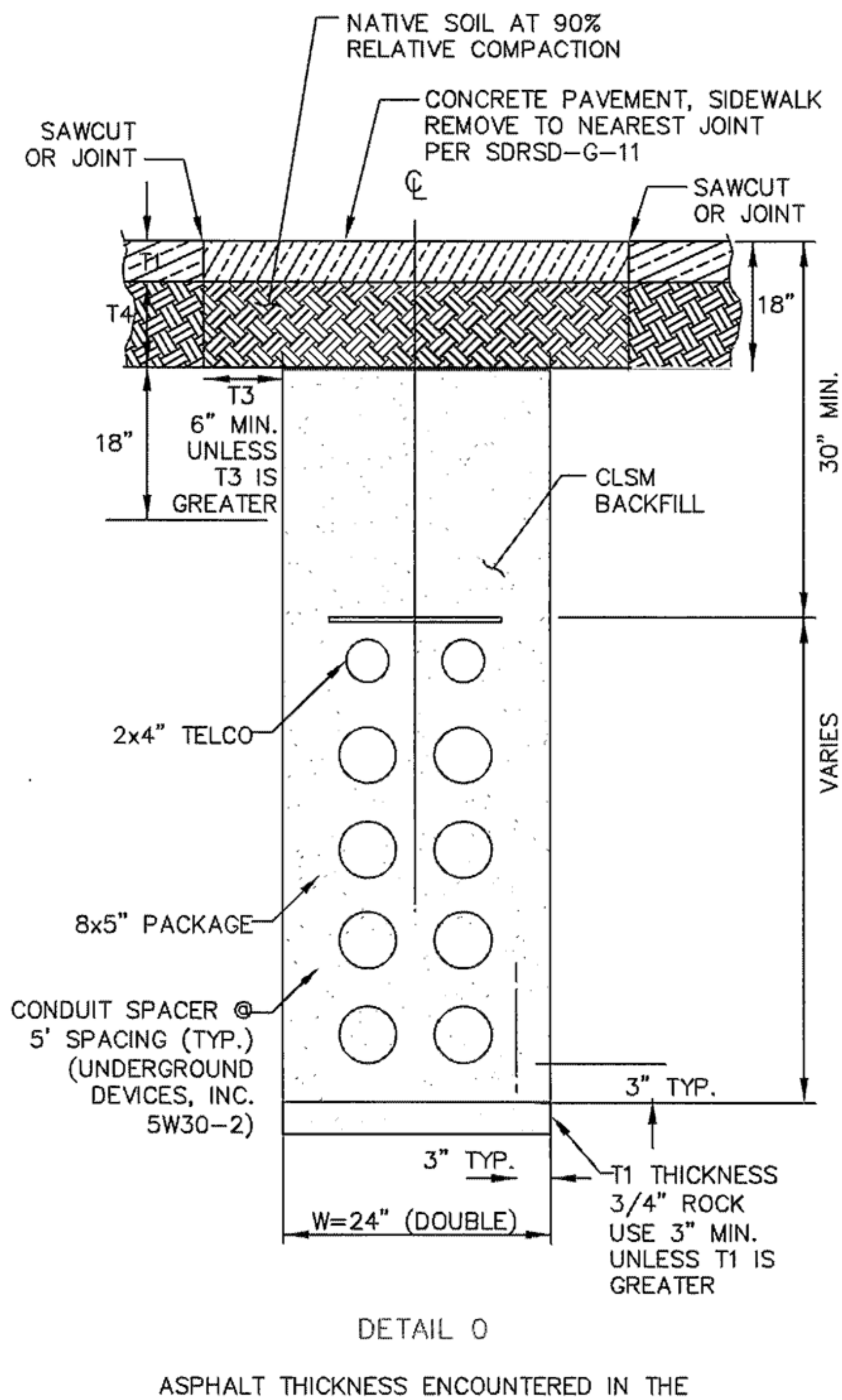
Figure B.1-8: Vine Substation Ultimate Arrangement





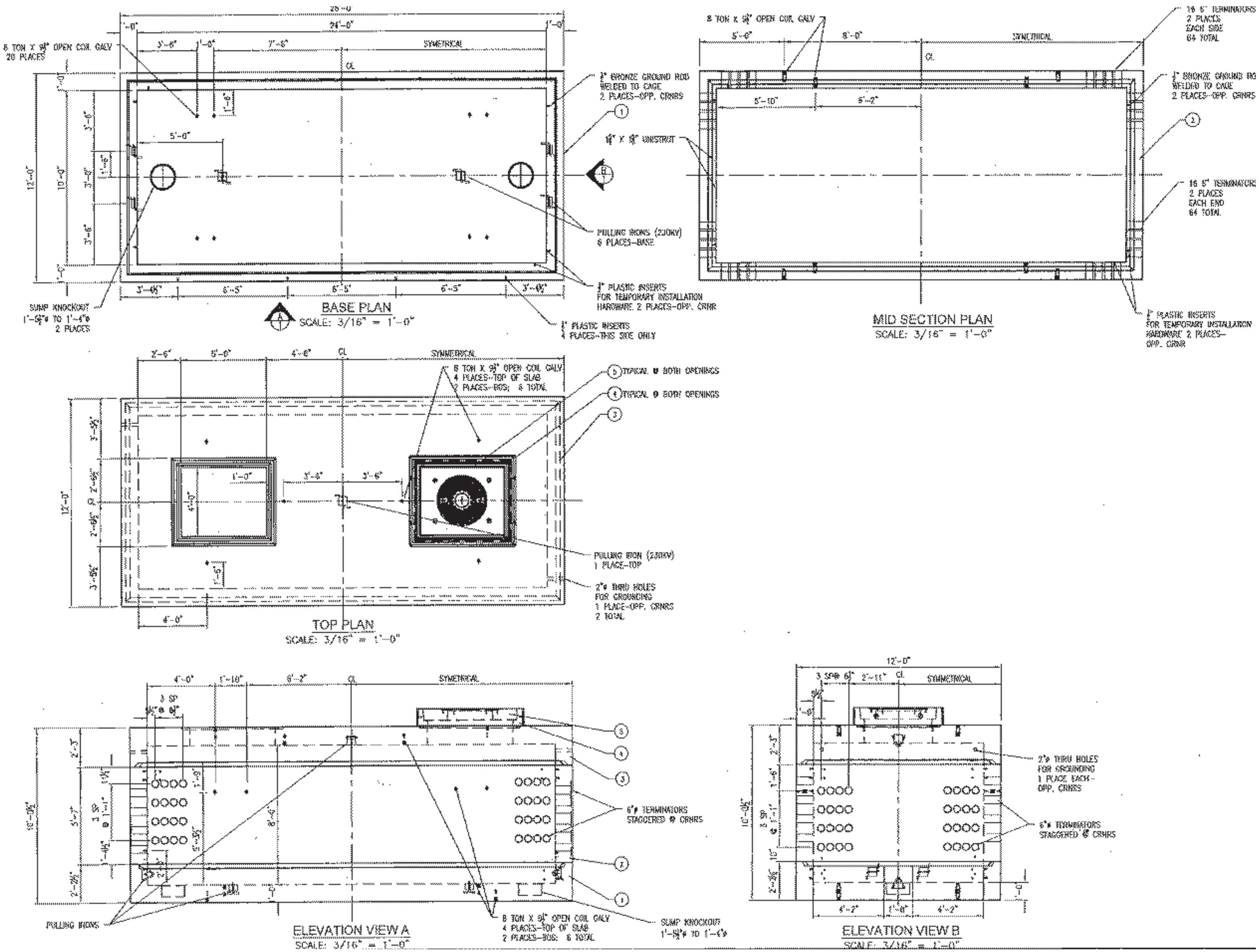
Source: SCG&E,2015a

Figure B.1-9: Vine Substation Profile View



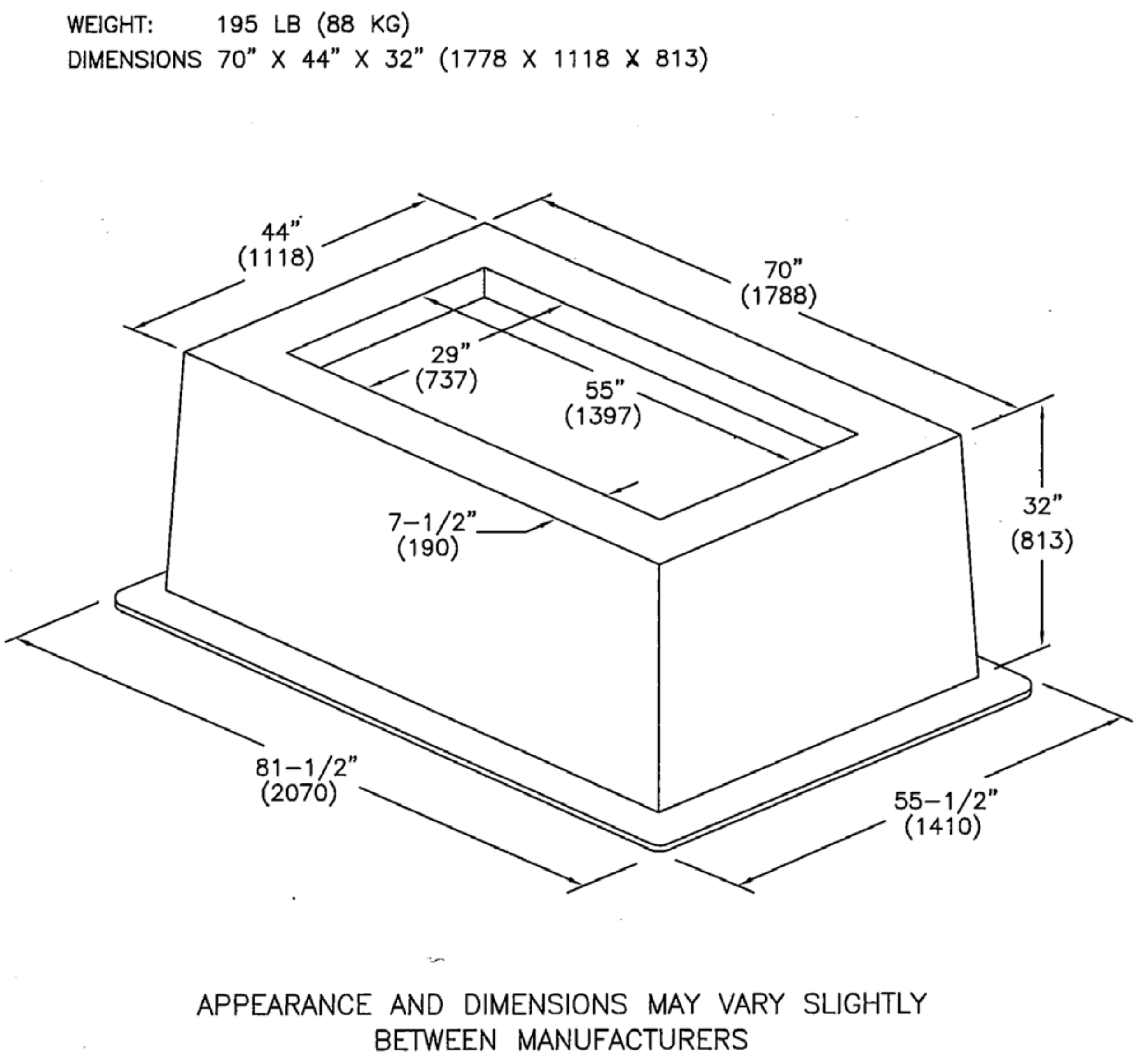
Source: SDG&E,2014

Figure B.1-10: Typical 12-kV Underground Duct Bank



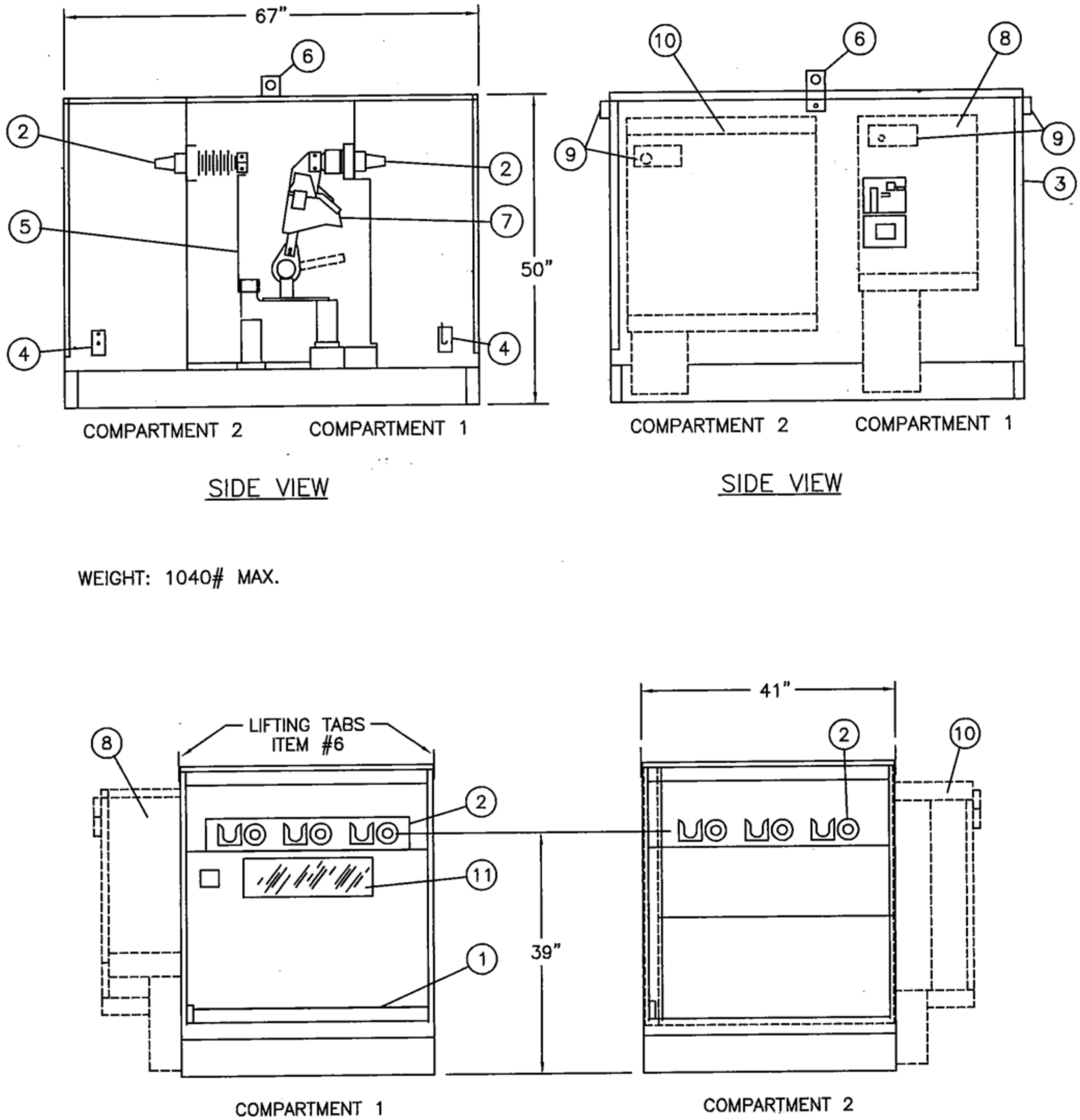
Source: SDG&E,2014

Figure B.1-11: Typical 12-kV Underground Vault



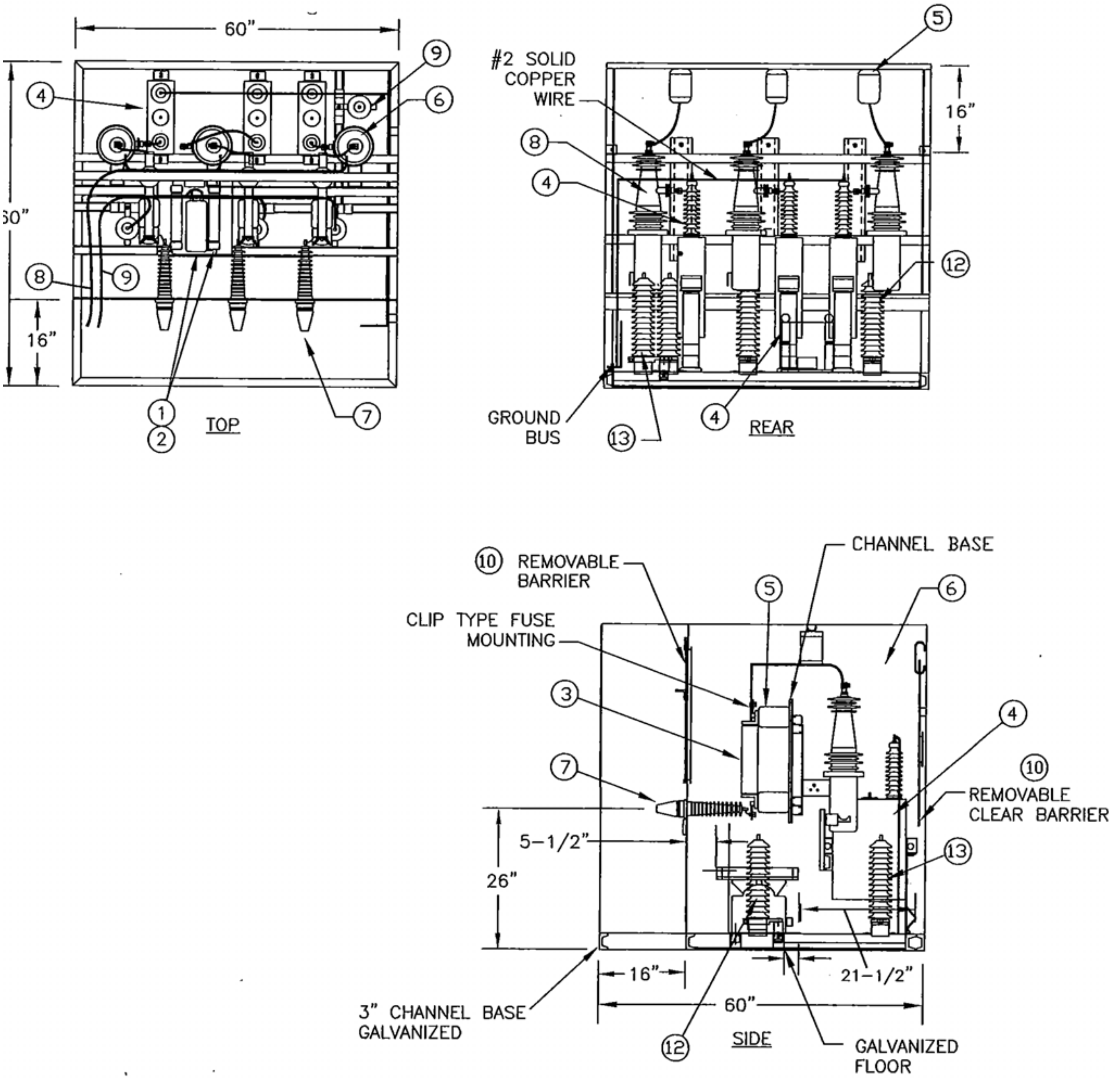
Source: SDG&E,2014

Figure B.1-12: Typical Switch and Capacitor Pad



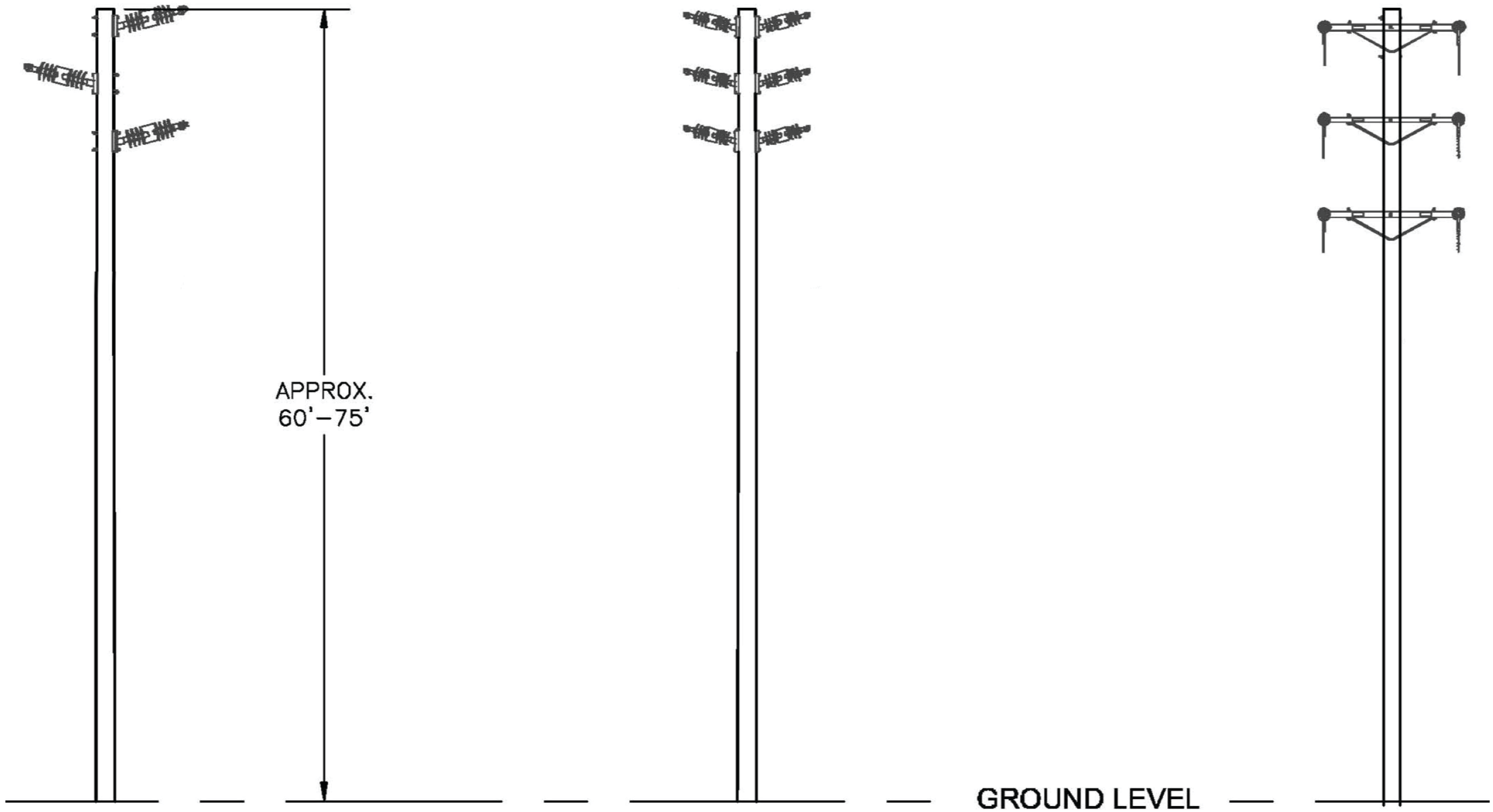
Source: SDG&E,2014

Figure B.1-13: Typical 12-kV Switch



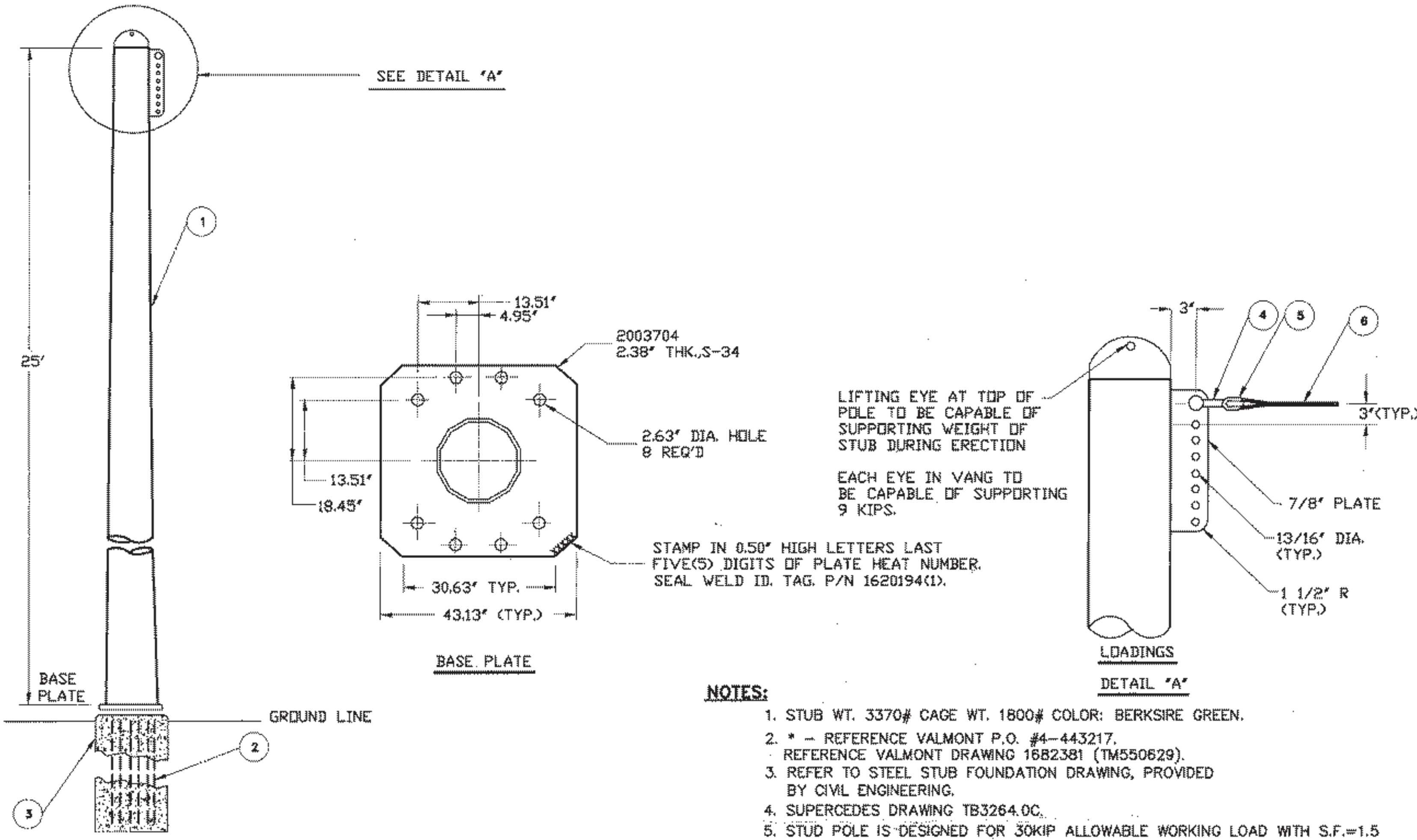
Source: SDG&E,2014

Figure B.1-14: Typical 12-kV Capacitor



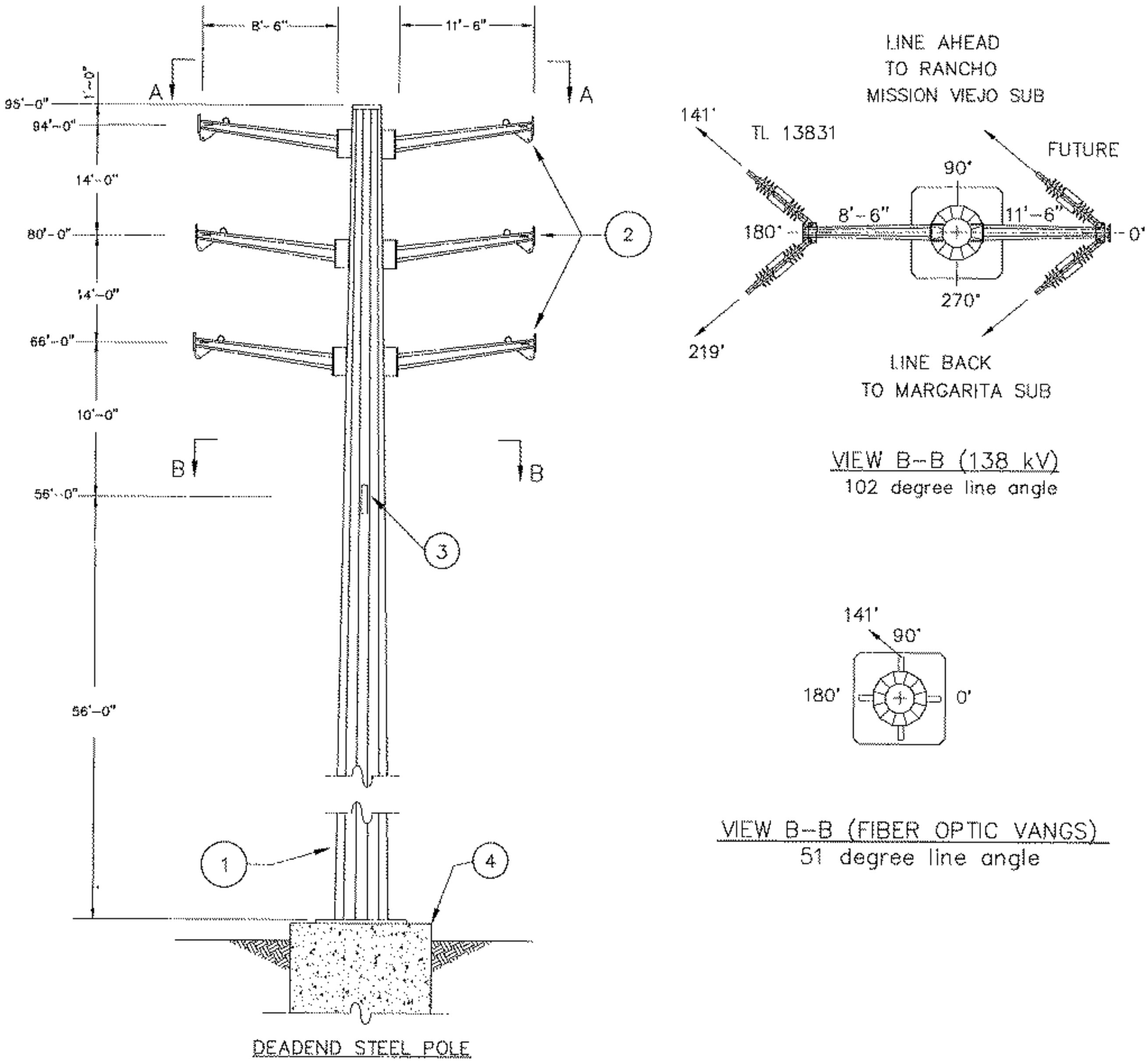
Source: SDG&E,2014

Figure B.1-15: Typical Existing 69-kV Wood Pole



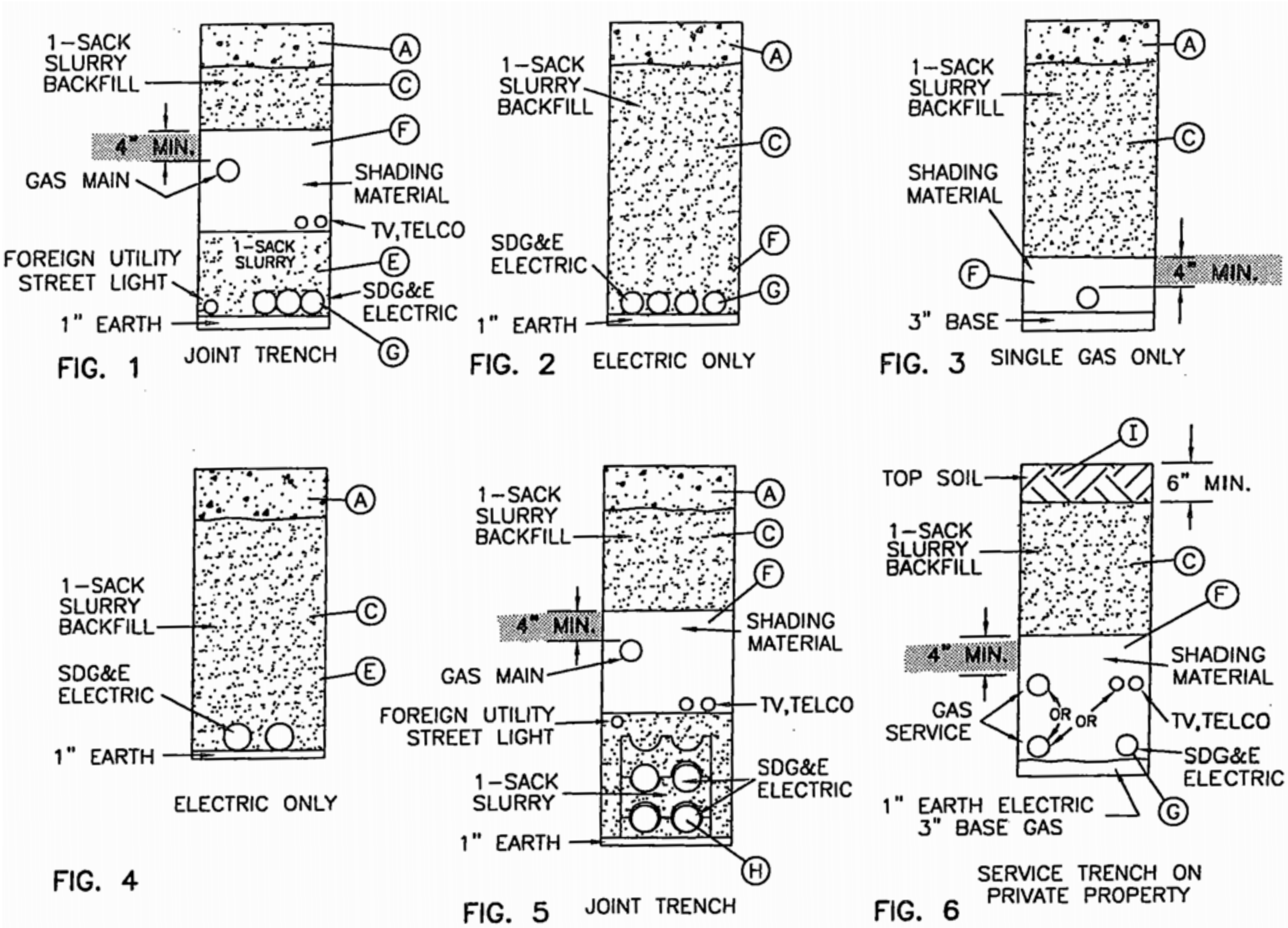
Source: SDG&E,2014

Figure B.1-16: Typical Existing Stub Guy Pole



Source: SDG&E,2014

Figure B.1-17: Typical Proposed 69-kV Tubular Steel Pole



INSTALLATION:

(A) ALL TRENCH RESURFACING SHALL BE DONE ACCORDING TO GOVERNMENTAL AGENCIES REQUIREMENTS.

B. SHADING MATERIAL SHALL MEET GAS STANDARD 7405 OR UNDERGROUND 3370/3371 SPECIFICATIONS AND MUST BE APPROVED BY AN SDG&E AUTHORIZED INSPECTOR.

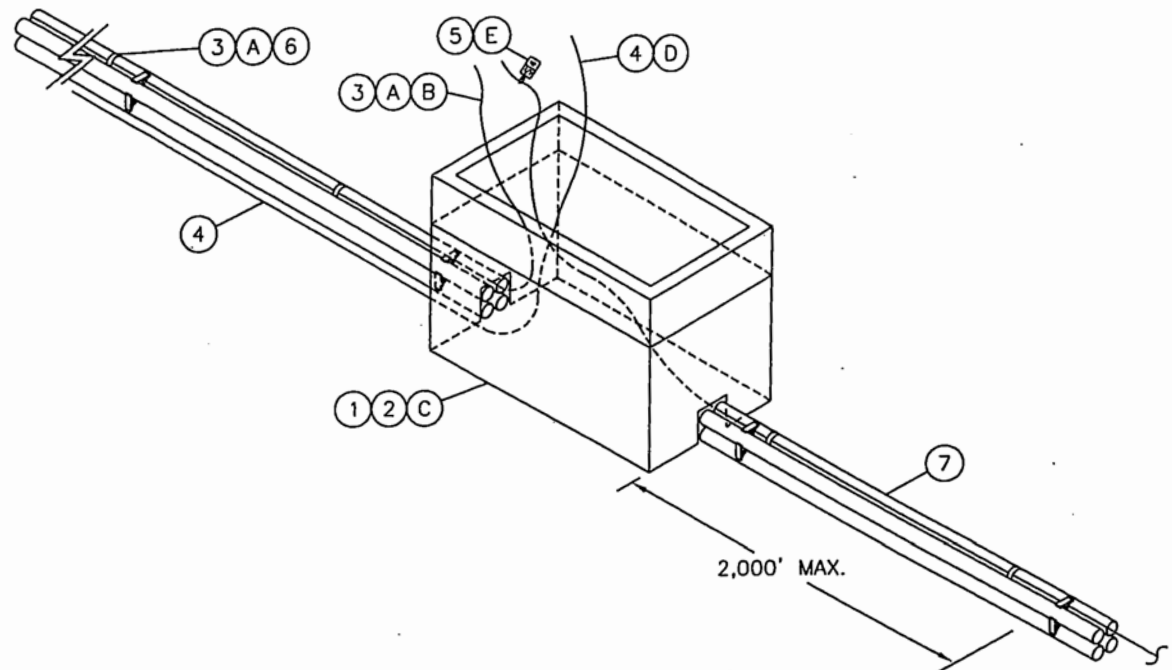
(C) BACKFILL MATERIAL SHALL MEET THE GOVERNMENTAL (PERMITTING) AGENCIES REQUIREMENTS AND SDG&E STANDARDS. THE SAND USED FOR THE ONE SACK SLURRY OR TWO SACK, IF REQUIRED BY GOVERNMENTAL AGENCIES, MUST MEET THE CONCRETE SAND SPECIFICATION LISTED IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK) AND CONTAIN NO GRAVEL. SLURRY MUST BE FIRM BEFORE A PAVEMENT CONCRETE CAP IS INSTALLED. SLURRY IS TYPICALLY USED FOR BACKFILLING AROUND SUBSTRUCTURES, UNDER EQUIPMENT PADS, FOR TRENCHES IN EXISTING PAVED AREAS, AND UNDER CONCRETE OR PAVED DRIVEWAYS.

IT MAY NOT BE APPROPRIATE TO USE ONE SACK SLURRY UNDER THE THE FOLLOWING CIRCUMSTANCES:

- GOVERNMENTAL AGENCIES DO NOT ALLOW ONE SACK OR MAY REQUIRE TWO SACK SLURRY BACKFILL.
- INACCESSABILITY OF CONCRETE TRUCKS DELIVERING SLURRY.
- WHEN SLURRY IS NOT COST EFFECTIVE.
- NEW RESIDENTIAL SUBDIVISIONS, SINGLE FAMILY RESIDENCE SERVICE TRENCH
- SHALLOW WELD HOLES, POT HOLES, ETC.

Source: SDG&E,2014

Figure B.1-18: Typical Telecommunications Underground Duct Bank



NOTE:

- THIS STANDARD APPLIES TO ALL FIBER OPTIC CONDUIT INSTALLATIONS.
- REFER TO THE SPECIFIC TRANSMISSION PROJECT FOR INSTRUCTIONS ON THE USE OF TRACER WIRE IN THE TRANSMISSION TRENCH.

I. ALLATION:

(A) YELLOW TRACER WIRE SHALL BE INSTALLED IN THE TRENCH ALONGSIDE CONDUIT WHICH IS DESIGNATED FOR FIBER OPTIC CABLE. THE WIRE SHALL BE TAPED TO THE CONDUIT 8 TO 10 FOOT INTERVALS.

(B) THE TRACER WIRE SHALL BE LOOPED INSIDE THE HANDHOLE WITH ENOUGH SLACK TO EXTEND 12" BEYOND THE TOP OF THE BOX. CUT THE TRACER WIRE, SEAL AND TAPE THE ENDS.

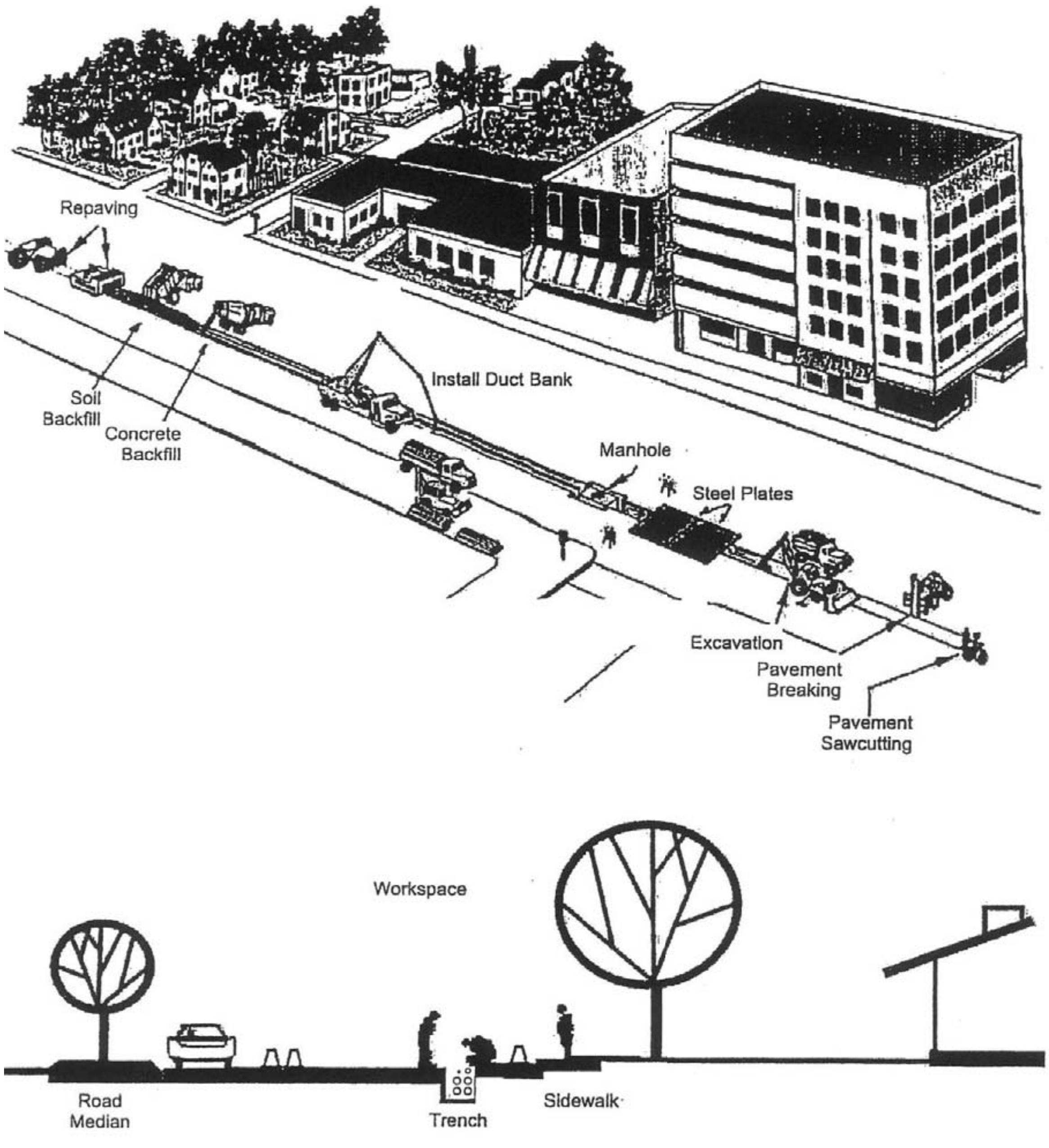
(C) LOCATE ACCESS POINTS (HANDHOLES) TO THE TRACER WIRE AT 2000' INTERVALS.

(D) EXTEND GROUND WIRE 12 INCHES BEYOND THE TOP OF BOX.

(E) ATTACH AN "S4" TAG TO ALL TRACER WIRE AT ACCESS POINTS.

Source: SDG&E,2014

Figure B.1-19: Typical Telecommunication Underground Handhole



Source: SDG&E,2014

Figure B.1-20: Typical Underground Construction Process within Roadways

A. Typical 12-kV Trench

B. Typical 12-kV Duct Bank

Source: SDG&E,2015b

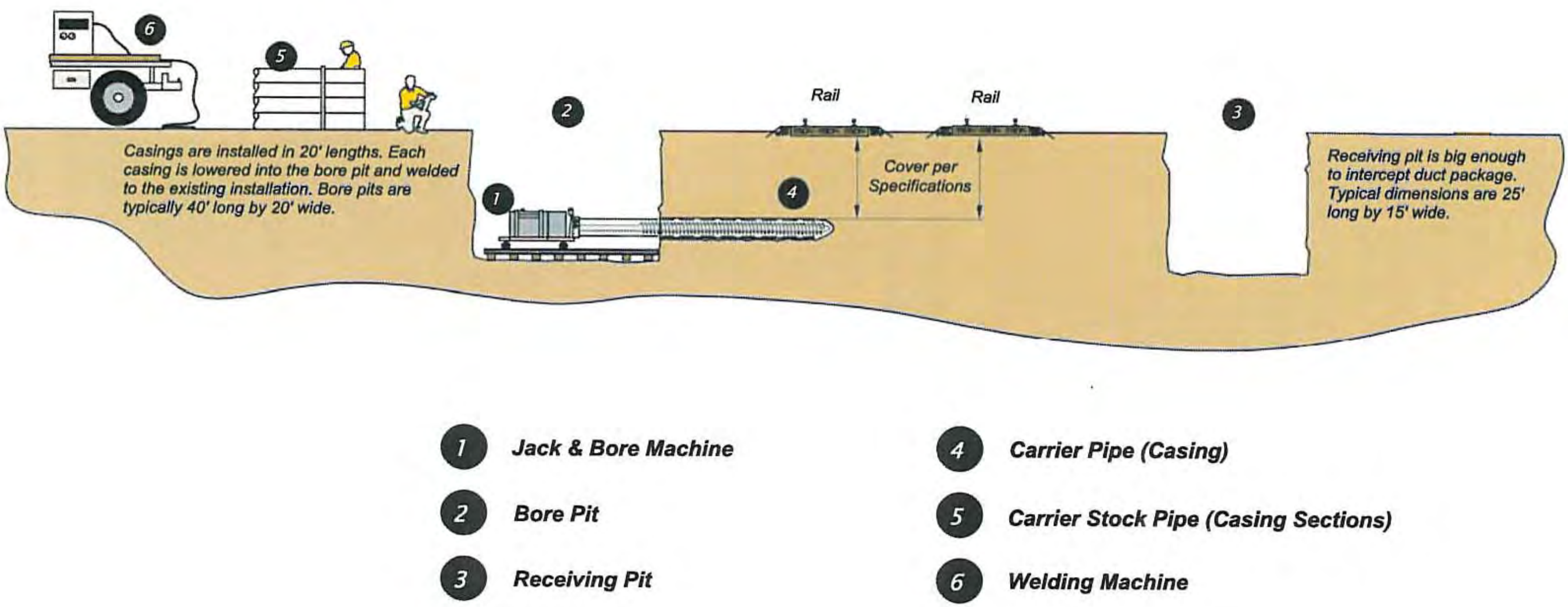
Figure B.1-21
Typical 12-kV Underground Installation Photographs

C. Typical Type 3327 Vault

D. Typical Vault Installation

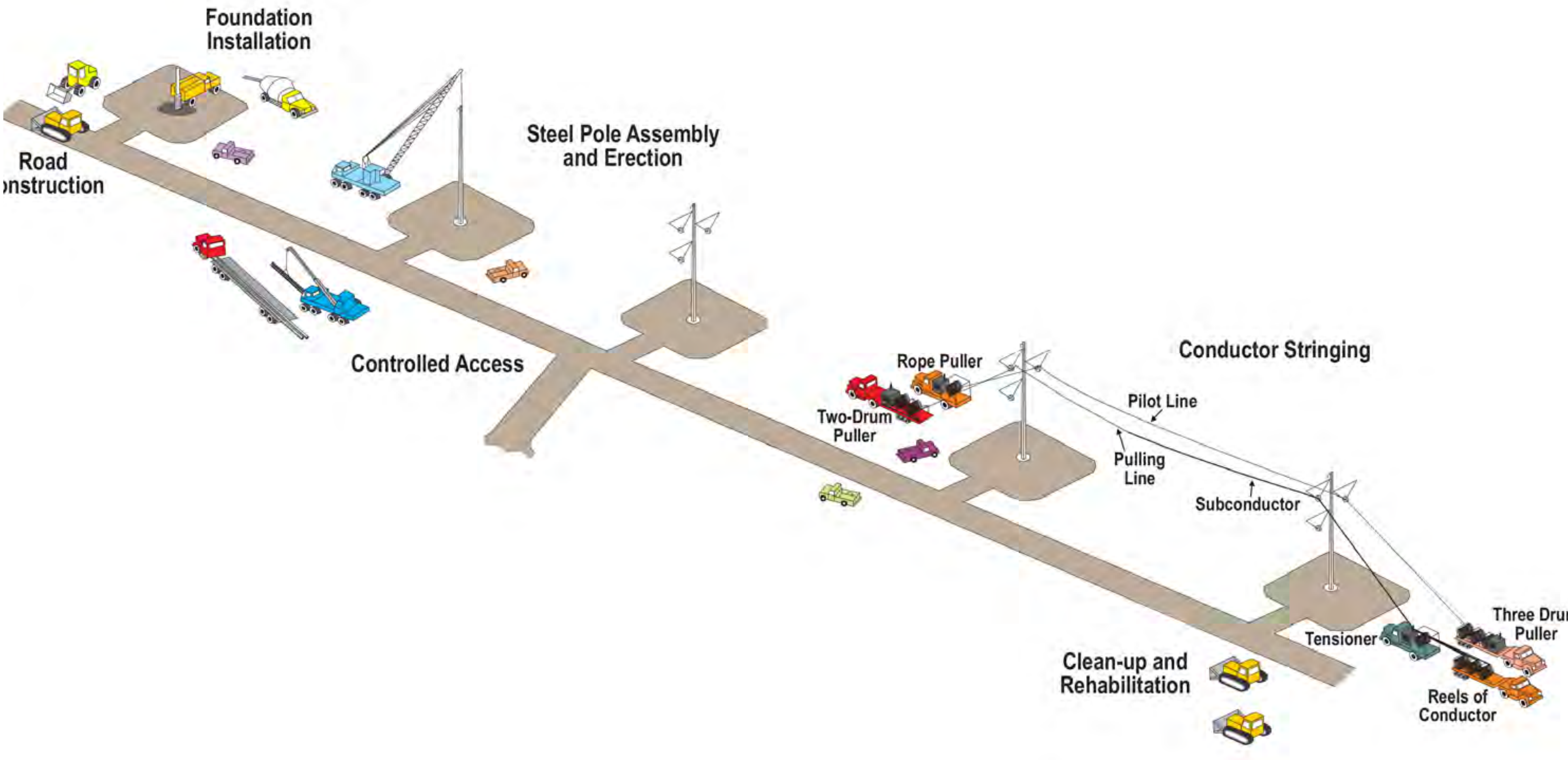
Source: SDG&E,2015b

Figure B.1-22
Typical Type 3327 Vault and Installation Photographs



Source: SDG&E,2015b

Figure B.1-23: Typtical Jack-and-Bore Installation



Source: SDG&E,2014

Figure B.1-24: Typical Overhead Conductor Installation

B.2 Environmental Determination

B.2.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" and requiring implementation of mitigation as indicated by the checklist on the following pages.

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

B.2.2 Environmental Determination

On the basis of this initial evaluation:

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

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

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

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

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

Eric Chiang, Project Manager
Energy Division CEQA Unit
California Public Utilities Commission

9/14/15
Date

B.3 Initial Study Checklist

This section provides the environmental and regulatory setting, as well as the impact analysis of the proposed Project based on the California Environmental Quality Act (CEQA) Environmental Checklist Form, as provided in the State CEQA Guidelines, Appendix G.

The impact analysis was conducted with the following general assumptions:

- The laws, regulations, and policies applicable to the CPUC for electrical transmission facilities would be applied consistently.
- All applicable laws, regulations, and standards of the State of California would be applied consistently.
- The Project applicant will obtain all required permits and approvals from other agencies and comply with all legally applicable terms and conditions associated with those permits and approvals.
- The proposed Project would be constructed, operated, and maintained as described in Section B.1 (Project Description).
- Short-term impacts are those expected to occur during the construction phase that do not have lingering effects for an extended period after construction is completed. Long-term impacts are those that would occur during operation and maintenance (O&M) of the Project or that persist for an extended period after completion of construction.

B.3.1 Aesthetics

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

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.1.1 Setting

Aesthetics, as addressed in CEQA, refers to visual considerations in the physical environment. Aesthetics analysis, or visual resource analysis, is a systematic process to logically assess visible changes in the physical environment and the anticipated viewer response to those changes. This Aesthetics section describes the existing landscape character of the study area, existing views of the study area from various on-the-ground vantage points, the visual characteristics of the Vine Substation (Proposed Project), and the landscape changes that would be associated with the construction and operation of the Proposed Project as seen from various vantage points.

Visual Sensitivity–Visual Change Methodology

Under this methodology, the Proposed Project was viewed from various public roads and vantage points to develop an overall assessment of the existing landscape character, visual quality, and viewing conditions. Then, at representative viewpoints (Key Observation Points, or KOPs), the existing landscape was characterized (for visual quality, viewer concern, and viewer exposure) and photographed. Each of the factors considered in the evaluation of the existing landscape under the Visual Sensitivity–Visual Change methodology is discussed below.

Visual Quality is a measure of the overall impression or appeal of an area as determined by particular landscape characteristics such as landforms, rockforms, water features, and vegetation patterns, as well as associated public values. The attributes of variety, vividness, coherence, uniqueness, harmony, and pattern contribute to visual quality classifications of indistinctive (Low), common (Moderate), and distinctive (High). Visual quality is studied as a point of reference to assess whether a given project would appear compatible with the established features of the setting or would contrast noticeably and unfavorably with them.

Viewer Concern addresses the level of interest or concern of viewers regarding an area's visual resources (rated from Low to High) 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 Exposure describes the degree to which viewers are exposed to views of the landscape (rated Low to High). Viewer exposure considers landscape visibility (the ability to see the landscape), distance zones (proximity of viewers to the subject landscape), number of viewers (Low to High), and the duration of view (Brief to Extended). 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, and/or presence 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 used 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 if the landscape is partially screened by vegetation or other features. Often, 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, middleground, and background. However, the actual number of zones and distance assigned to each zone is dependent on the existing terrain characteristics and public policy and often is determined on a project-by-project basis.

Overall Visual Sensitivity is a concluding assessment as to an existing landscape's susceptibility to an adverse visual outcome (rated Low to High). A landscape with a high degree of visual sensitivity is able to accommodate only a low 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.

Existing Landscape Setting and Viewer Characteristics

This section discusses: (1) the existing visual character of the region; (2) the existing visual quality of the Proposed Project area; (3) viewer concern; and (4) viewer exposure to the Proposed Project, leading to a rating of overall visual sensitivity. Also discussed are the existing sources of light and glare within the Proposed Project area.

Regional Context. The Proposed Project area is within the Downtown and Middletown communities of the City of San Diego. The substation site is currently surrounded by a chain link fence and paved with asphalt. The area surrounding the site is characterized by light- and medium-industrial and office uses, parking lots, and rental car facilities. The proposed Vine Substation and 69-kV loop-in would be located on a site that is designated Industrial Employment by the City's General Plan. Lands adjacent to the relocated distribution circuits have a General Plan designation of Industrial Employment at the northern end of the line and Multiple Use and Commercial Employment Retail and Services at the southern end. A wide variety of land uses are specified as being appropriate within these designations, including offices, general commercial uses, civic facilities, and light and heavy industrial uses.

The proposed substation site and 69-kV loop-in are located within the relatively flat north harbor area of the North San Diego Bay, where the San Diego International Airport is the dominant land use along with the Marine Corps' Recruit Depot. To the north and east of the Proposed Project site, the elevation rises and the terrain of the residential communities of Middletown and Mission Hills are characterized by rolling hills.

The relocated distribution circuits would generally travel within public ROW along Kettner Boulevard, Vine Street, India Street, West Redwood Street, Columbia Street, West Laurel Street, and State Street. The distribution circuits would be located underground within public streets, so no additional ROW would be acquired. The routes travel in a generally northwest-southeast direction through the community of Middletown. Existing uses along the distribution circuit route within Kettner Boulevard include I-5 to the east and rental car facilities, offices, and airport parking lots to the west. Along India Street, existing uses include a gas station, a rental car facility, residential uses, and a mix of commercial and industrial uses. Existing uses along West Redwood Street and Columbia Street are predominately residential, with I-5 to the west. Budget and Alamo rental car facilities are located on West Palm Street. Along West Laurel Street, uses consist of offices, parking lots, and residences. Along State Street, existing uses include offices and residences.

Project Viewshed and Key Observation Points. The project viewshed is defined as the areas and locations from which the Proposed Project would be seen. The viewshed of the substation site and 69-kV loop-in include portions of the residential communities of Mission Hills and Middletown located north and east of the site. However, the I-5 overpass generally borders the east side of the site, which obstructs direct views from the east. Views of the site from areas west of I-5 would be from commercial and light industrial development north and south of the site. From west of the site, the primary view would be from the Green Line of the City's light rail system and from the multi-story airport parking structure that is currently under construction.

Residents along the distribution circuit route would have views of construction activities. However, as the distributions circuits would be located underground, the viewshed would not be altered upon completion of construction. Therefore, the KOPs below focus on the visual changes associated with the proposed substation and 69-kV loop-in. Four KOPs that encompass the proposed Vine Substation site and the 69-kV loop-in were identified for landscape visibility discussion (Figures B.3.1-1 through B.3.1-4).

<u>KOP 1 – California Street (1)</u>

Figure B.3.1-1 presents the existing conditions and a simulated life-size scale view of the proposed substation site from KOP 1 looking southeast from California Street, just north of the intersection of California Street and Vine Street. The simulation captures the northwest corner of the Proposed Project site, with Vine Street in the foreground and Interstate Highway 5 (I-5) in the background. The substation would be located in an existing parking lot. The existing distribution line at the northwest corner of the site would be removed, as the 69-kV loop-in would involve removing two existing poles near the corner of California Street and Vine Street and installing three new poles. Refer to Figure B.3.1-2 for a view of the 69-kV loop-in.

Visual Quality. Low. The landscape is urban in character, with commercial and light industrial uses in the surrounding area. Currently, this view is dominated by either open concrete parking lots or a parking lot full of vehicles. From this perspective, I-5 provides an elevated backdrop that blocks the view of the residential communities to the east. Vegetation lines the freeway wall, with spots of graffiti or paint covering graffiti along the wall. The east boundary of the site along Kettner Blvd includes a line of palm trees, which would be removed under the Proposed Project.

Viewer Concern. Low. The existing distribution line is noticeable in the foreground views from California, and travelers on California Street and Vine Street anticipate the prominent presence of the existing parking lot. Travelers would perceive an increase in industrial character, structure prominence, or view blockage from the proposed Vine Substation. Assuming the landscaping is maintained and graffiti is immediately removed, the proposed substation would likely not present a concern to views.

Viewer Exposure. Low. The proposed Vine Substation would be highly visible in the foreground views of travelers on California Street and Vine Street. Although the average daily traffic volumes have not been recorded for these streets, based on a visit to the Project site, these streets are two-lane local streets that do not sustain high traffic volumes. Therefore, the number of viewers would be low and the duration of views would also be low since the most likely viewers would be travelers on public transit and motorists who would pass the Project site at low to moderate speeds.

Overall Visual Sensitivity. Low. For viewers in the vicinity of KOP 1, combining the equally weighted Low visual quality, Low viewer concern, and Low viewer exposure results in an overall rating of Low for visual sensitivity of the visual setting and viewing characteristics.

KOP 2 – California Street (2)

The purpose of Figure B.3.1-2 is to present the existing conditions and a simulated life-size scale view of the 69-kV loop-in from KOP 2. This view is approximately 150 feet northwest of the loop-in site looking south from California Street, which is in the foreground. In the middleground, the Proposed Project site is to the east, while the railroad right-of-way and the utility infrastructure dominate the view to the west. In the background, the view includes the elevated PCH on/off ramp, parking lots, commercial buildings, and Downtown San Diego.

Visual Quality. Low. The landscape is urban in character, with commercial and light industrial uses in the surrounding area. The view from this KOP is dominated by utility and transportation infrastructure. The southwest view includes Downtown San Diego; however, a full view of the Downtown skyline is obstructed by the Pacific Highway on/off-ramp and other multi-story commercial buildings.

Viewer Concern. Low. The existing distribution line is noticeable in the foreground views from California Street, and travelers on California Street and Vine Street anticipate the prominent presence of the distribution and transportation infrastructure. Travelers would perceive an increase in industrial character, structure prominence, or view blockage from the proposed Vine Substation. However, the 69-kV loop-in would require removal of two existing 70-foot wood poles and a 28-foot guy pole, and replace them with two 100-foot tubular steel poles. This replacement would alter the existing view, but would not change the overall character of area.

Viewer Exposure. Low. The proposed 69-kV loop-in and Vine Substation would be highly visible in the foreground views of travelers on California Street and Vine Street. Although the average daily traffic volumes have not been recorded for these streets, based on a visit to the project site, these streets are two-lane local streets that do not sustain high traffic volumes. Therefore, the number of viewers would be low and the duration of views would also be low since the most likely viewers would be travelers on public transit and motorists who would pass the Project site at low to moderate speeds.

Overall Visual Sensitivity. Low. For viewers in the vicinity of KOP 2, combining the equally weighted Low visual quality, Low viewer concern, and Low viewer exposure results in an overall rating of Low for visual sensitivity of the visual setting and viewing characteristics.

KOP 3 – Southbound I-5

Figure B.3.1-3 presents the existing conditions and a life-size scale view of the proposed substation site from KOP 3, looking southwest toward the site from the southbound shoulder of I-5. The view captures the substation site from the elevated freeway overpass. In the foreground, the KOP shows vegetation along the freeway overpass. In the middleground, the Proposed Project site and parking lot to the south are visible, along with the railroad right-of-way and the utility infrastructure. In the background, the view includes the elevated PCH on/off ramp, parking lots, the San Diego International Airport runway, and the North San Diego Bay.

Visual Quality. Low (Foreground, Middleground), High (Background). The landscape is urban in character at the foreground and middleground, with the North San Diego Bay in the background. Existing parking lots and parking structures, along with the airport runway are the prominent views from I-5. Transportation infrastructure, including the PCH on/off-ramp and railroad, provide prominent vertical forms and lines surrounding the site. The North San Diego Bay in the background provides a natural and scenic views, and provides a backdrop of visual interest in contrast to the urban land uses.

Viewer Concern. Low. Existing parking facilities are noticeable in the foreground to middleground landscape from I-5 southbound. However, the view of the North San Diego Bay, and even the airport, would likely attract travelers' attention, thus distracting travelers from the visual changes associated with the proposed Vine Substation.

Viewer Exposure. Low to Moderate. In general, due to the high speeds of travel along I-5, the proposed Vine Substation would not be highly visible in the foreground views of travelers. The number of viewers, however, would be very high as this is a main highway within this region of the City. The duration of views would vary depending on the levels of traffic. The duration during low congestion periods would be low due to the high speeds at which the site would be passed. During high congestion periods, the duration would be moderate to high due to lower speeds that would allow for the prominence of the substation components (the tallest being up to approximately 100 feet high) within an approximately 1.3-acre walled-in facility to be viewed from the elevated highway. However, as noted under *Viewer Concern*, it is likely that the view of the North San Diego Bay, and even the airport, would likely attract travelers' attention.

Overall Visual Sensitivity. Moderate. For viewers in the vicinity of KOP 3, combining the equally weighted Low visual quality of the foreground and middleground, High visual quality of the background, Low viewer concern, and Low to Moderate viewer exposure results in an overall rating of Moderate for visual sensitivity of the visual setting and viewing characteristics.

<u>KOP 4 – Pacific Highway</u>

Figure B.3.1-4 presents reduced images of the existing view and a simulated scale view of the proposed substation site from KOP 4, approximately 0.25 mile south of the site looking northwest toward the site from the Pacific Highway I-5 off-ramp. The off-ramp covers most of the foreground and extends in the middleground on the left side of the image, while the Proposed Project site is in the distant middleground to the right-center of the image. Transportation and utility infrastructure span the foreground and middleground on the center and left side of the image. Also in the middleground are parking lots on both sides of the railroad tracks. The Mission Hills community provides a backdrop on the right with high-density residential development, and to the left of Pacific Highway is an open site in the middleground where a multi-story parking structure is currently under construction.

Visual Quality. Low. The landscape is urban in character that primarily consists of transportation and utility infrastructure and parking lots. Existing utility infrastructure with prominent vertical forms and lines are noticeable adjacent to the proposed substation site. The Mission Hills community to the east provide a backdrop of visual interest in contrast to the commercial and industrial characteristics in the foreground and middleground; however, the view of the community does not enhance the overall urban visual quality.

Viewer Concern. Low. This roadway provides access to Pacific Highway from I-5. According to Section B.3.16, the average daily travel volume is approximately 23,000 vehicles. Travelers along this road anticipate the presence of utility/transportation infrastructure and commercial/light industrial development. They would not perceive a substantial increase in industrial character, structure prominence, or view blockage of the higher value landscape features (e.g., the Mission Hills community) from the proposed Vine Substation as an adverse visual change.

Viewer Exposure. Low. The visibility of the proposed Vine Substation from travelers on Pacific Highway would be low. The number of traveling viewers would be very high as this road is a well-traveled route. However, the duration of views for residents would be low due to the high speeds as vehicles are exiting I-5.

Overall Visual Sensitivity. Low. For viewers in the vicinity of KOP 4, combining the equally weighted Low visual quality, Low viewer concern, and Low viewer exposure results in an overall rating of Low for visual sensitivity of the visual setting and viewing characteristics.

Existing Sources of Light and Glare

The proposed Vine Substation site is currently a parking lot, with two parking lot lights that are existing sources during the nighttime hours. Commercial and light industrial development and the San Diego International Airport are located near the proposed substation site, serve as existing sources of light and glare in the area. Along the proposed distribution circuit routes, there are existing residences, commercial buildings, and other structures, along with vehicle headlights, that serve as sources of existing light and glare in those areas. Overall, light and glare within and around the Proposed Project area are consistent features of the urban landscape.

Applicable Regulations

State

California Department of Transportation – California Scenic Highway Program

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California’s scenic highways and a map identifying their locations is available from the Caltrans Scenic Highway Coordinators.

For a specific route to be included on a list of highways eligible for scenic highway designation, it must be added to the list prior to being considered for official designation. A highway may be designated scenic depending on the extent of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler’s enjoyment of the view.

Local

City of San Diego General Plan

Conservation Element – C. Coastal Resources

Policy CE-C.8. Protect coastal vistas and overlook areas from obstructions and visual clutter where it would negatively affect the public's reasonable use and enjoyment of the resource.

B.3.1.2 Environmental Impacts and Mitigation Measures

Methodology

The assessment of aesthetic resource impacts involves qualitative analysis that is inherently subjective, even when done in a consistent and rigorous manner. There are no absolute standards or quantifications of aesthetic values. However, following widely-recognized professional practice, certain broad principles, described below, are applied in this analysis to characterize the visual resource baseline and potential Project impacts.

First, visual impacts are a function of the existing visual quality of the Project landscape setting. Impacts to landscapes of high visual quality are more likely than impacts to settings of poor quality.

Second, visual impacts are a function of the sensitivity and response of viewers to visual change. Where there are no viewers, no impacts can occur, and the intensity of impacts is partly a function of the sensitivity and concern of viewers to Project-caused visual changes. Viewer sensitivity is generally evaluated in terms of such measures as degree and duration of viewer exposure, viewer distance zone, number of viewers, viewer activity types, and corresponding viewer scenic expectations; public policies expressing special concern with particular scenic features or values, including designated scenic vistas or road corridors; and other factors reflecting viewer concern and response.

Lastly, the level of impact is determined by the degree of Project-caused visual change. This is generally described in terms of the anticipated level of visual contrast and dominance, as well as potential for blockage of scenic views. Visibility of a project feature per se is not typically identified as a significant impact. Rather, a substantial level of visual change, experienced by viewers with high levels of sensitivity to visual change, is normally recognized as a prerequisite to significant visual impact, except under unusual circumstances.

Aesthetic Impacts

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

LESS THAN SIGNIFICANT. As described in the setting, the overall visual sensitivity associated with KOPs 1, 2 and 4 is Low. From KOP 3, the overall visual sensitivity is Moderate due to the background view of the North San Diego Bay. The Proposed Project would be visible from I-5 where the view of the North San Diego Bay could be considered a scenic vista. However, the Proposed Project is located in an urbanized area of San Diego that consists of a variety of light industrial and commercial uses. The site is bound by public streets to the north and east, commercial and industrial uses to the south, and rail lines to the west. No designated scenic vistas were identified in the area surrounding the Project site, so the addition of a substation would not be out of character with the surrounding urban uses. Therefore, potentially adverse impacts to a scenic vista would be less than significant.

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

LESS THAN SIGNIFICANT. The I-5 Freeway is an eligible scenic highway according to Caltran's Scenic Highway Mapping System (Caltrans, 2011). However, the Proposed Project would not result in damage to scenic resources, such as outcroppings or historic buildings. The Project would result in the removal of palm trees located along the perimeter of the proposed Vine Substation site; however, the area surrounding the substation site currently consists of a variety of light industrial and commercial uses, and residences to the east. Therefore, removal of these trees would not significantly alter the existing visual character of the Project area. Aesthetic impacts along I-5 would be less than significant and no mitigation would be required.

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

LESS THAN SIGNIFICANT. During the construction period, equipment, personnel, and activities would be seen by various viewers in the immediate vicinity of the Proposed Project's construction activities. These viewers would include nearby residents, pedestrians, travelers on public transit, and travelers in private vehicles on the I-5 Freeway and local roads. View durations from these vantage points would vary, but would predominantly be brief. Construction activities would be temporary and would be spread out among various locations, including the proposed Vine Substation, the 12-kV distribution circuit and telecommunication system routes, at the 69-kV loop-in, and at Kettner Substation. As a result, the temporary visual impacts associated with Project construction would be less than significant and no mitigation is required.

The two components of the Proposed Project that would result in permanent alterations to the existing visual character are the Vine Substation and the two new poles for the loop-in of an existing 69-kV power line. The Applicant (SDG&E) provided visual simulations in response to data requests for both of these components. For KOPs 1 and 2, Figures B.3.1-1 and B.3.1-2 show the existing view of the Park 'N Fly lot, along with two visual simulations showing the proposed substation from two public viewing locations. Figure B.3.1-2 provides a view of the Project site looking southwest. From this perspective, it appears that the proposed substation introduces a new structure in an area where there are predominantly parking lots. However, a new parking structure to the west of the Project site is currently under construction, and the existing development north of the substation site consists of commercial and light industrial development. Therefore, the substation would be compatible with the surrounding land uses, and would not substantially alter the existing visual character of the surrounding area. This impact would be less than significant.

An additional visual impact to consider is that the proposed perimeter wall around the Vine Substation may attract graffiti. As stated by SDG&E, graffiti would be handled using a five-coat system (minimum), which would enable graffiti to be removed using a high-pressure washer. The proposed landscaping (trees/shrubs) would also deter graffiti. With implementation of these design features, this impact would be less than significant.

For KOP 3, Figure B.3.1-3 provides a visual simulation showing the two new poles that would allow for the loop-in of the 69-kV power line. Although this component of the Project would result in two poles that would stand approximately 30 feet taller than the existing poles to be removed, and approximately 70 feet taller than the stub guy pole to be removed, the power lines are an existing feature in the visual character of this area. Therefore, the increase in height would be a less-than-significant impact.

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

LESS THAN SIGNIFICANT. As stated in the Project Description, construction activities would occur between 7:00 a.m. and 7:00 p.m. Monday through Saturday. Some construction activities would occur during the evenings or would require continuous work through the night, specifically at the Vine Substation and along Kettner Boulevard. During nighttime hours, standard lighting units (i.e., a trailer with a lighting tower) would be set up within each work area, which would be a new light source during nighttime hours. However, the area immediately surrounding the Project site consists of light industrial and commercial uses, and the closest residential areas are separated from these nighttime activities by the I-5 Freeway. As such, construction activities during nighttime hours would not result in direct impacts to sensitive receptors. In addition, light sources for construction would be temporary (up to 19 months). Therefore, lighting impacts during the construction period would be less than significant.

Permanent substation lighting would be provided by a mixture of high-pressure sodium and metal halide lights. With the exception of the gate entry lights, which would remain on at night for safety purposes, the remaining substation lighting would not be turned on unless it is required for nighttime work and/or an emergency. One light would be installed at the main gate, one on each side of the control shelter, and a minimum of two lights would be installed on each substation wall. Lights may also be installed on the end of the steel rack, if required. All on-site lighting would be oriented downward to minimize glare onto the surrounding properties. The existing Park 'N Fly Airport Parking lot consists of two lighting poles that provide nighttime lighting. Therefore, in the context of the existing nighttime lighting environment, it is expected that the nighttime lighting impacts caused by the proposed substation would not create a new source of substantial light. The resulting visual impact would be less than significant.

Existing view from California Street near Vine Street looking southeast

Visual simulation of the proposed Vine Substation

Source: SDG&E, 2014.

Figure B.3.1-1

KOP 1— California Street (1)
Existing View and Simulation of Proposed Vine Substation


Existing view from California Street looking south-southeast


Visual simulation of the proposed Vine Substation and 69-kV loop-in

Source: SDG&E, 2015.

Figure B.3.1-2
KOP 2 — California Street (2)
Existing View and Simulation of 69-kV Loop-in


Existing view from I-5 Freeway southbound looking south west


Visual simulation of proposed Vine Substation

Source: SDG&E, 2014.

Figure B.3.1-3
KOP 3 — Southbound I-5
Existing View and Visual Simulation of Proposed Vine Substation

Existing view from PCH looking northwest

Visual simulation of proposed Vine Substation

Source: SDG&E, 2014.

Figure B.3.1-4
KOP 4 — Pacific Highway
Existing View and Simulation of Proposed Vine Substation

B.3.2 Agriculture and Forestry Resources

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

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.2.1 Setting

The Proposed Project site is located in a highly urban area with no agricultural uses or forest lands in the vicinity. The proposed Vine Substation and 69-kV loop-in would be located on a site that is designated Industrial Employment by the City's General Plan. Lands adjacent to the relocated distribution circuits have a General Plan designation of Industrial Employment at the northern end of the line and Multiple Use and Commercial Employment Retail and Services at the southern end.

According to the Farmland Mapping and Monitoring Program (FMMP) GIS data, the FMMP designations surrounding the Proposed Project site, including the relocated distribution circuits, are Urban and Built-Up and Other Land (the definitions of these designations are provided below) (DOC, 2010). There are no Williamson Act lands in the vicinity of the Proposed Project site (DOC, 2014). The existing zoning designation for the Vine Substation and 69-kV loop-in is IS-1-1 (Industrial Small Lot), which allows small-scale industrial activities within urbanized areas. The 12-kV distribution relocation and telecommunication line would be located in public street ROW adjacent to the MCCPD-CL-6, MCCPD-MR-1500 and CC-4-5 zoning designations, which regulate residential and commercial land uses.

Applicable Regulations

Federal

Farmland Protection Policy Act. The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmlands.

State

California Department of Conservation, Farmland Mapping and Monitoring Program. The DOC's FMMP applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC has a minimum mapping unit of 10 acres, with smaller than 10-acre parcels being absorbed into the surrounding classifications. Grazing Land is mapped at a minimum scale of 40 acres.

Lands that would be traversed by the Proposed Project are designated as Urban and Built-Up Land and Other Land (DOC, 2010). The definitions for these designations are as follows:

> Urban and built-up land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
>
> Other land is land not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land.

Land Conservation Act. Also known as the Williamson Act, this enables local governments (counties and cities) to enter into contracts, i.e., Williamson Act contracts, with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

B.3.2.2 Environmental Impacts and Mitigation Measures

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as Shown on the Maps Prepared Pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to Non-agricultural use?

NO IMPACT. The proposed substation site is situated on a 1.5-acre parcel currently being utilized for long-term airport parking. The Proposed Project also involves the relocation of distribution circuits, loop-in of an existing 69-kV power line, and the upgrade of an existing telecommunication system. The relocated distribution circuits would generally travel within public ROWs within the City of San Diego.

The proposed Vine Substation, 12-kV distribution relocation, 69-kV loop-in and the telecommunication system extension would not be located on any lands categorized as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) by the FMMP. As noted in the setting above, this area of the City consists of land designated as Urban and Built-Up Land and Other Land. No construction activities, including stringing or laydown activities would occur on Farmland. Therefore, no Farmland would be affected by construction or operation of the Proposed Project. No impact would occur.

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

NO IMPACT. The existing zoning designation for the Vine Substation and 69-kV loop-in is IS-1-1 (Industrial Small Lot). The purpose of the IS zone is to provide for small-scale industrial activities within urbanized areas. The 12-kV distribution relocation and telecommunication line would be located in public street ROWs adjacent to the MCCPD-CL-6, MCCPD-MR-1500 and CC-4-5 zoning designations, which regulate residential and commercial land uses. Therefore, the Proposed Project would not conflict with zoning for an agricultural use.

Based on the Department of Conservation's Williamson Act maps, this area of San Diego County consists of Non-Williamson Act lands (DOC, 2014). Therefore, the Proposed Project would not be located within or near lands under a Williamson Act contract. No impact would occur.

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

NO IMPACT. As described in setting above, the Proposed Project would be constructed within and along industrial, commercial and residential zoning designations. As such, there would be no conflict with land zoned for forestry. No impact would occur.

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

NO IMPACT. As noted in setting above, no forest land would be impacted by the Proposed Project. Therefore, the Proposed Project would not result in the loss or conversion of forest land to non-forest use. No impact would occur.

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

NO IMPACT. The Proposed Project would not convert any agricultural land to non-agricultural uses, nor would it convert any forest land to non-forest use. The Proposed Project would not involve other changes that would result in conversion of land to non-agricultural or non-forest uses. Therefore, no impact would occur.

B.3.3 Air Quality

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:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
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)?	☐	☒	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.3.1 Setting

Regional Climate and Meteorology

The Proposed Project is located in the City of San Diego within the San Diego Air Basin and under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). Table B.3.3-1 presents a monthly climate summary for the City of San Diego.

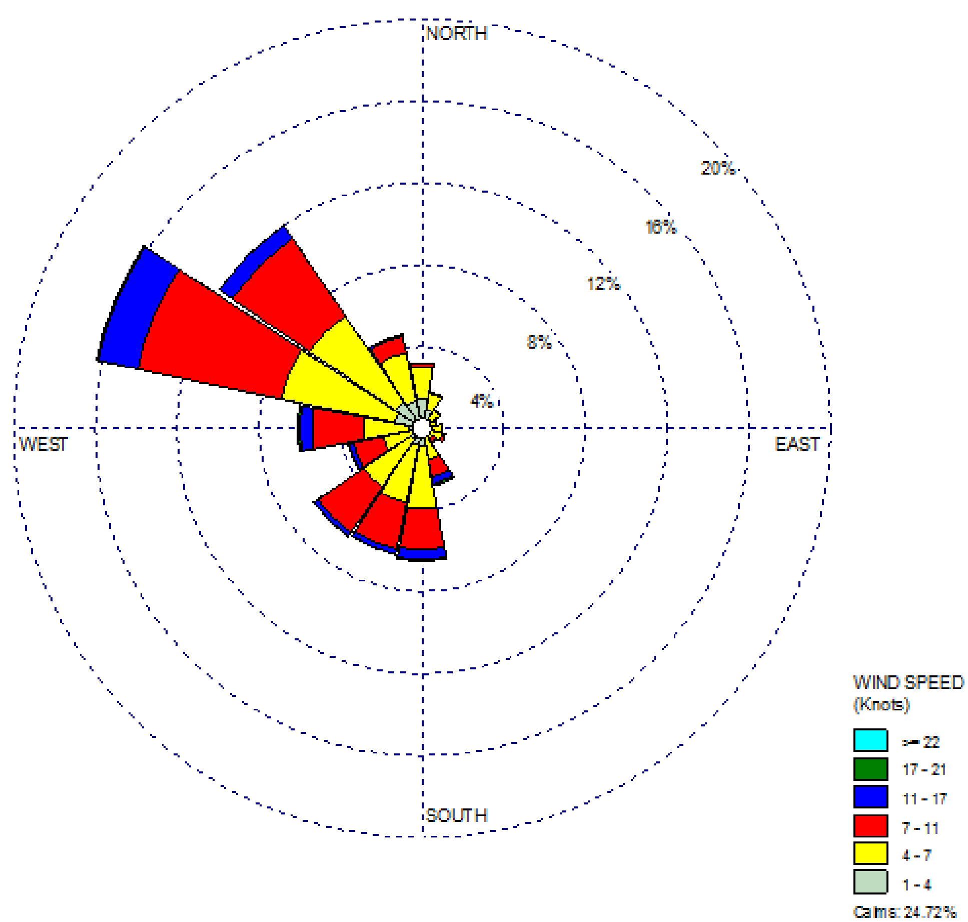
Table B.3.3-1. San Diego Monthly Average Temperatures and Precipitation

Month	Temperature (°F) High	Temperature (°F) Low	Precipitation
January	66	50	2.28
February	66	52	2.04
March	66	54	2.26
April	69	56	0.75
May	69	60	0.20
June	72	63	0.09
July	76	66	0.03
August	78	67	0.09
September	77	66	0.21
October	74	61	0.44
November	70	54	1.07
December	66	49	1.31

Source: Intellicast, 2015.

The Project site experiences a mild Mediterranean climate with temperature extremes that are normally buffered by the nearby Pacific Ocean. As shown in Table B.3.3-1, average summer (June to September) high and low temperatures in the study area range from 78°F to 63°F. Average winter (December to March) high and low temperatures range from 66°F to 49°F. The average annual precipitation is under 11 inches with over 90 percent occurring between November and April. Summers are very dry with five straight months starting in May averaging less than a quarter of an inch of precipitation. Little precipitation occurs during summer because high-pressure cells block migrating storm systems over the eastern Pacific.

The typical wind speeds and directions for the Project area, as depicted in Figure B.3.3-1 using a wind rose for the nearby San Diego International Airport, shows a strong predominant onshore flow and a very weak offshore flow, and a large number of calm wind hours. This wind rose is based on data between 2009 and 2013, and the average wind speed during this five-year period was just over five knots (5.8 miles per hour).



Source: CARB. 2015a

Figure B.3.3-1 – Windrose from San Diego International Airport (2009 – 2013)

Air Pollutants and Monitoring Data

Air pollutants are defined as two general types: (1) "criteria" pollutants, representing six pollutants for which national and state health- and welfare-based ambient air quality standards have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. An additional air quality-related concern is Valley Fever.

Criteria Pollutants

The United States Environmental Protection Agency (USEPA), California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available, or non-compliance with the ambient air quality standards (AAQS), respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS) relevant to the Project are provided in Table B.3.3-2.

Table B.3.3-2. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Ozone (O_3)	1-hour	0.09 ppm	--	Breathing difficulties, lung tissue damage
	8-hour	0.070 ppm	0.075 ppm	
Respirable particulate matter (PM10)	24-hour	50 μg/m³	150 μg/m³	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 μg/m³	--	
Fine particulate matter (PM2.5)	24-hour [a]	--	35 μg/m³	Increased respiratory disease, lung damage, cancer, premature death
	Annual [b]	12 μg/m³	12 μg/m³	
Carbon monoxide (CO)	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
Nitrogen dioxide (NO_2)	1-hour	0.18 ppm	0.100 ppm [3]	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
Sulfur dioxide (SO_2)	1-hour	0.25 ppm	0.075 ppm [c]	Increases lung disease and breathing problems for asthmatics
	3-hour	--	0.5 ppm	
	24-hour	0.04 ppm	--	

Source: CARB, 2001; CARB, 2015b.
Notes:
ppm = parts per million; μg/m³ = micrograms per cubic meter; "--" = no standards
(a) The federal 24-hour PM2.5 standard is based on the 98th percentile of maximum daily monitored values.
(b) The federal standard shown is the primary standard, the secondary standard is 15 μg/m³.
(c) The new federal 1-hour NO_2 and SO_2 standards are based on the 98th and 99th percentile of daily hourly maximum values, respectively.

Table B.3.3-3 summarizes the federal and State attainment status of criteria pollutants for the San Diego Air Basin based on the NAAQS and CAAQS, respectively. For simplification the attainment status, if identified as unclassifiable/attainment or some similar status that is not either nonattainment or attainment/maintenance is noted as attainment in the table.

Table B.3.3-3. Attainment Status for the San Diego Air Basin

Pollutant	Attainment Status	
	Federal	State
O_3	Nonattainment	Nonattainment
PM10	Attainment	Nonattainment
PM2.5	Attainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment

Source: CARB, 2015c; USEPA, 2015.

Table B.3.3-4 summarizes the historical air quality data for the Project area collected at the nearest representative air quality monitoring station in San Diego County. The air monitoring station used to provide ozone, PM10, PM2.5, and NO_2 concentrations is located at the 1110 Beardsley Street monitoring station in San Diego, which is located a few miles east northeast of the Project area. This coastal monitoring station is the most representative of the Project area. Sulfur dioxide and carbon monoxide monitoring were discontinued at the Beardsley Street monitoring station in 2011 and 2012, respectively. Table B.3.3-4 presents the maximum pollutant levels measured from the 1110 Beardsley Street monitoring station from 2011 through 2013.

Table B.3.3-4. Background Ambient Air Quality Data

Pollutant	Averaging Time	Maximum Concentration (ppm or µg/m^3) [a]		
		2011	2012	2013
O_3	1-hour	0.082	0.081	0.063
	8-hour	0.061	0.065	0.053
PM10	24-hour	49.0	47.0	92.0
	Annual	24.0	22.2	25.4
PM2.5	24-hour 98th Percentile	23.5	24.1	19.6
	Annual	10.8	11.0	10.3
NO_2	1-hour	0.067	0.065	0.072
	1-hour 98th Percentile	0.058	0.054	0.056
	Annual	0.014	0.013	0.014

Source: CARB, 2015d.
Notes:
ppm = parts per million; µg/m^3 = micrograms per cubic meter; "—" = no data
(a) Gaseous pollutant (ozone, SO_2, NO_2, and CO) concentrations are shown in ppm and particulate (PM10 and PM2.5) concentrations are shown in µg/m^3. The values provided may depict either "state" or "federal" maximum values depending on the AAQS that is applicable, or to provide complete data where otherwise missing the "state" or "federal" values.

The ambient air quality data shown above indicates that in the three years of data shown, the local Project area had experienced exceedances of the State PM10 standards, but experienced no exceedances of any federal standard or any other State standard.

Toxic Air Contaminants

TACs are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. The Health and Safety Code defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another's. There are almost 200 compounds designated in California regulations as TACs (17 CCR §§ 93000-93001). The list of TACs also includes the substances defined in federal statute as hazardous air pollutants pursuant to Section 112(b) of the federal Clean Air Act (42 U.S.C. §7412(b)). Some of the TACs are groups of compounds which contain many individual substances (e.g., copper compounds, polycyclic aromatic compounds). TACs are emitted from mobile sources, including diesel engines; industrial processes and stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations, and stationary fossil fuel-burning combustion. Ambient TACs concentrations tend to be highest in urbanized and industrial areas near major TACs emissions sources or near major mobile TACs emissions sources, such as heavily traveled highways or major airports/seaports. Unlike for criteria pollutants, no regular monitoring and reporting of all ambient TACs concentrations, such as diesel particulate matter (DPM) concentrations, is performed in San Diego County. Generally, TACs do not have ambient air quality standards. The three TACs that do have State ambient air quality standards (lead, vinyl chloride, and hydrogen sulfide) are pollutants that are in attainment of the State standards in San Diego County and that are not relevant to the emissions sources for this Project.

<u>Valley Fever</u>

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus Coccidioides immitis (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-disturbing activities and become airborne. Agricultural workers, construction workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever (CDPH, 2013).

Most people exposed to the CI spores will not develop the disease and of 100 persons who are infected approximately 60 will have no symptoms, 40 will have some symptoms, and 2 to 4 will have the more serious disseminated forms of the disease. After recovery nearly all, including the asymptomatic, develop a life-long immunity to the disease (Guevara, 2014). African Americans, Asians, Women in the 3rd trimester of pregnancy, and persons whose immunity is compromised are most likely to develop the most severe form of the disease (CDC, 2013). In addition to humans, a total of 70 different species are known to be susceptible to Valley Fever infections, including dogs, cats, and horses; with dogs being the most susceptible (LACPH, 2007).

The Project is located in an area designated as suspected endemic for Valley Fever by the Center for Disease Control (CDC, 2013). Annual case reports for 2000 through 2013 from the California Department of Public Health indicate that San Diego County has reported incident rates for Valley Fever that range from a rate of 1.8 to 4.8 cases per year per 100,000 population (CDPH, 2011; CDPH, 2014). These incidence rates for San Diego County have been below the State average incidence rates and have been well below the worst-case annual rates for other counties within the State during this period, occurring within the San Joaquin Valley, where there are over 300 cases per 100,000 population. Given the low incidence rate in San Diego County as a whole, and the fact that the fugitive dust causing activities associated with the Project would occur in areas that have been paved for years, the potential for the Project construction activities to encounter and disperse CI spores and create the potential for additional Valley Fever infections is considered negligible.

Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to City of San Diego CEQA guidance (City of San Diego, 2011), sensitive receptor locations include schools, daycare centers, retirement homes, hospitals or medical patients in residential homes.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Residential areas can also be sensitive to air pollution due to high exposure periods for individual that do not leave their residences often. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

A land use survey was conducted to identify sensitive receptors (e.g., schools, hospitals, recreational facilities, local residences) in the general vicinity of the Proposed Project. The Project area is generally surrounded by commercial and industrial properties. However, there are residences located within a tenth of a mile of the proposed Vine Substation site, on the other side of the I-5 Freeway, and residential areas located adjacent to some of the 12-kV distribution line and telecommunication line underground construction areas (east of the I-5 Freeway). The school nearest to the proposed Vine Substation site is the Montessori School of San Diego, located approximately a quarter mile southeast, and across the I-5 Freeway, and is located within 200 feet from the nearest of the distribution line construction area (12-kV construction route east of the I-5 Freeway). There are several other schools located within a mile of the Project area. No known hospitals, retirement homes, parks, or recreational facilities are located within a half mile of the proposed Vine Substation site, but two areas designated as parks are located within a third of a mile of the southernmost extent of the distribution line upgrade construction.

Applicable Regulations

Sources of air emissions in the San Diego Air Basin are regulated by the USEPA, CARB, and SDAPCD. The role of each regulatory agency is discussed below.

Federal

<u>Federal Clean Air Act</u>

The federal Clean Air Act (CAA) of 1970 and its subsequent amendments form the basis for the nation’s air pollution control effort. The USEPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the establishment of NAAQS for criteria air pollutants (see Table B.3.3-2), hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The CAA allows the delegation of the enforcement of many of the federal air quality regulations to the states. In California, the CARB is responsible for enforcing air pollution regulations. In San Diego County, the SDAPCD has this responsibility. In addition, the SDAPCD and the CARB are the responsible agencies for providing attainment plans and meeting attainment with the NAAQS; and the USEPA reviews and approves these plans and regulations, which are designed to attain and maintain attainment with the NAAQS.

Specific federal regulations that are applicable to the Project, either directly or indirectly, and that are enforced by federal agencies are listed below.

Emission Standards for Non-Road Diesel Engines

The USEPA has established a series of cleaner emission standards for new off-road diesel engines culminating in the Tier 4 Final Rule of June 2004 (USEPA, 2004a). The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively more stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006, and the Tier 3 standards were phased in from 2006 to 2008.

The Tier 4 standards complement the latest 2007 and later on-road heavy-duty engine standards by requiring 90 percent reductions in DPM and Nitrogen Oxides (NOx) when compared against current emission levels. The Tier 4 standards are currently being phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NOx and PM standards in 2015.

Non-Road Diesel Fuel Rule

In May 2004, the USEPA set sulfur limits for non-road diesel fuel. Under this rule, sulfur levels in non-road diesel fuel would be limited to 500 ppm starting in 2007 and 15 ppm starting in 2010 (USEPA, 2004b), at which time it would be equivalent to sulfur content restrictions of the California Diesel Fuel Regulations (described below).

Emission Standards for On-Road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, the USEPA established a series of cleaner emission standards for new engines, starting in 1988. These emission standards regulations have been revised over time. The latest effective regulation, the 2007 Heavy-Duty Highway Rule, provides for reductions in PM, NOx, and non-methane hydrocarbon emissions that were phased in during the model years 2007 through 2010 (USEPA, 2000).

State

California Clean Air Act

In California, the CARB is designated as the responsible agency for all air quality regulations. The CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a program to attain the CAAQS for ozone, NO_2, SO_2, and CO by the earliest practical date. Since the CAAQS are often more stringent than the NAAQS, attainment of the CAAQS will require more emission reductions than what is required to demonstrate attainment of the NAAQS. Similar to the federal requirements, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region. Additional information regarding the CAAQS are provided in Table B.3.3-2.

Other CARB regulations promulgated under the authority of the CCAA that are relevant, directly or indirectly, to the Project are as follows:

California Diesel Risk Reduction Plan

CARB has adopted several regulations that are meant to reduce the health risk associated with on- and off-road and stationary diesel engine operation. This plan recommends many control measures with the goal of an 85 percent reduction in DPM emissions by 2020. The regulations noted below, which may also serve to significantly reduce other pollutant emissions, are all part of this risk reduction plan.

Emission Standards for On-Road and Off-Road Diesel Engines

The CARB, similar to the USEPA on-road and off-road emissions standards, regulations described above, has established emission standards for new on-road and off-road diesel engines. These regulations have model year based emissions standards for NOx, hydrocarbons, CO, and particulate matter (PM).

In-Use Off-Road Vehicle Regulation

The State has also enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (CCR Title 13, Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for PM and NOx emissions from owners of fleets of diesel-fueled off-road vehicles, and applies to off-road equipment fleets of three specific sizes, as follows:

- Small Fleet – Fleet or municipality with equipment totaling less than or equal to 2,500 horsepower (HP), or municipal fleet in lower population area, captive attainment fleet, or non-profit training center regardless of horsepower.
- Medium Fleet – Fleet with equipment totaling 2,501 to 5,000 HP.
- Large Fleet – Fleet with equipment totaling more than 5,000 HP, or all State and federal government fleets regardless of total HP.

The target emission rates for these fleets are reduced over time. Specific regulation requirements include:

- Limits on idling, requiring a written idling policy, and disclosure when selling vehicles;
- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts the adding of older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). (CARB, 2014)

The construction contractor(s) who complete the construction activities for the Proposed Project, including the Applicant if they use their own off-road equipment fleet, would have to comply with the requirements of this regulation.

Heavy Duty Diesel Truck Idling Regulation

This CARB rule became effective February 1, 2005, and prohibits heavy-duty diesel trucks from idling for longer than five minutes at a time, unless they are queuing, and provided the queue is located beyond 100 feet from any homes or schools (CARB, 2006).

California Diesel Fuel Regulations

In 2004, the CARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles (Title 13, California Code of Regulations, Sections 2281-2285 and Title 17, California Code of Regulations, Section 93114). Under this rule, sulfur content of diesel fuel would be limited to 15 ppm starting in June 2006 (CARB, 2004).

Statewide Portable Equipment Registration Program (PERP)

The PERP establishes a uniform program to regulate portable engines and portable engine-driven equipment units (CARB, 2005). Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, as long as the equipment is located at a single location for no more than 12 months.

Local

San Diego County Air Pollution Control District

The SDAPCD is responsible for planning, implementing, and enforcing federal and State ambient standards within San Diego County. As part of its planning responsibilities, SDAPCD prepares Air Quality Management Plans and Attainment Plans as necessary based on the attainment status of the air basins within its jurisdiction. The SDAPCD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by the USEPA. The SDAPCD has developed the following federal and State attainment planning documents (SDAPCD, 2015a):

- Eight-Hour Ozone Attainment Plan (federal 8-hour ozone attainment plan). Link: http://www.sdapcd.org/planning/8-Hour-Ozone-Attainment-Plan.pdf
- Air Resources Board’s Proposed State Strategy for California’s 2007 State Implementation Plan (federal 8-hour ozone attainment plan). Link: http://www.arb.ca.gov/planning/sip/2007sip/2007sip.htm
- Ozone Redesignation Request and Maintenance Plan (federal 1-hour ozone maintenance plan). Link: http://www.sdapcd.org/planning/RedesigPlan.pdf
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide (federal CO maintenance plan). Link: http://www.arb.ca.gov/planning/sip/co/final_2004_co_plan_update.pdf.
- 2004 Triennial Revision of the Regional Air Quality Strategy for San Diego County (State ozone attainment plan). Link: http://www.sdapcd.org/planning/RAQS-04.pdf
- Measures to Reduce Particulate Matter in San Diego County (Health and Safety Code 39614) Link: http://www.sdapcd.org/planning/SB656StaffRpt.pdf
- Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County. Link: http://www.sdapcd.org/planning/8_Hour_O3_Maint-Plan.pdf
- 2009 Regional Air Quality Strategy Revision. Link: http://www.sdapcd.org/planning/2009-RAQS.pdf

Through the attainment planning process, the SDAPCD develops the SDAPCD Rules and Regulations to regulate sources of air pollution in San Diego County (SDAPCD, 2015b). The SDAPCD rules that may be applicable to the Proposed Project are listed below.

SDAPCD Rule 50 – Visible Emissions. This rule prohibits discharge of air contaminants or other material, which are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or obscure an observer's view.

SDAPCD Rule 51 – Nuisance. This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

SDAPCD Rule 55 – Fugitive Dust Control. The purpose of this rule is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. The rule limits visible dust opacity and visible dust plumes beyond property lines, and requires control of track-out onto paved roads.

SDAPCD Rule 67.0 – Architectural Coatings. Architectural coating Rule 1113 that limits the volatile organic compound (VOC) content of paints applied to various surfaces that would be applicable to any construction painting operation.

SDAPCD Regulation II – Permits. The rules under this regulation require the permitting of stationary sources, require new emission sources use best available control technology (BACT) to control criteria pollutant emissions, and require offsetting of emissions if permitted emissions would exceed designated thresholds. There is the potential that portable internal combustion engines being used during Project construction would require permits from SDAPCD if they are not permitted under the CARB PERP program.

City of San Diego

The City of San Diego has adopted a General Plan that includes air quality related goals and policies. There are a total of two general goals, one of which is related to greenhouse gases, and nine policies (City of San Diego, 2008). However, none of the goals or policies in the General Plan provides specific air quality related requirements that would apply to the Proposed Project.

The City of San Diego has also developed a CEQA Significance Determination Thresholds document that provides thresholds for air quality analysis (City of San Diego, 2011). This document has been used to establish the significance criteria used to evaluate Project impacts.

B.3.3.2 Environmental Impacts and Mitigation Measures

The assessment of environmental impacts and determination of necessary mitigation measures has been completed independently based on an analysis of the Project Description provided in Section B.1 and environmental setting provided above, within consideration and review of the air quality analysis and air pollutant emissions estimation information provided by SDG&E in their Proponent's Environmental Assessment (PEA), Supplemental PEA, and responses to deficiencies (SDG&E, 2014; SDG&E, 2015a; SDG&E, 2015b).

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

LESS THAN SIGNIFICANT. The Proposed Project would be built and operated in compliance with all SDAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SDAPCD air quality plans do not call for any additional future emission reduction regulations that would affect the Project's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources and operations and maintenance (O&M) on-road vehicle sources that are not regulated by SDAPCD. The Proposed Project also would not conflict with any City of San Diego General Plan air quality goals or policies. Additionally, the Proposed Project would not cause or induce growth beyond the assumptions within the applicable air quality plans or otherwise obstruct implementation of the applicable air quality plans. Impacts would be less than significant.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*. Construction of the Proposed Project would result in emissions of the following criteria air pollutants: Volatile Organic Compounds (VOCs), NOx, CO, PM10, PM2.5, and sulfur oxides. Emissions from construction would result from fuel combustion and exhaust from construction equipment and vehicle traffic; fugitive dust would occur from site preparation and grading, excavation, bulk material handling, and vehicle travel on paved road and unpaved areas; and there would be a small amount of VOC emissions from asphalt paving and surface coating.

For the purposes of environmental review of this type of an infrastructure project, the City of San Diego has approved the air pollutant emissions thresholds shown in Table B.3.3-5.

Table B.3.3-5. Emissions Significance Thresholds

	Daily Emissions (lbs/day)						Annual Project Emissions (Tons)					
	NOx	VOC	CO	PM10	PM2.5	SO_2	NOx	VOC	CO	PM10	PM2.5	SO_2
Significance Thresholds	250[a]	137	550[a]	100	--	250[a]	40	15	100	15	--	40

Source: City of San Diego, 2011.
Notes:
(a) There are also hourly thresholds for NOx, CO, and SOx, of 25, 100, and 25 lbs/hour, respectively.

Table B.3.3-6 summarizes the Project's maximum daily and annual emissions and compares them with the City of San Diego significance thresholds. The Project's air pollutant emissions estimates are based on CalEEMod emissions source modeling initially performed by the Applicant (SDG&E). The Applicant emissions modeling analysis was reviewed and the deficiencies discovered in the input assumptions were corrected. Then the modeling analysis was further revised as necessary to include the effects of the proposed air quality mitigation measures to enable the model to produce both uncontrolled and controlled air pollutant emissions estimates. The CalEEMod model, which was used to calculate the Project's air pollutant emissions, calculates daily emissions for either winter or summer conditions. Table B.3.3-6 presents the worst case of the winter or summer emissions totals for each pollutant.

Table B.3.3-6. Estimated Uncontrolled Maximum Daily and Annual Construction Emissions

	Daily Emissions (lbs/day)						Total Project Emissions (Tons)					
	NOx	VOC	CO	PM10	PM2.5	SO_2	NOx	VOC	CO	PM10	PM2.5	SO_2
2016 Construction Emissions	227.86	24.15	155.69	31.99	13.43	0.32	15.49	1.54	10.32	2.21	1.10	0.02
2017 Construction Emissions	250.02	26.10	175.34	20.56	14.13	0.36	9.37	0.99	6.89	0.90	0.55	0.01
Project Maximum/Total	250.02	26.10	175.34	32.49	14.13	0.36	24.86	2.52	17.21	3.12	1.65	0.04
SDAPCD Significance Thresholds	250	137	550	100	--	250	40	15	100	15	--	40
Exceeds Significance Thresholds?	**Yes**	No	No	No	No	No	No	No	No	No	No	No

Source: SDG&E, 2015b; See Appendix 3.

As shown in Table B.3.3-6, the Proposed Project's construction emissions would marginally exceed the daily NOx emissions threshold, and could also exceed the 25 pound per hour NOx emissions threshold provided in the footnotes to Table B.3.3-5, but would not exceed any of the other significance thresholds established by the City of San Diego. Without any specified Project requirements for equipment emissions, the actual off-road equipment that is used could be better or worse than the fleet average values used by the CalEEMod model to calculate the NOx emissions, which could mean that the NOx emissions would more than marginally exceed the daily and hourly emissions significance thresholds. Additionally, without any Project phase scheduling restrictions, the actual construction overlap may be greater, resulting in NOx emissions that would more than marginally exceed the daily and hourly emissions significance thresholds. Therefore, NOx mitigation has been proposed in Mitigation Measure AQ-1. This mitigation would require the use of diesel-fueled off-road equipment with newer/cleaner engines, specifically in the form requiring 50 horsepower or larger engines to meet or exceed USEPA/CARB Tier 3 or higher emissions standards. Additionally, to integrate the Project's design features (see Section B.1.13), on-road equipment emissions mitigation has been proposed in Mitigation Measure AQ-2.

The CalEEMod estimated maximum daily PM10 emissions are below the City of San Diego significance thresholds. However, the maximum fugitive dust emissions during substation construction are of concern due to the construction activities being performed and the equipment types (i.e., scrapers) being used, and known deficiencies in the CalEEMod model regarding fugitive dust emissions calculation. To address these concerns, and to account for fugitive dust controls specified by SDG&E as Project design features (see Section B.1.13), fugitive dust control has been proposed during substation construction in Mitigation Measure AQ-3.

The controlled emissions were estimated and those emissions are presented in Table B.3.3-7.

Table B.3.3-7. Estimated Controlled Maximum Daily and Annual Construction Emissions

	Daily Emissions (lbs/day)						Total Project Emissions (Tons)					
	NOx	VOC	CO	PM10	PM2.5	SO_2	NOx	VOC	CO	PM10	PM2.5	SO_2
2016 Construction Emissions	132.06	7.51	155.69	13.35	8.06	0.32	8.33	0.48	10.79	1.09	0.59	0.02
2017 Construction Emissions	151.76	8.64	175.34	13.28	9.15	0.36	5.79	0.33	7.64	0.58	0.37	0.01
Project Maximum/Total	151.76	8.64	175.34	13.35	9.15	0.36	14.13	0.81	18.43	1.68	0.96	0.04
SDAPCD Significance Thresholds	250	137	550	100	--	250	40	15	100	15	--	40
Exceeds Significance Thresholds?	No	No	No	No	No	No	No	No	No	No	No	No

Source: SDG&E, 2015b; See Appendix 3.

Mitigation Measure AQ-1 would reduce NOx emissions by 39 percent and 43 percent on a maximum daily and total Project basis, respectively; and Mitigation Measures AQ-1 and AQ-3 would reduce PM10 emissions by 59 percent and 46 percent on a maximum daily and total Project basis, respectively. These mitigation measures would also reduce VOC and PM2.5 emissions substantially. CalEEMod estimates that the CO emission would increase marginally due to Mitigation Measure AQ-1, but that is considered to be an error regarding the CalEEMod model emission factor inputs, as there is no reason based on the CARB off-road emission factor reference used in CalEEMod that CO emissions would increase based on the assumption of using Tier 3 engines. Therefore, this table shows the same CO emissions as the uncontrolled emissions shown in Table B.3.3-6. The NOx and PM10 emissions reductions shown above eliminate the concern that the daily construction NOx and PM10 emissions could exceed City of San Diego significance thresholds. Therefore, the air pollutant emissions impacts for the Proposed Project would be less than significant after mitigation.

DURING OPERATIONS, *LESS THAN SIGNIFICANT*. The direct operating emissions during O&M would be minimal and would consist of vehicle usage during periodic inspection, maintenance, and repair activities. The Project should also cause an increase in efficiency of the local distribution system, which could to some extent reduce generation requirements and create an associated indirect air pollutant emissions reduction; however, those emissions reductions cannot be calculated with any certainty and the actual location of the emissions reduction is uncertain.

The new Vine Substation would be unmanned, and SDG&E has stated that the Project would not otherwise require the hiring of any addition O&M personnel. The Project-related increase in trips would normally be limited to intermittent inspections using one or two vehicles such as pickups and/or line trucks. The maximum daily emissions, based on the description of the necessary maintenance events in Section B.1.12.1, would occur during the new substation's annual major maintenance inspection. Assuming vehicles with double occupancy and 10 maintenance personnel, this could include the round-trips of three pickup trucks and two line trucks from one of the local SDG&E maintenance yards, which based on current maintenance yard locations would be less than a 15-mile round trip distance. Given average CARB EMFAC2014 fleet emissions factors for pickup trucks and line trucks (medium heavy duty trucks), the maximum daily emissions for these annual inspection events would be, for all six criteria pollutants, more than an order of magnitude below the City of San Diego's air pollutant emissions significance thresholds listed above in Table B.3.3-5. Therefore, air pollutant emissions impacts during Project operation would be less than significant.

Mitigation Measure(s)

SDG&E has not specified any applicant proposed measures for air pollution emissions reduction, but has specified the following Project design features (see Section B.1.13):

- **Soil Stabilization**. Disturbed areas must be stabilized per the Stormwater Pollution Prevention Plan.
- **Fugitive Dust Control**. All unpaved construction areas would be watered up to two times daily during construction to reduce dust emissions and to meet SDAPCD Rule 55 requirements. SDG&E or its contractor would keep the construction area sufficiently dampened to control dust caused by construction and hauling, and would provide at all times reasonable dust control of areas subject to windblown erosion.
- **Bulk Material Transport**. All loads would be secured by covering or be sufficiently watered and use of at least two feet of freeboard to avoid carry-over. Bulk material transport will include the removal of spoils from excavation activities during remedial grading and duct bank installation, as well as the import of fill during site development activities. The bed of all trucks hauling this material will be

covered with a tarp or similar material. If a cover is not used, the material will be sufficiently watered and at least two feet of freeboard will be maintained to avoid carry-over (SDG&E, 2015b).

- **Equipment Emissions**. SDG&E or its contractor would maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would have their engines turned off after five minutes when not in use. Construction activities would be phased and scheduled to avoid emission peaks, and equipment use would be curtailed during second-stage smog alerts.
- **Volatile Organic Compound (VOC) Reduction**. Low- and non-VOC-containing coatings, sealants, adhesives, solvents, asphalt, and architectural coatings would be used to reduce VOC emissions.

The Project design features related to fugitive dust control and off-road and on-road equipment emissions control have been formalized into the following three mitigation measures to reduce NOx emissions throughout Project construction, and the potential for high PM10 and PM2.5 emissions during substation construction.

AQ-1 **Control Off-road Equipment Emissions.** Off-road equipment with engines larger than 50 horsepower shall have engines that meet or exceed U.S. Environmental Protection Agency/California Air Resources Board Tier 3 Emissions Standards. Exceptions will be allowed only on a case-by-case basis for two specific situations: (1) an off-road equipment item that is a specialty, or unique, piece of equipment that cannot be found with a Tier 3 or better engine after a due diligence search; and/or (2) an off-road equipment item that will be used for a total of no more than 10 days. Additionally, off-road equipment engine idling shall not exceed five (5) minutes unless required for proper operation and all engines shall be maintained in good operating condition and in tune per manufacturers' specification.

AQ-2 **Control On-road Equipment Emissions.** All construction on-road vehicle engines, with the exception of personal vehicles, shall be turned off when not in use. Engine idling shall not exceed five (5) minutes unless required for proper operation or personnel health and safety (e.g., shelter from the elements). All construction on-road vehicle engines, with the exception of personal vehicles, shall be maintained in good operating condition and in tune per manufacturers' specification.

AQ-3 **Implement Fugitive Dust Control Plan for the Vine Substation.** The Applicant shall develop a Fugitive Dust Control Plan to reduce Particulate Matter (PM) 10 and PM2.5 emissions during construction of the Vine Substation. The implementation of this Plan shall be considered complete when the Vine Substation's final surfacing, as required in part c.viii below, is done. The Fugitive Dust Control Plan shall include:

a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the Plan;

b. Listing of all fugitive dust emissions sources included in the construction of the substation.

c. The following on-site dust control measures, and any other proposed control measures, that will be implemented:

   i. All on-site unpaved areas used by on-road vehicles shall be watered or stabilized with an Air Resources Board-certified soil stabilizer at a sufficient frequency such that no visible dust emissions occur when on-road vehicles traverse unpaved areas on the substation site.

ii. All material excavated or graded shall be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. Excavated soil piles shall be watered as needed and in compliance with San Diego Air Pollution Control District (SDAPCD) Rule 55 requirements for the duration of construction or covered with temporary coverings.

iii. Construction activities, but not dust control activities, which occur on unpaved surfaces shall be discontinued during windy conditions when those activities cause visible dust plumes that extend beyond the substation fence line, or in violation with SDAPCD Rule 55 requirements.

iv. Track-out shall be removed at the conclusion of each workday.

v. Shaker plates and gravel beds, or equivalently or more effective track-out control, shall be used and maintained throughout the construction period until the site is paved to remove bulk material from tires and vehicle undercarriages before vehicles exit the Vine Substation property.

vi. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions) or watered, and shall maintain at least two feet of freeboard to reduce spillage from the haul truck.

vii. Traffic speeds for on-road vehicles and off-road equipment on unpaved areas/temporary roads shall be limited to 15 miles per hour.

viii. The substation's interior asphalt access road shall be paved as soon as practical during construction. The remaining surface of the substation site shall consist of concrete pads or be graveled, so that there are no open soil areas other than those that are within any vegetated professionally landscaped areas of the site. Concrete and gravel surfaces shall be completed as soon as practical during construction.

ix. Other fugitive dust control measures as necessary to comply with SDAPCD Rule 55 requirements.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*. As described above in Section B.3.3.2(b) and shown in Table B.3.3-7, construction of the Proposed Project would be a short-term activity that would not result in mitigated emissions of criteria pollutants that exceed significance thresholds established by the City of San Diego. Therefore, the Proposed Project would not contribute significantly to a cumulatively considerable net increase of any criteria pollutants, and would have a less than significant air quality impact after mitigation (Mitigation Measures AQ-1 through AQ-3).

DURING OPERATIONS, *LESS THAN SIGNIFICANT*. The Project's incremental operating emissions would be minimal and would consist of vehicles usage during periodic inspection, maintenance, and repair activities of the new and modified facilities. Therefore, the incremental operating emissions would be minimal, and would not cause a considerable increase to cumulative air quality impacts. Criteria pollutant emissions during operations would be less than significant.

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

LESS THAN SIGNIFICANT. Due to the limited time of construction and the limited emission at any one work area, there is low potential for fugitive dust or DPM to impact sensitive receptors during construction. Additionally, sensitive receptors are not located near the proposed new Vine Substation, whose construction would have the greatest potential to expose sensitive receptors to these short-term impacts. There are linear construction activities (underground distribution line and telecommunication cable installation) that would be performed adjacent to residences and nearby other sensitive receptors; however, the maximum daily emissions from these construction activities are low, and this type of construction would move every day or every few days so that exposure to any single receptor would be limited. The total Project construction DPM emissions are not of a magnitude and duration, or focused at any one particular construction site, that could create significant air toxic risks to the nearest receptors. Compliance with the SDAPCD rules and regulations would reduce the fugitive dust emissions during Proposed Project construction and associated impacts to nearby receptors. The Project's operating emissions would be negligible and would not have the potential to impact sensitive receptors. Therefore, the Project's construction and operation air pollutant emissions would not expose sensitive receptors to substantial pollutant concentrations and would result in a less-than-significant impact.

e. Would the project create objectionable odors affecting a substantial number of people?

LESS THAN SIGNIFICANT. Some objectionable odors may be temporarily created during construction-related activities, such as from diesel exhaust and asphalt paving activities. However, these odors would not affect a substantial number of people, and would only occur proximate to the work areas for a short time. Therefore, a less-than-significant impact related to objectionable odors would occur.

B.3.4 Biological Resources

BIOLOGICAL RESOURCES **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.4.1 Setting

This section describes the biological resources that occur, or could potentially occur, in the Project area. It includes a description of the existing biotic environment, including common plants and wildlife and special-status species. The following section (B.3.4.2) presents an analysis of potential impacts to biological resources and, where necessary, specifies mitigation measures to reduce potential impacts to less-than-significant levels. Information used in preparing this section was derived from:

- Proponent’s Environmental Assessment for the Vine 69/12 kV Substation Project (SDG&E, 2014);
- Proponent’s Environmental Assessment Supplement for the Vine 69/12 kV Substation Project (SDG&E, 2015);
- Vine 69/12 kV Substation Project Reconnaissance-Level Survey (SDG&E, 2014);
- Vine 69/12 kV Substation Project Reconnaissance-Level Survey for Updated Distribution Line Design (SDG&E, 2015);
- Records of sensitive species locations from the California Natural Diversity Database (CNDDB; CDFW, 2015) for the following 7.5-minute USGS topographic quads: Point Loma, La Jolla, La Mesa, National City, and Imperial Beach;
- Records of sensitive species locations from the California Native Plant Society Inventory of Rare and Endangered Vascular Plants of California for the topographic quads listed above (CNPS, 2015).

The Proposed Project is located in San Diego County, and is entirely within disturbed or developed habitat within an urbanized area of the City of San Diego (Figure B.1-2). The Proposed Project is found on the U.S. Geological Survey (USGS) Point Loma 7.5 minute quadrangle map, just east of the San Diego International Airport. The proposed Vine Substation would be constructed on land occupied by an existing asphalt parking lot, and the distribution and telecommunication lines would be located in paved public roadways. Elevation of the Proposed Project site ranges from 30 to 70 feet above mean sea level. Average annual precipitation in the area is approximately 10 inches, most of which falls between December and April.

The Proposed Project footprint is defined as all areas that will be directly impacted by construction activities. The Proposed Project site includes the footprint and all areas that are directly adjacent to the footprint. The Proposed Project area includes the site and its general vicinity.

Vegetation and Wildlife

Vegetation

SDG&E conducted field reconnaissance surveys in January and November 2014 for the Proposed Project. Aspen Environmental Group (Aspen) conducted a site visit in February 2015 to verify existing conditions.

The majority of the Proposed Project footprint consists of developed land characterized by light- and medium-industrial office uses, parking lots, and rental car facilities. Vegetation is limited to ornamental landscaping and disturbed habitat.

Ornamental vegetation includes areas that have been planted with landscaping and are maintained on an ongoing basis. Landscaping may include native, as well as non-native, plant species but is artificially installed and maintained. Ornamental vegetation occurs intermittently within the proposed Vine Substation site, and along several of the public roadways that make up the ROW. Common species are non-natives such as English ivy (*Hedera helix*), pepper tree (*Schinus* sp.), ice plant (*Carpobrotus edulis*), and horseweed (*Erigeron* [*Conyza*] *bonariensis*).

Disturbed habitat within the Project site includes areas that have been cleared of vegetation or have a preponderance of non-native ruderal (weedy) species. Disturbed habitat occurs along the ROW for the proposed 12 kV distribution relocation, 69 kV loop-in, and telecommunication system extension, and also along the perimeter of the proposed Vine Substation site.

Habitat on the proposed substation site is limited to weedy exotics including cheeseweed *(Malva parviflora*), sow thistle (*Sonchus oleraceus*), red-stemmed pigweed (*Amaranthus* sp.), and prickly lettuce (*Lactuca serriola*). Scattered grasses including various bromes (*Bromus* spp.), oat grass (*Avena* sp.), and fountain grass (*Pennisetum* sp.). Other disturbance-tolerant non-native species common to urban areas observed on the site include scarlet pimpernel (*Anagallis arvensis*), mayweed (*Anthemis cotula*), pineapple weed (*Chamomilla suaveolens*), redstem filaree (*Erodium cicutarium*), and small patches of horehound (*Marrubium vulgare*). Various non-native ornamental vines cover portions of the chain link fencing surrounding the site, and five non-native Mexican fan palm trees (*Washingtonia robusta*) occur along the margin of the site.

Common Wildlife

Wildlife species observed during field reconnaissance surveys are rock dove (*Columba livia*), American crow (*Corvus brachyrhynchos*), black phoebe (*Sayornis nigricans*), and red-tailed hawk (*Buteo jamaicensis*) (SDG&E, 2014; 2015). Other wildlife species that are common in urban environments are also likely to occur. Some examples are house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottos*), and California ground squirrel (*Spermophilus beecheyi*).

Special-Status Plants and Animals

Special-status species include those listed, proposed for listing, or candidates for listing as threatened or endangered under the federal or State Endangered Species Act, California Species of Special Concern, and other species that have been identified by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), or other agency as unique or rare, and those listed as regionally sensitive in the SDG&E Natural Community Conservation Plan (NCCP; Attachment 4.4-C of the PEA). See Applicable Regulations section below for a description of the SDG&E NCCP.

The Proposed Project site is mostly paved and the remaining vegetation consists of ornamental landscaping and disturbed habitat. There is no habitat for special-status plant species on the Proposed Project site; no special-status plants were found during field surveys, and none are expected to be present (Table B.3.4-1).

Sensitive vegetation communities include riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or designated by the USFWS and the CDFW. No sensitive natural communities—as defined by the USFWS, U.S. Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB), or the City of San Diego—exist on the Proposed Project site.

Special-status wildlife species have not been detected during surveys of the Proposed Project. Special-status birds, including the western snowy plover (*Charadrius alexandrinus nivosus*; federally listed threatened, California Species of Special Concern), California least tern (*Sternula antillarum browni*; State and federally listed endangered, California Fully Protected), and California brown pelican (*Pelecanus occidentalis californicus*; State and federally delisted, California Fully Protected), are known from the region and may periodically fly over the Proposed Project site in route to inland areas of San Diego County. Other special-status bird and bat species may also fly over the area during migration.

Two special-status wildlife species have a low potential to occur in the Proposed Project area (Table B.3.4-1). These are American peregrine falcon (*Falco peregrinus anatum*; State and federally delisted, California Fully Protected) and Mexican long-tongued bat (*Choeronycteris mexicana*; California Species of Special Concern). Tall buildings and bridges in the vicinity of the Proposed Project provide marginal nesting habitat for the American peregrine falcon. Overpasses and buildings in the vicinity of the Proposed Project provide marginal roosting habitat for Mexican long-tongued bat. This bat may also roost in the palm trees located at the proposed Vine Substation site.

American peregrine falcon and Mexican long-tongued bat were not observed or detected during field surveys conducted in January and November of 2014. However, the Mexican long-tongued bat is typically a summer resident in San Diego County, wintering in Mexico and Central America (CDFG, 2000), and would not have been present at the time the surveys were conducted. The American peregrine falcon may be observed year-round in San Diego, and has been documented nesting on structures in the San Diego area (Unitt, 2004).

Critical Habitat and Preserves

Under the federal Endangered Species Act, to the extent prudent and determinable, the USFWS is required to designate critical habitat for endangered and threatened species (16 U.S.C. § 1533 (a)(3)). Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of federally listed endangered and threatened species, including sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. A critical habitat designation delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

There is no USFWS-designated critical habitat in the Proposed Project site or within one mile. Critical habitat for western snowy plover is located approximately three miles southwest of the Proposed Project on Coronado Island.

The Proposed Project is located within the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan. See Applicable Regulations section below for a description of the MSCP. This plan designates preserves (i.e., Multi-Habitat Planning Area) that are set aside as protected areas of importance for wildlife, flora, or other resources. A preserve area is reserved and managed for conservation and to provide special opportunities for study or research. There are no preserve areas in the Proposed Project site.

Wildlife Corridors and Biological Connectivity

Wildlife corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Roadways, fences, and other barriers to wildlife movement may incorporate specially designed structures (e.g., culverts, underpasses, overpasses, landscape bridges, and fish passages) to maintain biological connectivity. Wildlife corridors are important because they provide access to mates, food, and water; allow for dispersal of individuals; and facilitate gene flow between populations.

Movement and dispersal corridors that connect large blocks of habitat are essential to the long-term viability of plant, fish, and wildlife populations. At every scale, planning for biological connectivity must consider species or populations that may travel through a corridor or linkage regularly (perhaps seasonally or even daily), and other species that may "move" through a corridor or linkage over multiple generations, at a population scale rather than as individual animals.

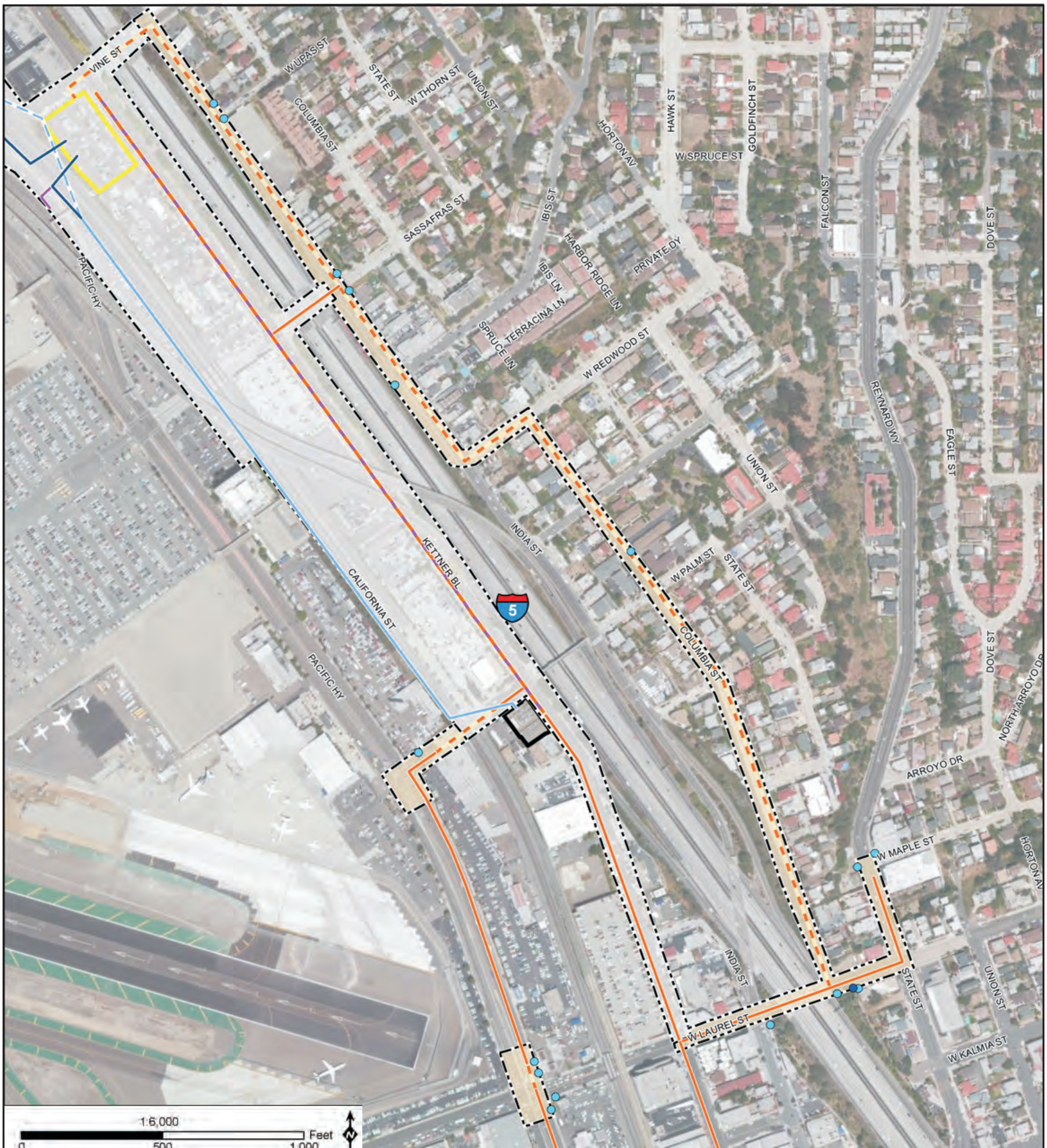
No major terrestrial migration corridors traverse the Proposed Project, largely due to its location within a highly urbanized area and adjacent to several roadways carrying high volumes of traffic. As such, the Proposed Project site does not represent an important corridor for terrestrial wildlife movement, and development of the Proposed Project will not interfere with terrestrial wildlife movement.

The Pacific Flyway is located just south of the Proposed Project within the San Diego Bay; therefore, some avian species may pass through the Proposed Project site to reach the San Diego Bay. The Pacific Flyway is one of the six major north-south migration routes for waterfowl in the U.S., Mexico, and Canada. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas and is, therefore, utilized by an abundance of bird species during migration. As part of the Pacific Flyway, the San Diego Bay waterbodies provide high-quality rest and forage areas for numerous birds during the migratory seasons. The Proposed Project would not obstruct birds from flying over the area and would not interfere with wildlife movement along the Pacific Flyway.

Jurisdictional Waters

SDG&E conducted surveys for the presence of potentially jurisdictional hydrological features within the Project area in January and November 2014. A small swale was identified at the southeast corner of the I-5 overpass at West Laurel Street (Figure B.3.4-1). The feature begins as a concrete-lined drainage channel measuring approximately 30-inches wide, and ends as an earthen channel measuring approximately 24-inches wide. The channel drains northwest into a storm drain on the south side of West Laurel Street. During field surveys conducted in November 2014, approximately five feet of the channel was inundated and supported vegetated. This feature could be considered a State or federal jurisdictional feature as defined by Sections 401 and 404 of the Clean Water Act (CWA) and Section 1600 of the California Fish and Game Code (CFGC).

Other hydrologic features observed within the Proposed Project footprint consist of roadside channels and drains designed for storm water conveyance associated with the Municipal Separate Storm Sewer System (MS4) and are not jurisdictional waters, as defined by Sections 401 and 404 of the CWA, the Porter-Cologne Water Quality Control Act, and Section 1602 of the CFGC (Table B.3.4-1).



Proposed Vine 69/12 kV Substation
Existing Kettner Substation
Existing 69 kV Overhead
Existing 69 kV Overhead to be Removed
Proposed 69 kV Overhead
Existing 12 kV Duct Bank
Proposed 12 kV Duct Bank
Proposed 12 kV and Telecommunications Duct Bank
Proposed Telecommunications Duct Bank
Storm Drain/Culvert
Cement-Lined Channel/Drainage

Survey Area

January 2014
November 2014

Figure B.3.4-1
Hydrologic Features

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity			
Species	**Status**	**Habitat**	**Occurrence in the Project Area**
Plants			
Abronia maritime Red sand-verbena	CRPR 4.2	Perennial herb; coastal dunes below about 330 feet elev. Blooms Feb–Nov.	**Not likely to occur.** Project area does not contain suitable habitat.
Acanthomintha ilicifolia San Diego thornmint	FE, ST, CRPR 1B.1	Annual; vernal pools and shrubland clay soil depressions below about 3000 ft. elev. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Acmispon prostratus Nuttall's acmispon	CRPR 1B.1	Annual; coastal dunes, sandy areas in coastal scrub; sea level to about 30 feet elev. Blooms Mar–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Adolphia californica California adolphia	CRPR 2B.1	Shrub; coastal sage scrub and chaparral below about 2500 ft. elev. Blooms Dec–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Agave shawii var. shawii Shaw's agave	CRPR 2B.1	Perennial succulent; maritime succulent scrub, coastal bluff scrub, coastal scrub; 30 to 400 feet elevation. Blooms Sep–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Ambrosia chenopodiifolia San Diego bur-sage	CRPR 2B.1	Perennial shrub; coastal scrub from 180 to 500 feet elev. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Ambrosia monogyra Singlewhorl burrobrush	CRPR 2B.2	Perennial shrub; sandy areas in chaparral and desert scrub; 30 to 1650 feet elev. Blooms Aug–Nov.	**Not likely to occur.** Project area does not contain suitable habitat.
Ambrosia pumila San Diego ambrosia	FE, CRPR 1B.1	Perennial herb; clay soils, sometimes in or around vernal pools, grasslands or openings in shrublands; sea level to about 1400 ft. elev. Blooms Jun–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Aphanisma blitoides Aphanisma	CRPR 1B.2	Annual herb; coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils. Elev. 0-1,000 ft. Blooms Mar–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Arctostaphylos glandulosa ssp. crassifolia Del Mar manzanita	FE, CRPR 1B.1	Chaparral shrub; coastal bluffs and sandstone outcrops below about 1200 ft. elev. Blooms Dec–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Artemisia palmeri San Diego sagewort	CRPR 4.2	Coastal sage scrub, mostly within ±mesic washes; sandy soils; below about 2000 ft. elev. Blooms Jul–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Asplenium vespertinum Western speenwort	CRPR 4.2	Perennial herb; rocky soils in chaparral, woodland, coastal scrub; 600 to 3300 feet elev. Blooms Feb–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Astragalus deanei Dean's milk-vetch	CRPR 1B.1	Perennial herb; chaparral, woodland, coastal scrub, riparian forest; 250 to 2300 feet elev. Blooms Feb–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Astragalus tener var. titi Coastal dunes milk-vetch	FE, SE, CRPR 1B.1	Annual; coastal dunes and scrub; most historic occurrences presumed extinct. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Atriplex coulteri Coulter's saltbush	CRPR 1B.2	Perennial herb; alkaline or clay soils, open sites in coastal scrub, coastal bluff scrub, coastal dunes, and valley and foothill grasslands. Elev. 0-1,600 ft. Blooms Mar–Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Atriplex pacifica South coast saltscale	CRPR 1B.2	Annual herb; coastal bluff scrub, coastal dunes, coastal scrub, playas. Elev. 0-1,000 ft. Blooms Mar–Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Bergerocactus emoryi Golden-spined cereus	CRPR 2B.2	Cactus; sandy areas in chaparral, coastal scrub, coniferous forest; 10 to 1300 feet elev. Blooms May–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Bloomeria clevelandii San Diego goldenstar	CRPR 1B.1	Perennial bulbiferous herb; clay soils in chaparral, coastal scrub, grassland, vernal pools; 160 to 1525 feet elev. Blooms Apr–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Brodiaea orcuttii Orcutt's brodiaea	CRPR 1B.1	Perennial herb; vernal pools, grasslands, seeps, streamsides; heavy soils; near sea level to about 5300 ft. elev. Blooms Apr–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
California macrophylla Round-leaved filaree	CRPR 1B.1	On clay soils in valley and foothill grasslands or open cismontane woodland habitats. Elev. 50-4000 ft. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Camissoniopsis lewisii Lewis' evening-primrose	CRPR 3	Annual; sandy or clay soils in coastal bluff scrub, woodland, coastal dunes, coastal scrub, grassland; sea level to about 980 feet elev. Blooms Mar–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Ceanothus verrucosus Wart-stemmed ceanothus	CRPR 2B.2	Shrub; chaparral on mesas and hillsides, sea level to about 1250 ft. elev. Blooms Dec–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Chaenactis glabriuscula var. orcuttiana Orcutt's pincushion	CRPR 1B.1	Annual; sandy places near coast, gen dunes or bluffs, below about 350 ft. elev. Blooms Jan–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Chamaebatia australis Southern mountain misery	CRPR 4.2	Evergreen shrub; gabbroic, metavolcanic soils in chaparral. 980 to 3350 feet elev. Blooms Nov–May.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Chloropyron maritimum ssp. maritimum Salt marsh bird's-beak	FE, SE, CRPR 1B.2	Facultative hemiparasitic annual herb; coastal dunes, coastal salt marshes and swamps. Elev. 0-100 ft. Host plants include saltgrass, frankenia, tule, and pickleweed. Blooms May–Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Chorizanthe orcuttiana Orcutt's spineflower	FE, SE, CRPR 1B.1	Annual herb; sandy openings in maritime chaparral, coastal scrub, coniferous forest; 10 to 400 feet elevation. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Chorizanthe polygonoides var. longispina Long-spined spineflower	CRPR 1B.2	Annual herb; chaparral, coastal scrub, meadows, grassland on gabbroic clay at 100 to 5020 feet elevation. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Cistanthe maritime Seaside cistanthe	CRPR 4.2	Annual herb; sandy soils in coastal bluff scrub, coastal scrub, grassland; sea level to 980 feet elev. Blooms Feb–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Clarkia delicata Delicate clarkia	CRPR 1B.2	Annual herb; often on gabbro soils in chaparral and woodland; 770 to 3280 feet elev. Blooms Apr–Jun.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Comarostaphylis diversifolia ssp. diversifolia Summer holly	CRPR 1B.2	Shrub; chaparral below about 1800 ft. elev. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Convolvulus simulans Small-flowered morning-glory	CRPR 4.2	Annual; clay, serpentinite seeps in coastal scrub, grassland, and openings in chaparral; 100 to 2300 feet elev. Blooms Mar–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Corethrogyne filaginifolia var. incana San Diego sand aster	CRPR 1B.1	Perennial herb; coastal bluff scrub, coastal scrub, chaparral; sea level to 380 feet elev. Blooms Jun–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Corethrogyne filaginifolia var. linifolia Del Mar Mesa sand aster	CRPR 1B.1	Perennial herb; sandy soil in coastal bluff scrub, coastal scrub, and openings in maritime chaparral; near sea level to 500 feet elev. Blooms May–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Cylindropuntia californica var. californica Snake cholla	CRPR 1B.1	Cactus; chaparral, coastal scrub; 100 to 500 feet elev. Blooms Apr–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Deinandra conjugens Otay tarplant	FT, SE, CRPR 1B.1	Annual herb; clay soils in coastal scrub and grassland; 80 to 980 feet elev. Blooms May–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Deinandra paniculata Paniculate tarplant	CRPR 4.2	Annual; usually vernally mesic, sometimes sandy soils in coastal scrub, grassland, vernal pools; 80 to 3100 feet elev. Blooms Apr–Nov.	**Not likely to occur.** Project area does not contain suitable habitat.
Dichondra occidentalis Western dichondra	CRPR 4.2	Perennial herb; chaparral, woodland, coastal scrub, grassland; 160 to 1650 feet elev. Blooms Jan–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Dicranostegia orcuttiana Orcutt's bird's beak	CRPR 2B.1	Hemiparasitic annual herb; coastal scrub; 30 to 1150 feet elev. Blooms Mar–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Dudleya attenuata ssp. attenuata Orcutt's dudleya	CRPR 2B.1	Perennial herb; rocky or gravelly soils in coastal bluff scrub, coastal scrub, chaparral; sea level to 165 feet elev. Blooms May–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	CRPR 1B.1	Perennial herb; open rocky slopes, often in clay or serpentine soil, below about 1500 ft. elev., coastal regions. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Dudleya brevifolia Short-leaved dudleya	SE, CRPR 1B.1	Perennial herb; found on Torrey sandstone in openings in maritime chaparral, coastal scrub; 100 to 800 feet elev. Blooms Apr–May.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Dudleya variegata Variegated dudleya	CRPR 1B.2	Perennial herb; various upland habitats; dry hillsides and mesas; sea level to about 1900 ft. elev. Blooms May–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Dudleya viscida Sticky dudleya	CRPR 1B.2	Perennial herb; steep rock slopes; sea level to about 1800 ft. elev. Blooms May–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Ericameria palmeri var. palmeri Palmer's goldenbush	CRPR 1B.1	Evergreen shrub; mesic areas in chaparral and coastal scrub; 100 to 1970 feet elev. Blooms Jul–Nov.	**Not likely to occur.** Project area does not contain suitable habitat.
Eryngium aristulatum var. parishii San Diego button-celery	FE, SE, CRPR 1B.1	Perennial herb; vernal pools or moist sites in coastal sage scrub or grass-lands; below about 2000 ft. elev. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Euphorbia misera Cliff spurge	CRPR 2B.2	Subshrub; rock slopes, coastal bluffs below about 1700 ft. elev. Blooms Jan–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Ferocactus viridescens San Diego barrel cactus	CRPR 2B.1	Shrubland or grassland on open dry slopes below about 500 ft. elev. Blooms May–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Frankenia palmeri Palmer's frankenia	CRPR 2B.1	Perennial herb; coastal dunes, coastal salt marsh, playa; near sea level. Blooms May–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Fremontodendron mexicanum Mexican flannelbush	FE, SR, CRPR 1B.1	Chaparral and cypress stands below about 1600 ft. elev. Blooms Mar–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Geothallus tuberosus Campbell's liverwort	CRPR 1B.1	Coastal hills and mesas.	**Not likely to occur.** Project area does not contain suitable habitat.
Githopsis duffusa ssp. filicaulis Mission Canyon bluecup	CRPR 3.1	Annual; mesic, disturbed areas in chaparral; 1500 to 2300 feet elev. Blooms Apr–Jun.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Grindelia hallii San Diego gumplant	CRPR 1B.2	Perennial herb; chaparral, lower montane coniferous forest, meadows, seeps, grassland; 600 to 5730 feet elev. Blooms May–Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Harpagonella palmeri Palmer's grapplinghook	CRPR 4.2	Annual herb. Clay soils; Dry, semi-barren sites. Chaparral, coastal scrub, valley and foothill grassland. Elev. 65 - 3,200 ft. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Heterotheca sessiliflora ssp. sessiliflora Beach goldenaster	CRPR 1B.1	Perennial herb; coastal dunes, coastal scrub, coastal Chaparral; sea level to 4000 feet elev. Blooms Mar–Dec.	**Not likely to occur.** Project area does not contain suitable habitat.
Holocarpha virgata ssp. elongata Graceful tarplant	CRPR 4.2	Annual; chaparral, woodland, coastal scrub, grassland; 200 to 3600 feet elev. Blooms May–Nov.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Hordeum intercedens Vernal barley	CRPR 3.2	Annual; coastal dunes, coastal scrub, vernal pools, saline flats and depressions in grassland; sea level to 3300 feet elev. Blooms Mar–June.	**Not likely to occur.** Project area does not contain suitable habitat.
Isocoma menziesii var. decumbens Decumbent goldenbush	CRPR 1B.2	Coastal sage scrub (sandy mesas), often disturbed areas, below about 500 ft. elev. Blooms Apr–Nov.	**Not likely to occur.** Project area does not contain suitable habitat.
Iva hayesiana San Diego marsh-elder	CRPR 2B.2	Perennial herb; marshes, swamps, playas; 30 to 1650 feet elev. Blooms Apr–Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Juncus acutus ssp. leopoldii Southwestern spiny rush	CRPR 4.2	Perennial herb; mesic coastal dunes, alkaline seeps, coastal saltmarshes; sea level to 3000 feet elev. Blooms Mar–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Lasthenia glabrata ssp. coulteri Coulter's goldfields	CRPR 1B.1	Annual herb. Saline places, coastal salt marshes and swamps, playas, vernal pools. Elev. 0-4,000 ft. Blooms Feb-Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Lepidium virginicum var. robinsonii Robinson's pepper-grass	CRPR 4.3	Annual herb. Found on dry soils in chaparral and coastal scrub below 2,900 feet elevation. Blooms Jan-Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Leptosyne maritima Sea dahlia	CRPR 2B.2	Perennial herb; coastal scrub, coastal bluff scrub; sea level to 500 feet elev. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Lycium californicum California box-thorn	CRPR 4.2	Perennial shrub; coastal bluff scrub, coastal scrub; sea level to 500 feet elev. Blooms Dec–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Microseris douglasii ssp. platycarpha Small-flowered microseris	CRPR 4.2	Annual; clay soils in woodland, coastal scrub, grassland, vernal pools; near sea level to 3500 feet elev. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Mimulus aurantiacus var. aridus Low bush monkeyflower	CRPR 4.3	Evergreen shrub; rocky soils in chaparral, desert scrub; 2500 to 3900 feet elev. Blooms Apr–Jul.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Mobergia calculiformis Light gray lichen	CRPR 3	Lichen; grows on rocks in coastal scrub (habitat not well known).	**Not likely to occur.** Project area does not contain suitable habitat.
Monardella viminea Willowy monardella	FE, SE, CRPR 1B.1	Perennial herb; alluvial ephemeral washes in chaparral, coastal scrub, riparian; 165 to 740 feet elev. Blooms Jun–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Mucronea californica California spineflower	CRPR 4.2	Annual; sandy soils in chaparral, woodland, coastal dunes, coastal scrub, grassland; sea level to 4600 feet elevation. Blooms Mar–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Myosurus minimus ssp. apus Little mousetail	CRPR 3.1	Annual; vernal pools, alkali grasslands; valley floors, sea level to about 2100 ft. elev. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Nama stenocarpum Mud nama	CRPR 2B.2	Annual/perennial herb. Intermittently wet areas – freshwater marshes and swamps, lake margins, riverbanks. Elev. 0-2,700 ft. Blooms Jan-Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Navarretia fossalis Spreading navarretia	FT, CRPR 1B.1	Annual; vernal pools and margins, marshes, & playas on saline-alkaline soils; sea level to about 4200 ft. elev. Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Navarretia prostrata Prostrate vernal pool navarretia	CRPR 1B.1	Annual herb. Mesic areas in coastal scrub, meadows and seeps, alkaline valley and foothill grasslands, vernal pools. Elev. 50-4,000 ft. Blooms Apr-Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Nemacaulis denudata var. denudata Coast wooly-heads	CRPR 1B.2	Annual herb; beaches and coastal dunes. Elev. 0-300 ft. Blooms Mar–Sep.	**Not likely to occur.** Project area does not contain suitable habitat.
Nemacaulis denudata var. gracilis Slender cottonheads	CRPR 2B.2	Annual herb. Coastal dunes, desert dunes, and Sonoran desert scrub in dunes or sand at 150 to 1320 feet elev. Blooms Mar–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Orcuttia californica California Orcutt grass	FE, SE, CRPR 1B.1	Annual herb; vernal pools; 50 to 2200 feet elev. Blooms Apr–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Ornithostaphylos oppositifolia Baja California birdbush	SE, CRPR 2B.1	Evergreen shrub; chaparral; 180 to 2600 feet elev. Blooms Jan–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Orobanche parishii ssp. brachyloba Short-lobed broomrape	CRPR 4.2	Perennial parasitic herb; sandy soils in coastal dunes, coastal bluff scrub, coastal scrub; sea level to 1000 feet elev. Blooms Apr–Oct.	**Not likely to occur.** Project area does not contain suitable habitat.
Pentachaeta aurea ssp. aurea Golden-rayed pentachaeta	CRPR 4.2	Annual; chaparral, forest/woodland, coastal scrub, riparian, grassland; 260 to 6000 feet elev. Blooms Mar–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.
Phacelia stellaris Brand's star phacelia	CRPR 1B.1	Annual herb; open areas in coastal dunes and scrub; sea level to 1300 feet elev. Blooms Mar–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Pinus torreyana ssp. torreyana Torrey pine	CRPR 1B.2	Evergreen tree; sandstone soils in coniferous forest, chaparral; 250 to 500 feet elev.	**Not likely to occur.** Project area does not contain suitable habitat. Not observed during field surveys.
Piperia cooperi Chaparral rein orchid	CRPR 4.2	Perennial herb; chaparral, woodland, grassland; near sea level to 5200 feet. Blooms Mar–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Pogogyne abramsii San Diego mesa mint	FE, SE, CRPR 1B.1	Annual herb; vernal pools of coastal terraces below about 700 ft. elev. Blooms Apr–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Pogogyne nudiuscula Otay Mesa mint	FE, SE, CRPR 1B.1	Annual herb; vernal pools; 300 to 820 feet elev. Blooms May–Jul.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity			
Species	**Status**	**Habitat**	**Occurrence in the Project Area**
Quercus dumosa Nuttall's scrub oak	CRPR 1B.1	Evergreen shrub; sandy, clay loam in coniferous forest, chaparral, coastal scrub; 45 to 1320 feet elev. Blooms Feb–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Ribes viburnifolium Santa Catalina island currant	CRPR 1B.2	Evergreen shrub; chaparral, woodland; 100 to 1150 feet elev. Blooms Feb–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Rosa minutifolia Small-leaved rose	SE, CRPR 2B.1	Perennial deciduous shrub; chaparral, coastal scrub; around 500 feet elev. Blooms Jan–Jun.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Salvia munzii Munz's sage	CRPR 2B.2	Evergreen shrub; chaparral, coastal scrub; 380 to 3500 feet elev. Blooms Feb–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Selaginella cinerascens Ashy spike-moss	CRPR 4.1	Perennial herb; chaparral, coastal scrub; 65 to 2100 feet elev.	**Not likely to occur.** Project area does not contain suitable habitat.
Senecio aphanactis Chaparral ragwort	CRPR 2B.2	Annual; drying alkaline flats; below about 1300 ft. elev. Blooms Jan–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Sphaerocarpos drewei Bottle liverwort	CRPR 1B.1	Ephemeral liverwort; grows on soil in openings in chaparral and coastal scrub; 300 to 1970 feet elev.	**Not likely to occur.** Project area does not contain suitable habitat.
Stemodia durantifolia Purple stemodia	CRPR 2B.1	Perennial herb; often in mesic, sandy areas in desert scrub; 590 to 980 feet elev. Blooms Jan–Dec.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Stipa diegoensis San Diego County needle grass	CRPR 4.2	Perennial herb; rocky soils, often mesic areas in chaparral, coastal scrub; near sea level to 2600 feet elev. Blooms Feb–Jun.	**Not likely to occur.** Project area does not contain suitable habitat.
Streptanthus bernardinus Laguna Mountains jewelflower	CRPR 4.3	Perennial herb; chaparral, lower montane coniferous forest; 2200 to 8200 feet elev. Blooms May–Aug.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Stylocline citroleum Oil neststraw	CRPR 1B.1	Annual herb; clay soils in grassland, coastal scrub, chenopod scrub; 165 to 1310 feet elev. Blooms Mar–Apr.	**Not likely to occur.** Project area does not contain suitable habitat.
Suaeda esteroa Estuary seablite	CRPR 1B.2	Perennial herb; coastal salt marshes and swamps. Elev. 0-15 ft. Blooms May–Jan.	**Not likely to occur.** Project area does not contain suitable habitat.
Suaeda taxifolia Woolly seablite	CRPR 4.2	Evergreen shrub; coastal bluff scrub, coastal dunes, margins of coastal saltmarshes; sea level to 160 feet elev. Blooms Jan–Dec.	**Not likely to occur.** Project area does not contain suitable habitat.
Tetracoccus dioicus Parry's tetracoccus	CRPR 1B.2	Shrub; chaparral, coastal sage scrub; gen gabbro or basalt soils; about 500-3300 ft. elev. Blooms Apr–May.	**Not likely to occur.** Project area does not contain suitable habitat.
Texosporium sancti-jacobi Woven-spored lichen	CRPR 3	Lichen; in openings on chaparral; grows on soil, small mammal pellets, dead twigs, and *Selaginella* spp.; 950 to 2165 feet elev.	**Not likely to occur.** Project area is well below elevational range and does not contain suitable habitat.
Tortula californica California screw moss	CRPR 1B.2	Moss; sandy soils in grassland and chenopod scrub; 30 to 4800 feet elev.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Viguiera laciniata San Diego County viguiera	CRPR 4.2	Perennial shrub; chaparral, coastal scrub; 200 to 2500 feet elev. Blooms Feb–Aug.	**Not likely to occur.** Project area does not contain suitable habitat.
Invertebrates			
Branchinecta sandiegonensis San Diego fairy shrimp	FE	Vernal pools, western San Diego Co. and Orange Co., commonly in small, short-lived or relatively shallow pools below about 2300 ft. elev. and within about 40 mi of the coast.	**Not likely to occur.** Project area does not contain suitable habitat.
Cicindela gabbii Western tidal-flat tiger beetle	SA	Inhabits estuaries and mudflats along the coast of s Calif. Generally found on dark-colored mud in the lower zone; occasionally found on dry saline flats of estuaries.	**Not likely to occur.** Project area does not contain suitable habitat.
Cicindela hirticollis gravida Sandy beach tiger beetle	SA	Inhabits areas adjacent to non-brackish water along the coast of Calif. from San Francisco Bay to n Mexico. Inhabits clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	**Not likely to occur.** Project area does not contain suitable habitat.
Cicindela latesignata latesignata Western beach tiger beetle	SA	Mudflats and beaches in coastal s Calif.	**Not likely to occur.** Project area does not contain suitable habitat.
Cicindela senilis frosti Senile tiger beetle	SA	Inhabits marine shoreline, from c Calif. coast south to salt marshes of San Diego, also Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	**Not likely to occur.** Project area does not contain suitable habitat.
Coelus globosus Globose dune beetle	SA	Coastal sand dunes.	**Not likely to occur.** Project area does not contain suitable habitat.
Danaus plexippus pop. 1 Monarch – California overwintering population	SA	Winter roost sites extend along the coast from n Mendocino to Baja Calif., Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Not likely to occur.** Project area does not contain suitable trees for winter roosts. Individuals could potentially be seen in or moving through the area and ornamental trees could provide temporary roosts.
Euphydryas editha quino Quino checkerspot butterfly	FE	Open grasslands, gen. with abundant dwarf plantain (larval food plant) below about 4500 ft. elev.	**Not likely to occur.** Project area does not contain suitable habitat.
Helminthoglypta coelata Mesa shoulderband snail	SA	Uplands, among boulders; abundance and distribution poorly documented.	**Not likely to occur.** Project area does not contain suitable habitat.
Lycaena hermes Hermes copper butterfly	FC	Coastal sage scrub, mixed chaparral; larvae use only *Rhamnus crocea* as a host plant.	**Not likely to occur.** Project area does not contain suitable habitat.
Melitta californica California mellitid bee	SA	Found on native vegetation in southwestern deserts and coastal areas.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Panoquina errans Wandering (=saltmarsh) skipper	SA	S Calif. coastal salt marshes. Requires moist saltgrass (*Distichlis spicata*) for larval development.	**Not likely to occur.** Project area does not contain suitable habitat.
Streptocephalus woottoni Riverside fairy shrimp	FE	Deep vernal pools and ponds in annual grasslands, which may be interspersed with chaparral or coastal sage scrub vegetation.	**Not likely to occur.** Project area does not contain suitable habitat.
Tryonia imitator Mimic tryonia (=California brackishwater snail)	SA	Inhabits coastal lagoons, estuaries, and salt marshes, from Sonoma Co. south to San Diego Co. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	**Not likely to occur.** Project area does not contain suitable habitat.
Amphibians			
Spea hammondii Western spadefoot	SSC	Primarily grasslands but can be found in valley-foothill hardwood woodlands, sage scrubs, and chaparral where pooled or ponded water remains through early spring (April/May). Vernal pools, stock ponds, and road pools are essential for breeding, egg-laying, and larval development.	**Not likely to occur.** Project area does not contain suitable habitat.
Reptiles			
Anniella pulchra pulchra Silvery legless lizard	SSC	A burrowing species associated with sandy or loose loamy soils with sparse vegetation. Chaparral, pine-oak woodland, washes, and streamside terraces are utilized. Also occurs in desert scrub. Elevated soil moisture is required.	**Not likely to occur.** Project area does not contain suitable habitat.
Aspidoscelis hyperythra Orangethroat whiptail	SSC	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 3,000 feet elevation. Perennial plants required.	**Not likely to occur.** Project area does not contain suitable habitat.
Aspidoscelis tigris stejnegeri Coastal whiptail	SA	Found in deserts and semi-arid areas with sparse vegetation and open areas; also found in woodland and riparian habitats; substrates may be firm soil, sandy, or rocky.	**Not likely to occur.** Project area does not contain suitable habitat.
Charina trivirgata Rosy boa	SA	Rocky chaparral and desert shrubland; gen below about 4500 ft. elev.	**Not likely to occur.** Project area does not contain suitable habitat.
Chelonia mydas Green turtle	FT	Marine; omnivorous, needs adequate supply of seagrasses and algae.	**Not likely to occur.** Project area does not include marine habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Crotalus ruber Red-diamond rattlesnake	SSC	Desert scrub, thorn scrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation.	**Not likely to occur.** Project area does not contain suitable habitat.
Phrynosoma blainvillii Coast horned lizard	SSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate zones; prefers friable, rocky, or shallow sandy soils; requires native ant food source.	**Not likely to occur.** Project area does not contain suitable habitat.
Plestiodon skiltonianus interparietalis Coronado Island skink	SSC	Grasslands, woodlands, chaparral; clearings and stream sides.	**Not likely to occur.** Project area does not contain suitable habitat.
Salvadora hexalepis virgultea Coast patch-nosed snake	SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, rocky areas; broad generalist.	**Not likely to occur.** Project area does not contain suitable habitat.
Thamnophis hammondii Two-striped garter snake	SSC	Highly aquatic; found in or near permanent fresh water; often along streams with rocky beds and riparian growth.	**Not likely to occur.** Project area does not contain suitable habitat.
Birds			
Accipiter cooperii Cooper's hawk	WL	Nests and hunts in forest & woodland, also forages in open areas.	**Not likely to occur.** Project area does not contain suitable nesting or foraging habitat.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	WL	Resident in southern California coastal sage scrub and sparse mixed chaparral; frequents relatively steep, often rocky hillsides with grass and forb patches.	**Not likely to occur.** Project area does not contain suitable habitat.
Athene cunicularia Burrowing owl	SSC	Open, dry grasslands, deserts and ruderal areas with suitable small mammal burrows, especially those of California ground squirrels.	**Not likely to occur.** Project area does not contain suitable habitat.
Buteo swainsoni Swainson's hawk	ST	Stands with few trees, juniper-sage flats, riparian habitat, and oak savannah. Forages in adjacent grasslands and agricultural fields and pastures.	**Not likely to occur.** Project area does not contain suitable habitat.
Campylorhynchus brunneicapillus sandiegensis Coastal cactus wren	SSC	Coastal sage scrub with cactus patches.	**Not likely to occur.** Project area does not contain suitable habitat.
Charadrius alexandrinus nivosus Western snowy plover	FT, SSC	Breeds on barren to sparsely vegetated flats and along shores of alkaline and saline lakes, reservoirs, ponds, river channels, and salt evaporation ponds.	**Not likely to occur.** Project area does not contain suitable habitat. This species is known from the region and may fly over the Project area in route to inland areas.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Circus cyaneus Northern harrier	SSC	Breed and forage in a variety of open habitats that provide adequate cover, prey abundance, and perching sites.	**Not likely to occur.** Project area does not contain suitable habitat.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT, SE	Nests along the broad, lower flood-bottoms of larger river systems; also nests in riparian forests and riparian jungles of willow often mixed with cottonwoods, with an understory of blackberry, nettles, or wild grape.	**Not likely to occur.** Project area does not contain suitable habitat.
Eremophila alpestris actia California horned lark	WL	Open habitats, forages in bare dirt in short and/or sparse grassland and areas of scattered shrubs.	**Not likely to occur.** Project area does not contain suitable habitat.
Falco mexicanus Prairie falcon	WL	Annual grassland to alpine meadows, but is typically found in perennial grasslands, savannahs, rangeland, some agricultural fields and desert scrub areas.	**Not likely to occur.** Project area does not contain suitable habitat.
Falco peregrinus anatum American peregrine falcon	CFP	Breeds and feeds near water, may hunt over water. Nests on cliffs and tall man-made structures. Feeds mainly on birds caught on the wing, also eats mammals and fish.	**Low.** Tall buildings and bridges near the Project area provide marginal nesting habitat. Not observed or detected during field surveys. Species has been documented nesting on structures in the San Diego area.
Ixobrychus exilis Least bittern	SSC	Cattail and bulrush marshes.	**Not likely to occur.** Project area does not contain suitable habitat.
Laterallus jamaicensis coturniculus California black rail	ST	Freshwater and saltwater marsh.	**Not likely to occur.** Project area does not contain suitable habitat.
Pandion haliaetus Osprey	WL	Nests in northern N America and Mexican coastlines near large water bodies, preys primarily on fish; winters in central Calif to S America.	**Not likely to occur.** Project area does not contain suitable habitat.
Passerculus sandwichensis beldingi Belding's savannah sparrow	SE	Inhabits coastal salt marshes, from Santa Barbara south through San Diego Co. Nests in *Salicornia* on and about margins of tidal flats.	**Not likely to occur.** Project area does not contain suitable habitat.
Pelecanus occidentalis californicus California brown pelican	CFP	Colonial nester on coastal islands just outside the surf line. Nests and roosts on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.	**Not likely to occur.** Project area does not contain suitable habitat. This species is known from the region and may fly over the Project area in route to inland areas.
Polioptila californica californica Coastal California gnatcatcher	FT, SSC	Coastal sage scrub habitats of southern California coastal slope, generally below 950 feet.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity			
Species	**Status**	**Habitat**	**Occurrence in the Project Area**
Rallus longirostris levipes Light-footed clapper rail	FE, SE	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	**Not likely to occur.** Project area does not contain suitable habitat.
Setophaga petechia Yellow warbler	SSC	Riparian plant associations; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	**Not likely to occur.** Project area does not contain suitable habitat.
Sternula antillarum browni California least tern	FE, SE	Nests along the coast from San Francisco Bay south to n Baja California. Forages for small fish in harbors, lagoons, and nearshore marine habitat. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**Not likely to occur.** Project area does not contain suitable habitat. This species is known from the region and may fly over the Project area in route to inland areas.
Vireo bellii pusillus Least Bell's vireo	FE, SE	Summer resident of southern California in low riparian habitats in vicinity of water or dry river bottoms; found below 2000 ft; nests placed along margins of bushes or on twigs projecting into pathways, usually willow, mesquite, mulefat.	**Not likely to occur.** Project area does not contain suitable habitat.
Mammals			
Antrozous pallidus Pallid bat	SSC	Deserts, grasslands, shrublands, woodlands, and forests; most common in open, dry habitats with rocky areas for roosting.	**Not likely to occur.** Project area does not contain suitable habitat.
Chaetodipus californicus femoralis Dulzura pocket mouse	SSC	Variety of habitats, including coastal scrub, chaparral, and grassland; attracted to grass-chaparral edges.	**Not likely to occur.** Project area does not contain suitable habitat.
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	SSC	Open shrublands and sandy areas; coastal and interior valleys of SW Calif.	**Not likely to occur.** Project area does not contain suitable habitat.
Choeronycteris mexicana Mexican long-tongued bat	SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings. Feeds on nectar and pollen from agave and night-blooming cacti, may also eat insects; has been observed foraging from hummingbird feeders.	**Low.** Overpasses and buildings near the Project area provide marginal roosting habitat, may also roost in palm trees at Vine Substation site. Not observed or detected during field surveys, but species is a summer resident and surveys were conducted during winter.
Euderma maculatum Spotted bat	SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests; requires rocky crevices in cliffs or caves for roosting; feeds over water and along washes.	**Not likely to occur.** Project area does not contain suitable habitat.

Table B.3.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in the Project Area
Eumops perotis californicus Western mastiff bat	SSC	Roosts in deep rock crevices, forage over wide area. Found in a variety of habitats, generally roosts on natural substrates, less commonly on buildings or other artificial substrates.	**Not likely to occur.** Project area does not contain suitable habitat.
Lasionycteris noctivagans Silver-haired bat	SA	Primarily a coastal & montane forest dweller feeding over streams, ponds, and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	**Not likely to occur.** Project area does not contain suitable habitat.
Lasiurus blossevillii Western red bat	SSC	Roost in trees with dense foliage.	**Not likely to occur.** Project area does not contain suitable habitat.
Lasiurus cinereus Hoary bat	SA	Prefers deciduous and coniferous woodlands; primarily roosts in tree foliage.	**Not likely to occur.** Project area does not contain suitable habitat.
Lasiurus xantinus Western yellow bat	SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	**Not likely to occur.** Project area does not contain suitable habitat.
Lepus californicus bennettii San Diego black-tailed jackrabbit	SSC	Intermediate canopy stages of shrub habitats and shrub, tree, herbaceous edges; primarily coastal sage scrub habitats.	**Not likely to occur.** Project area does not contain suitable habitat.
Myotis yumanensis Yuma myotis	SA	Open habitats with rocks or caves for roosting.	**Not likely to occur.** Project area does not contain suitable habitat.
Neotoma lepida intermedia San Diego desert woodrat	SSC	Coastal scrub; prefers moderate to dense canopies; particularly abundant in rock outcrops, rocky cliffs, and slopes. Coastal Calif. from San Luis Obispo south through the Transverse and Peninsular Ranges into Baja California, Mexico.	**Not likely to occur.** Project area does not contain suitable habitat.
Nyctinomops femorosaccus Pocketed free-tailed bat	SSC	Variety of arid areas in s Calif.; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian in rocky areas with high cliffs.	**Not likely to occur.** Project area does not contain suitable habitat.
Nyctinomops macrotis Big free-tailed bat	SSC	Roosts in crevices of rocky cliffs, scattered localities in W N. Amer. through Cent. Amer.; ranges widely from roost sites; often forages over water. Rare in Calif.	**Not likely to occur.** Project area does not contain suitable habitat.
Perognathus longimembris pacificus Pacific pocket mouse	FE, SSC	Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles Co. Seems to prefer soils of fine alluvial sands near the ocean, but little is known about life history.	**Not likely to occur.** Project area does not contain suitable habitat.
Taxidea taxus American badger	SSC	Mountains, deserts, interior valleys; areas with friable soil and available prey.	**Not likely to occur.** Project area does not contain suitable habitat.

Definitions Regarding Potential Occurrence:

Present:	Species or sign of its presence observed on the site
High:	Species or sign not observed on the site, but reasonably certain to occur on the site
Moderate:	Species or sign not observed on the site, but conditions suitable for occurrence
Low:	Species or sign not observed on the site, conditions marginal for occurrence
Not likely to occur:	Species or sign not observed on the site, conditions unsuitable for occurrence

STATUS CODES:

FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate
SE	State Endangered
ST	State Threatened
SR	State Rare
SSC	California Species of Special Concern
CFP	California Fully Protected
WL	CDFW Watch List
SA	CDFW Special Animal

CRPR	California Rare Plant Rank
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants 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 (high degree/immediacy of threat)
.2	Fairly threatened in California (moderate degree/immediacy of threat)
.3	Not very threatened in California (low degree/immediacy of threats or no current threats known)

Applicable Regulations

Federal

Federal Endangered Species Act of 1973. The federal Endangered Species Act (FESA) designates and provides for protection of threatened and endangered plant and wildlife species and their critical habitat. "Take" of a federally listed species is prohibited without the appropriate permits, which may be obtained through Section 7 consultation (between federal agencies) or a Section 10 Habitat Conservation Plan.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) makes it unlawful to take or possess any migratory non-game bird (or any part of such migratory non-game bird) as designated in the MBTA unless permitted by regulation (e.g., duck hunting).

Clean Water Act (33 USC §§ 1251-1376). The Clean Water Act (CWA) regulates the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires that an applicant obtain State certification for discharge into waters of the United States. The Regional Water Quality Control Boards administer the certification program in California. Section 404 of the CWA established a permit program, administered by the U.S. Army Corps of Engineers, to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.

State

California Endangered Species Act (Fish and Game Code § 2050 et seq.). The California Endangered Species Act (CESA) prohibits take of state-listed threatened or endangered species, except as authorized by the California Department of Fish and Wildlife (CDFW). Authorization may be issued as an Incidental Take Permit or, for species listed under both CESA and FESA, through a Consistency Determination with the federal incidental take authorization.

Fully Protected Designations (Fish and Game Code §§ 3511, 4700, 5515, and 5050). The California Fish and Game Code designates 36 fish and wildlife species as "fully protected" from take, including hunting, harvesting, and other activities. The CDFW may only authorize take of designated fully protected species through a Natural Community Conservation Plan (NCCP).

Native Birds (Fish and Game Code §§ 3503 and 3513). The CDFGC prohibits take, possession, or needless destruction of bird nests or eggs except as otherwise provided by the code.

Natural Community Conservation Planning Act (Fish and Game Code §§ 2800 et. seq.). The Natural Community Conservation Planning Act provides a regional approach to conservation for multiple species. The NCCP Program is implemented by CDFW as a cooperative effort by the State of California and private and public partners, to protect species and their habitats. The program helps identify and provide for large area-wide protection of plants, animals, and their habitats while allowing for compatible and appropriate economic activity.

Native Plant Protection Act (Fish and Game Code §§ 1900-1913). Prior to enactment of CESA and FESA, California adopted the Native Plant Protection Act (NPPA). CESA (above) generally replaces the NPPA for plants originally listed as endangered under the NPPA. However, plants originally listed as rare retain that designation, and take is regulated under provisions of the NPPA.

Lake and Streambed Alteration Agreements (Fish and Game Code §§ 1600-1616). The CDFW regulates projects that would divert, obstruct, or change the natural flow, bed, bank, or channel of a river, stream, or lake. Regulation is formalized in a Lake and Streambed Alteration Agreement (LSAA), which generally includes measures to protect any fish or wildlife resources that may be substantially affected by the project.

Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.). This act regulates surface water and groundwater and assigns responsibility for implementing federal CWA Section 401. It established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) to protect State waters.

Local

City of San Diego General Plan. The City of San Diego General Plan provides a framework of policies and objectives to guide long-term development. The Conservation Element portion of the City of San Diego General Plan (City of San Diego, 2008) provides biological resource policies that may be relevant to the Proposed Project, including policies for urban runoff management, protection and restoration of waterbodies, preservation of biologically diverse ecosystems, and conservation of sensitive species and their habitats. These policies are:

> ***Urban Runoff Management***
>
> *• Goal: Protection and restoration of water bodies, including reservoirs, coastal waters, creeks, bays, and wetlands.*
>
> *• Policy CE-E.2. Apply water quality protection measures to land development projects early in the process-during project design, permitting, construction, and operations in order to minimize the quantity of runoff generated onsite, the disruption of natural water flows and the contamination of storm water runoff.*
>
> *• Policy CE-E.6. Continue to encourage "Pollution Control" measures to promote the proper collection and disposal of pollutants at the source, rather than allowing them to enter the storm drain system.*
>
> ***Biological Diversity***

- *Goal: Preservation of healthy, biologically diverse, regional ecosystems and conservation of endangered, threatened, and key sensitive species and their habitats.*

City of San Diego Municipal Code. The Environmentally Sensitive Lands Regulations of the City of San Diego Municipal Code (City of San Diego, 2011; 2012) define sensitive natural communities as:

- Lands (i.e., preserves) included within the MSCP Subarea Plan Multiple Habitat Planning Area (described below).
- Wetlands.
- Habitat classified as southern foredunes, Torrey pines forest, coastal bluff scrub, maritime succulent scrub, maritime chaparral, native grasslands, oak woodlands, coastal sage scrub, coastal sage scrub/chaparral, mixed chaparral, chamise chaparral, and non-native grassland.
- Habitat for rare, endangered, or threatened species, or narrow endemic species.
- Habitat for species covered by the MSCP Subarea Plan (described below).

City of San Diego Multiple Species Conservation Program. The San Diego MSCP Plan for the southwestern portion of San Diego County was approved in 1997 and covers 85 plant and wildlife species. The City of San Diego, portions of the unincorporated County and ten additional city jurisdictions make up the San Diego MSCP Plan area. Individual MSCP Subarea Plans are prepared by local jurisdictions or other entities (referred to as take authorization holders). The MSCP and its constituent subarea plans meets the requirements of a Natural Communities Conservation Plan (NCCP) under the California Natural Community Conservation Planning Act and a Habitat Conservation Plan (HCP) under Section 10 of the FESA. The MSCP, a Subarea Plan, and its implementing agreement are the basis for issuance of federal and state take authorizations (County of San Diego, 1998).

In cooperation with the USFWS, CDFW, property owners, developers, and environmental groups, the City of San Diego also developed a Multi-Habitat Planning Area (MHPA), which is the city's planned habitat preserve within the MSCP Subarea. The MHPA delineates specific core biological resource areas and corridors within the city boundaries that are intended for long-term conservation; however, limited development may occur within the MHPA (City of San Diego, 1997).

SDG&E Company Subregional Natural Community Conservation Plan. Under Section 10(a) of the FESA, SDG&E developed this comprehensive multiple species and habitat NCCP to effectively preserve and enhance covered sensitive species and their native habitats during operation, maintenance, and expansion of its electric and natural gas transmission system (SDG&E, 1995; and Attachment 4.4-C of the PEA). In addition, the NCCP is also a permit issued pursuant to CFGC Section 2081 with an implementation agreement with the CDFW for the management and conservation of multiple species and their associated habitats as established according to the CESA and the state's NCCP Act.

The purpose of the SDG&E NCCP is to establish and implement a long-term agreement between SDG&E, the USFWS, and the CDFW for the preservation and conservation of sensitive species and their habitats while allowing SDG&E to develop, install, maintain, operate, and repair the necessary facilities to provide energy services to customers living within the SDG&E service area. The NCCP does not cover major expansions of the SDG&E electrical system and only covers new electrical substations that will result in no more than 20 acres of habitat disturbance.

The NCCP identifies 61 Operational Protocols designed to avoid and minimize potential impacts to sensitive species and their habitats, and to provide appropriate mitigation where such impacts are unavoidable, thus ensuring conservation of protected species and their habitats. These 61 protocols include provisions for personnel training, pre-activity studies, and procedures used to avoid or minimize environmental impacts during maintenance, repair, and construction of facilities.

As described in the Implementing Agreement for the SDG&E NCCP, SDG&E, the USFWS, and the CDFW agree that, absent unforeseen circumstances, the mitigation measures provided in the SDG&E NCCP constitute the only mitigation measures that will be required for any activity covered by the NCCP when a project results in an impact to a covered species or its habitat. The Proposed Project falls within the area where SDG&E utility operations are governed by the NCCP. For the Proposed Project, SDG&E has adopted the mitigation measures and Operational Protocols contained in the NCCP (Attachment 4.4-C of the PEA).

While the Proposed Project is located within areas included in both the City of San Diego General Plan and MSCP Subarea Plan, SDG&E public utility activities, such as the Proposed Project, are generally not subject to the discretionary regulatory jurisdiction of such local governments; therefore, they are not governed by the terms and conditions of such plans. However, the NCCP is designed to be consistent with local Habitat Conservation Plans and the overall preserve planning effort, including the City of San Diego MSCP Subarea Plan.

In implementing its NCCP for the Proposed Project, SDG&E will coordinate with the City of San Diego and other jurisdictions to achieve consistency to the extent feasible. Where consistency is not feasible, SDG&E's NCCP provides appropriate protocols and mitigation measures to protect natural community and natural resource values in these conservation-planning areas (SDG&E, 2014).

B.3.4.2 Environmental Impacts and Mitigation Measures

Method and Thresholds for Determining Significance

A significant impact is defined under CEQA as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (Cal Code Regs. Title 14, [hereinafter CEQA Guidelines] Section 15382). In this analysis, the following impacts to biological resources are considered significant if the project would result in:

- A substantial adverse effect to wildlife species that are federally-listed or state-listed or proposed to be listed; a substantial adverse effect to wildlife species of special concern to CDFW, candidates for state listing, or animals fully protected in California.
- A substantial adverse effect to plant species considered by CDFW, USFWS, or the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California or with strict habitat requirements and narrow distributions; a substantial impact to a sensitive natural community (i.e., a community that is especially diverse; regionally uncommon; or of special concern to local, state, and federal agencies).
- Substantial adverse effects on habitats that serve as breeding, foraging, nesting, or migrating grounds and are limited in availability or that serve as core habitats for regional plant and wildlife populations.
- 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.
- Substantial adverse effect on important riparian habitats or wetlands and any other federal or state jurisdictional waters.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Direct and Indirect Impacts and Mitigation. CEQA Guidelines define direct impacts as those impacts that result from the project and occur at the same time and place. Indirect impacts are caused by the project, but can occur later in time or farther removed in distance and are still reasonably foreseeable and related to the operation of the project. Direct or indirect impacts on biological resources could be permanent or temporary in nature. All impacts that result in the irreversible removal of biological resources are considered permanent. Any impact considered to have reversible effects on biological resources can be viewed as temporary.

Applicant Proposed Measures

In order to reduce or avoid impacts to biological resources, SDG&E has proposed the following Applicant Proposed Measure (APM), which is also presented in Table B.1-11.

APM BIO-01 A nighttime emergent bat survey will be conducted no more than five days prior to the removal of the palm trees located on the proposed Vine Substation Site. During This survey, an AnaBat System will be used to detect bat activity in the vicinity of the trees, and the trees will be visually monitored for the emergence of bats. This survey will be conducted from 30 minutes prior to sunset to 90 minutes after sunset. Following the survey, the tree removal will proceed as follows:

- If no bats are detected during the emergent survey, the trees will be removed within five days. If the trees are not removed within five days, the emergent survey will be repeated.
- If bats are detected in the trees outside of the pupping season (typically April through July), emergent surveys will be repeated. If no bats are detected for two consecutive nights, the trees will be removed within five days. If the trees are not removed within five days, the emergent survey will be repeated.
- If bats are detected in the trees during the pupping season, tree removal will wait until the end of pupping season and the emergent surveys will be repeated.

In addition to the above pre-construction survey San Diego Gas & Electric will perform quarterly day/night emergent surveys (one night each quarter) between now and the start of construction to confirm presence/absence of bats at each palm tree.

Biological Resources Impacts

LESS THAN SIGNIFICANT. As detailed below, the Proposed Project would have no impact on special-status plants, critical habitat designated by the U.S. Fish and Wildlife Service (USFWS), or preserve areas designated under the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan. The Proposed Project would have a less-than-significant impact on special-status wildlife and nesting birds.

Special-status plants. Special-status plants or their habitat are not present in the Proposed Project area. The Proposed Project is located entirely within disturbed or developed habitat within an urbanized area of San Diego. The proposed Vine Substation would be constructed at an existing asphalt parking lot and the distribution and telecommunication lines would be located in public roadways. Vegetation in the Project area consists of ornamental landscaping and disturbed habitat. Construction and O&M of the Proposed Project would not impact special-status plants.

Special-status wildlife. Special-status wildlife species have not been detected during surveys of the Proposed Project. Special-status birds including the western snowy plover (*Charadrius alexandrinus nivosus*; federally listed threatened, California Species of Special Concern), California least tern (*Sternula antillarum browni*; State and federally listed endangered, California Fully Protected), and California brown pelican (*Pelecanus occidentalis californicus*; State and federally delisted, California Fully Protected) are known from the region and may periodically fly over the Proposed Project site in route to inland areas of San Diego County.

Two special-status wildlife species have a low potential to occur in the Proposed Project area. These are American peregrine falcon (*Falco peregrinus anatum*; State and federally delisted, California Fully Protected) and Mexican long-tongued bat (*Choeronycteris mexicana*; California Species of Special Concern). Tall buildings and bridges in the vicinity of the Proposed Project provide marginal nesting habitat for the American peregrine falcon. Overpasses and buildings in the vicinity of the Proposed Project provide marginal roosting habitat for Mexican long-tongued bat. This bat species may also roost in the palm trees located at the proposed Vine Substation site.

American peregrine falcon and Mexican long-tongued bat were not observed or detected during field surveys conducted in January and November of 2014. However, the Mexican long-tongued bat is typically a summer resident in San Diego County, wintering in Mexico and Central America (CDFG, 2000), and would not have been present at the time the surveys were conducted. The American peregrine falcon may be observed year-round in San Diego, and has been documented nesting on structures in the San Diego area (Unitt, 2004).

Construction of the Proposed Project would not alter or remove any large buildings, overpasses, or bridges, or obstruct birds from flying over the area. Construction of the proposed Vine Substation would remove the existing paved parking lot and a small shed, parking attendant shelter, and light poles. Five Mexican fan palm trees would also be removed.

Temporary noise and activity from equipment and vehicles during construction and O&M could affect wildlife behavior should sensitive birds or bats be nesting or roosting in the construction areas. However, the Proposed Project is located in a commercial/industrial area near existing roadways and infrastructure including the I-5 Freeway, Pacific Highway, an Amtrak rail line, the North County Transit District Coaster, and San Diego Metropolitan Transit System (MTS) Trolley railroad tracks, and the San Diego International Airport. Therefore, construction and O&M noise and activity is not anticipated to be substantially greater than existing conditions (see also Section B.3.12, Noise).

To ensure sensitive wildlife is not affected, SDG&E would utilize Operational Protocols, as applicable and described in the SDG&E Subregional Natural Community Conservation Plan (NCCP; SDG&E, 1995) for construction and O&M. These protocols include, but are not limited to, providing environmental training to workers, conducting pre-construction surveys, monitoring during clearing and grading activities, requiring all excavations and materials to be inspected for wildlife entrapment, requiring wildlife escape ramps in open excavations, and avoiding wildlife impacts to the extent practicable. Additionally, SDG&E would implement APM BIO-1, which includes completing a nighttime emergent bat survey prior to the removal of the palm trees located on the proposed Vine Substation site. If bats are detected in the trees outside of the pupping season (typically April through July), emergent surveys would be repeated until no bats are detected for two consecutive nights, at which point the trees would be removed. If bats are detected in the trees during the pupping season, tree removal would wait until the end of pupping season and the emergent surveys repeated. In addition, SDG&E plans to perform quarterly day/night emergent surveys (one night each quarter) prior to the start of construction to confirm presence/absence of bats at each palm tree.

With implementation of SDG&E's NCCP Operational Protocols and APM BIO-1, the Proposed Project would have a less-than-significant impact on special-status wildlife species.

Nesting birds. A variety of urban birds may nest in the vicinity of the Proposed Project. Nests may be built in structures or vegetation located along the perimeter of the proposed Vine Substation site, on the ground, or along the distribution/telecommunication routes. Birds may also nest in the five palm trees that would be removed with implementation of the Proposed Project.

Nesting birds are protected under the MBTA as well as CFGC. Potential impacts to nesting bird species include the removal of potential nesting habitat (e.g., ornamental vegetation, small structures, palm trees) and the disruption of nesting behavior due to noise and activity during construction and O&M.

To avoid and minimize impacts to nesting birds, SDG&E would utilize Operational Protocols that require pre-construction surveys and monitoring of bird nests. Implementation of SDG&E's NCCP and compliance with the legal requirements of MBTA and CFGC would reduce impacts to nesting birds to a less-than-significant level.

Collision and electrocution. Birds are known to collide with communications towers, power lines, and other elevated structures. Estimates of the number of bird fatalities specifically attributable to interactions with utility structures vary considerably. Nationwide, it is estimated that hundreds of thousands to as many as 175 million birds are lost annually to fatal collisions with transmission and distribution lines (Erickson et al., 2001). In California, even general estimates are unavailable, although it is plausible that such collisions result in the deaths of hundreds of thousands of birds each year (Hunting, 2002).

The risk of bird collisions with power lines is influenced by a number of factors, including the type and size of bird, weather, visibility, season, surrounding habitat, and size, configuration, and placement of power lines (APLIC, 2012). Collisions with power lines are generally due to poor visibility of electrical lines, but collisions may also occur with other structures such as utility poles and substation structures. Collisions may occur in poor weather or visibility conditions, or when birds are startled and flushed from cover, fleeing from predators, or focused on pursuing prey.

Electrocution can occur when a bird perches, lands or takes off from a utility pole or substation structure if the animal makes contact with two conductors to complete the electrical circuit, or simultaneously contacts energized phase conductors and other equipment, or simultaneously contacts an energized wire and a grounded wire. Electrocution on power lines is a greater potential hazard to larger birds, such as raptors, because their body size and wing span are large enough to span the distance between the conductor wires and thus complete the electrical circuit. Within substations, raptor electrocutions are uncommon, but smaller birds such as songbirds and crows may perch, roost, or nest on substation structures and be exposed to electrocution risks (APLIC, 2006).

The overhead power line component of the Proposed Project consists of looping an existing 69-kV power line. The 69-kV loop-in involves removing two existing wood poles; installing two new, self-supported TSPs; and replacing an existing wood distribution pole with a new, self-supported TSP. No additional electrocution or collision impacts are anticipated from the Proposed Project because it would not differ substantially from the existing overhead power line conditions.

The 12-kV distribution relocation component of the Proposed Project would utilize a combination of existing and new underground distribution conduit, which would not increase the possibility of wildlife electrocution or collision.

The new substation would create opportunities for birds to perch, roost, and nest on electrical equipment, creating the potential for electrocution. New substation structures would also create the possibility for wildlife collision to some degree. However, within this highly urbanized area, additional structures associated with the proposed Vine Substation would not substantially increase the collision hazard relative to existing conditions. Minimal night lighting would be employed at the substation; however, the existing urban environment is extensively lit during nighttime. Night lighting can disorient migrating birds and lead to collisions, but in this urbanized area the substation lighting would not substantially increase the overall wildlife collision hazard relative to the existing condition.

To reduce potential collision and electrocution risks to birds and bats SDG&E would construct the power line and substation in compliance with current Avian Power Line Interaction Committee (APLIC) guidelines (APLIC, 2006; SDG&E, 2014). These methods ensure a minimum separation between electrical components to prevent simultaneous contact and covering electrical components with protective materials to prevent contact. Implementation of APLIC guidelines during construction of the Proposed Project would reduce impacts to birds from electrocution and collision to a less-than-significant level.

Critical habitat and preserves. There is no USFWS-designated critical habitat in the Proposed Project area. Critical habitat for western snowy plover is located approximately three miles southwest of the Proposed Project on Coronado Island. Impacts to critical habitat would not occur.

The Proposed Project is located within the City of San Diego MSCP Subarea Plan. This plan designates preserves that are set aside as protected areas of importance for wildlife, flora, or other resources. A preserve area is reserved and managed for conservation and to provide special opportunities for study or research. There are no preserve areas in the Proposed Project footprint. No impacts to preserves would occur.

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

NO IMPACT. The Proposed Project would be located on developed land comprised of a parking lot and public roadways. Vegetation communities are limited to ornamental landscaping and disturbed habitat. No riparian habitat or sensitive natural communities, as defined by the USFWS, USACE, RWQCB, CDFW, or the City of San Diego, exist within the Proposed Project footprint. Therefore, the Proposed Project would not impact riparian habitat or other sensitive natural communities.

c. Would the project 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.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

NO IMPACT. Construction of the Proposed Project would not result in impacts to jurisdictional waters or wetlands. A small swale was identified at the southeast corner of the I-5 overpass at West Laurel Street. The feature begins as a concrete-lined drainage channel measuring approximately 30-inches wide, and ends as an earthen channel measuring approximately 24-inches wide. The channel drains northwest into a storm drain on the south side of West Laurel Street. During field surveys conducted in November 2014 approximately five feet of the channel was inundated and supported vegetated. This feature could be considered a State or federal jurisdictional feature as defined by Sections 401 and 404 of the CWA and Section 1600 of the CFGC.

Other hydrologic features observed within the Proposed Project footprint consist of roadside channels and drains designed for storm water conveyance associated with the Municipal Separate Storm Sewer System (MS4) and are not jurisdictional waters, as defined by Sections 401 and 404 of the CWA, the Porter-Cologne Water Quality Control Act, and Section 1602 of the CFGC.

Construction of the Proposed Project would avoid the one potential jurisdictional feature located outside of the Proposed Project footprint. To reduce potential direct or indirect impacts to this feature, and to prevent sediment laden water from entering the storm system, SDG&E would implement SDG&E NCCP Operational Protocols, a Project-specific Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention, Control, and Countermeasure (SPCC) Plan, and SDG&E's Water Quality Construction BMP Manual (see Section B.3.9, Hydrology and Water Quality). Therefore, the Proposed Project would not impact any jurisdictional waters or wetlands.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

LESS THAN SIGNIFICANT. The Proposed Project is located within a highly urbanized area and is not considered an important movement corridor for terrestrial wildlife. With the exception of a few trees and shrubs, the proposed Vine Substation site is not expected to act as an important nursery site for wildlife.

The Pacific Flyway is one of the six major north-south migration routes for waterfowl in the U.S., Mexico, and Canada. The Proposed Project would not obstruct birds from flying over the area and would not interfere with wildlife movement along the Pacific Flyway.

A temporary increase in noise and activity from equipment and vehicles during construction or O&M may affect wildlife behavior; however, temporary construction and O&M noise is not anticipated to be substantially greater than existing conditions (see Section B.3.12, Noise). Therefore, the Proposed Project would not impact wildlife nursery sites and would have a less-than-significant impact on wildlife movement corridors.

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

NO IMPACT. The Proposed Project would be consistent with the policies detailed in the Conservation Element of the City of San Diego General Plan that relate to Urban Runoff Management and Biological Diversity. These are described above under the Applicable Regulations section.

The Proposed Project would not substantially alter stormwater flow or on-site drainage patterns, or substantially increase the amount of runoff generated from the site (see Section B.3.9, Hydrology and Water Quality). In addition, landscaping would be installed consistent with SDG&E's Landscape Plan, and the use of pesticides and herbicides would be limited to the minimum necessary to properly maintain the landscaping.

SDG&E would also implement the Proposed Project's SWPPP and SPCC Plan, as well as SDG&E's Water Quality Construction BMP Manual (see Section B.3.9, Hydrology and Water Quality). Implementation of these measures would ensure impacts to drainage and water quality would be less than significant. For these reasons, the Proposed Project would be consistent with the Urban Runoff Management goal and policies.

As discussed above in Sections B.3.4(a) and (b), no special-status plant species or sensitive natural communities occur within the Proposed Project footprint, and there is a low potential for special-status wildlife species to occur within or near the Proposed Project. The Proposed Project would have no impact on special-status plants and sensitive natural communities and a less-than-significant impact on special-status wildlife. Implementation of SDG&E's NCCP would ensure the Proposed Project would be consistent with the goal of preserving regional ecosystems and conserving endangered, threatened, and key sensitive species and their habitats.

No other local ordinances protecting biological resources have been identified. Therefore, construction and O&M of the Proposed Project would not conflict with any local environmental policies or ordinances protecting biological resources.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan?

NO IMPACT. SDG&E's existing NCCP and the City of San Diego MSCP Subarea Plan are the only conservation plans that apply to the Proposed Project. SDG&E would operate under its existing NCCP, which was established according to the FESA, CESA, and the State NCCP Act. The NCCP addresses potential impacts to sensitive resources associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, as well as typical expansions of those systems throughout SDG&E's service area. The NCCP also defines those measures that SDG&E would employ to avoid, minimize, or mitigate any such impacts.

The NCCP was developed in coordination with the USFWS and the CDFW, and is designed to be consistent with local Habitat Conservation Plans and the overall preserve planning effort, including the City of San Diego MSCP Subarea Plan. The NCCP Operational Protocols would be applied to the Proposed Project, as appropriate, to avoid or minimize potential impacts resulting from construction and O&M. Therefore, the Proposed Project would not conflict with any applicable conservation plan, and no impact would occur.

B.3.5 Cultural Resources

CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
e. Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.5.1 Setting

Cultural Resources

This section describes the cultural resources that occur in the area of the Proposed Project. The following setting information is from the Proponent’s Environmental Assessment for the Vine 69/12-kV Substation Project, Volume II, Application 14-05-021 (SDG&E, 2014) and summarizes the prehistoric, ethnohistoric, and historical setting for the Proposed Project area.

<u>Prehistory</u>

The earliest well-documented sites in the San Diego area belong to the San Dieguito complex, thought to be over 9,000 years old. Related materials were found in the Mojave Desert and in the Great Basin, sometimes called the Lake Mojave complex. Diagnostic artifact types and categories associated with the San Dieguito complex include choppers; scraping tools; elongated bifacial (two-sided) knives; and leaf-shaped projectile points. Stable mesa landforms in the region, an abundance of appropriate stone tool material, and soil column exposures along areas such as the San Diego River make the foothills an important area for Paleoamerican research (SDG&E, 2014:4.5-7).

The Archaic period (7,000 to 1,500 years before present [B.P.]) brings an apparent shift toward a more generalized economy and an increased emphasis on seed resources, small game, and shellfish. Local cultural manifestations of the Archaic period are called the La Jollan complex, located along the coast, and the Pauma complex, located inland. Pauma complex sites lack the shell that dominates many La Jollan complex site assemblages. The La Jollan tool assemblage is dominated by rough, cobble-based choppers and scrapers, as well as slab and basin metates. Recently, there has been considerable debate about whether San Dieguito and La Jollan patterns might represent the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (SDG&E, 2014:4.5-7).

The Late Prehistoric period (1,500 B.P. to 200 B.P.) is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period, with continued expansion of trade networks, use of shell-bead currency, and appearance of more labor-intensive but effective technological innovations. Subsistence is thought to have focused on acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Fish and shellfish were also secondary resources, except for areas immediately adjacent to the coast where they assumed primary importance. The settlement system is characterized by seasonal villages where people utilized a central-based collecting subsistence strategy. Artifactual material is characterized by the presence of arrow shaft straighteners, pendants, comales (heating stones), pottery, ceramic figurines and pipes, various cobble-based tools (e.g., scrapers, choppers, hammerstones), bone awls, and a variety of milling equipment (including manos, metates, mortars, and pestles) (SDG&E, 2014:4.5-7).

Ethnography

The Proposed Project area is in the traditional territory of the Kumeyaay. Also known as Kamia, Ipai, Tipai, and Diegueño, the Kumeyaay occupied the southern two-thirds of San Diego County. The Kumeyaay spoke a language belonging to the Hokan language family, which includes the lower Colorado River tribes and Arizona groups to whom they are closely related. The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherias. Most rancherias were the seat of a clan, although it is thought that aboriginally, some clans had more than one rancheria and some rancherias contained more than one clan (SDG&E, 2014:4.5-8).

Regional History

Cultural activities within San Diego County between the late 1700s and the present provide a record of Native American, Spanish, Mexican, and American occupation and land use. The Spanish period (1769 to 1821) represents a time of European exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego Mission. The mission system used Native American labor to build the infrastructure needed for European settlement. By about 1821, Native American traditional lifeways were disrupted, and Native American populations were tied economically to the missions. In addition to providing new construction methods and architectural styles, the mission system introduced horses, cattle, and other agricultural goods and implements to the area. The cultural systems and institutions established by the Spanish continued to influence the region beyond 1821, when California came under Mexican rule (SDG&E, 2014:4.5-8).

The Mexican period (1821 to 1848) retained many of the Spanish institutions and laws; however, in 1834 the mission system was secularized. This allowed for increased Mexican settlement, but it also meant that many Native Americans were dispossessed. After secularization, large tracts of land were granted to individuals and families, and a rancho system was established. Land was used primarily for grazing cattle. Cattle ranching dominated the agricultural activities, and development of hide and tallow trade with the United States (U.S.) increased during the early part of this period. The Pueblo of San Diego was established at this time, and Native American influence greatly declined. The Mexican period ended when Mexico ceded California to the U.S. after the Mexican-American War (1846 to 1848) (SDG&E, 2014:4.5-8).

The first attempt to establish a city on the San Diego Bay occurred in 1850 when William Heath Davis and Andrew B. Gray purchased 160 acres of bayfront property bounded by present-day Broadway, Market Street, First Street, and Pacific Highway. However, due to financial and other constraints, this initial enterprise was unsuccessful. It was not until almost 20 years later that southern California's first true boom resulted in the establishment of the City of San Diego (SDG&E, 2014:4.5-8).

San Diego's first boom was due to the energy of Alonzo E. Horton, a San Francisco merchant and former land speculator who came to California to seek his fortune in the gold rush. He established a mercantile business in San Francisco and, in 1867, purchased a tract of approximately 1,000 acres on San Diego Bay surrounding Davis' earlier subdivision. Horton's Addition included present-day downtown San Diego and Hillcrest. He had the parcel surveyed and laid out a park, streets, blocks, and lots on the scrub-covered hills and plains, and initially gave lots free to anyone that would build a permanent structure. In 1869, people began pouring into San Diego to buy lots from Horton, and it is likely that the Proposed Project area saw much of its initial development in this period. By March 24, 1869, 124 dwellings had been erected. Framed Italianate-style buildings, typical of most urban areas of the west, dominated architecture for the next 15 years. By 1870, San Diego was a community of 2,300 inhabitants. On April 3, 1871, the county courts moved from Old San Diego to Horton's Addition, signifying that San Diego was no longer to be identified as a small pueblo of adobe houses but as a city on the bay (SDG&E, 2014:4.5-8-9). The extension of the railroad to San Diego in the late 1880s encouraged a second population boom for San Diego County (Castells, 2015:6). In turn, to accommodate this influx of people, the first street cars and electric street cars were established in the downtown area in the late 1880s (Castells, 2015:8).

Paleontological Resources

The Proposed Project area is located within the San Diego County coastal plain region, within the Peninsular Ranges geomorphic province in California (Norris and Webb, 1976). The Peninsular Ranges trend northwest-southeast and extend 900 miles from the Los Angeles Basin to the tip of Baja California in Mexico. The province varies in width between 30 to 100 miles wide and is bounded on the east by the Colorado Desert and on the west by the Pacific Ocean and Gulf of California. The coastal plain is characterized by a thick sequence of marine and non-marine units, which overlie Mesozoic crystalline basement at depth and record deposition during the Cretaceous to Quaternary Periods (Deméré and Walsh, 2003). The Mesozoic crystalline basement rock is part of the Peninsular Range batholith (i.e., group of granitic plutons), which formed 140 to 80 million years ago during the Cretaceous period as a result of magmatic activity associated with subduction along the continental margin of North America. The batholith was originally emplaced beneath an oceanic volcanic arc that was also associated with the subduction zone; however, over time, regional tectonic activity uplifted the basement rocks and erosion exposed the buried plutons. The exposure and erosion of the crystalline basement rocks following uplift accompanied a transition from a marine depositional environment to a terrestrial environment, recorded in the Early to Late Cenozoic deposits of the region (DeCourten, 2013). Terrestrial sedimentary deposits were formed when the relative sea level dropped and alluvial conglomerates and sandstones, derived from nearby highlands, accumulated in valleys and basins. The Quaternary history of the Peninsular Ranges geomorphic province is dominated by faulting and terrace-building in the coastal plains due to fluctuating (relative) sea level (Norris and Webb, 1976).

According to the San Diego Natural History Museum's (SDNHM) (2013) paleontological records search, published geologic maps indicate the Proposed Project area is immediately underlain by the Middle to Late Pleistocene Bay Point Formation (SDG&E, 2014). Further, according to the SDNHM report and previous stratigraphic analysis, the Early to Middle Pleistocene Lindavista Formation and the Pliocene San Diego Formation, which underlie the Bay Point Formation, are not mapped at the surface in the Proposed Project area, but are likely buried at relatively shallow depth below the Bay Point Formation (Deméré and Walsh, 2003; Kennedy, 1975).

The Bay Point Formation was named for exposures in Mission Bay and is widespread and well exposed along the San Diego coastline (National Geologic Map Database [NGMDB], 2015). The Bay Point Formation consists of nearshore marine deposits composed of poorly consolidated, fine- to medium-grained, grayish-brown, massive to cross-bedded sandstone. The thickness of the unit and its contact relationships are unknown because the unit is exposed at sea level (Deméré and Walsh, 2003). The Bay Point Formation is highly fossiliferous and contains abundant, well-preserved invertebrate fossils of Late Pleistocene age, which indicate a brackish water estuarine depositional environment (Kennedy, 1975). The Bay Point Formation has primarily yielded mollusk fossils; however, several vertebrate fossil specimens, including taxa of sharks, rays, and bony fishes, have been recovered from the deposit.

The Lindavista Formation underlies the Bay Point Formation and is 20 to 30 feet thick, on average. It is composed of reddish-brown, marine to non-marine, moderately resistant, conglomeritic sandstones and pebble conglomerate originally deposited on a wave-cut platform, with local deposits of green claystone (Deméré and Walsh, 2003). Where exposed at the surface in San Diego County, the Lindavista Formation forms extensive mesa surfaces, including the nearby San Diego and Kearny Mesas. The Lindavista Formation has yielded rare Early Pleistocene age vertebrate and invertebrate fossils, including specimens of bivalve, gastropods, echinoderms, crustaceans, shark, and baleen whale.

The marine San Diego Formation is exposed throughout southwestern San Diego County and is conformable (uninterrupted depositional contact) to disconformable with the overlying Lindavista Formation. The deposit is up to 300 feet thick and is composed of yellowish-gray to brown, fine- to medium-grained, poorly indurated sandstone; cobble conglomerate, with granitic and metamorphic clasts derived from the Mesozoic crystalline basement complex; and local deposits of bentonite, marl, and brown mudstone (Deméré and Walsh, 2003; Kennedy, 1975). The San Diego Formation has yielded abundant Pliocene age marine vertebrate fossils and rare terrestrial specimens, as well as a diverse assemblage of marine invertebrate fossils. Recovered specimens include taxa of walrus, seal, dolphin, whale, cat, wolf, skunk, peccary, camel, antelope, deer, horse, shark, bony fish, and sea bird (Deméré and Walsh, 2003).

Applicable Regulations

Federal

There are no federal regulations related to cultural resources applicable to the Proposed Project.

State

California Environmental Quality Act. The Proposed Project is subject to compliance with CEQA, as amended. Therefore, cultural resource management work conducted as part of the Proposed Project is to comply with the CEQA Statutes and Guidelines, which direct lead agencies to first determine whether cultural resources are "historically significant" resources. CEQA requires that impacts that a project may have on cultural resources be assessed, and requires mitigation if significant (or "unique") cultural resources are to be impacted (Section 21083.2 [a-1] and Appendix K). Generally, a cultural resource is considered "historically significant" if the resource is 45 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets the requirements for listing on the California Register of Historical Resources (CRHR) under any one of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- 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,

- Has yielded, or may be likely to yield, information important in prehistory or history (Title 14 CCR, §15064.5).

The CEQA Statutes and Guidelines specify how cultural resources are to be managed in the context of projects, such as the Proposed Project. Briefly, archival and field surveys must be conducted, and identified cultural resources must be inventoried and evaluated in prescribed ways. Prehistoric and historical archaeological resources, as well as historical resources such as standing structures and other built-environment features, deemed "historically significant" must be considered in project planning and development. If a lead agency determines that an archaeological site is a historical resource, the provisions of California Public Resources Code (PRC) Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site is to be treated in accordance with the provisions of PRC Section 21083 regarding unique archaeological resources. The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of a project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines §15064(c)(4)).

If human remains of any kind are found during construction activities, CEQA Guidelines Section 15064.5(e) and Assembly Bill 2641 are to be followed. These require that all construction activities cease immediately and the County Coroner and a qualified archaeologist must be notified. The coroner will examine the remains and determine the next appropriate action based on his or her findings. If the coroner determines the remains to be of Native American origin, the Native American Heritage Commission (NAHC) must be notified. The NAHC will then identify a most-likely descendant to be consulted regarding treatment and/or reburial of the remains.

Native American Heritage Commission. PRC Section 5097.91 established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Assembly Bill 52. Signed into law in September 2014, California Assembly Bill 52 (AB 52) created a new class of resources – tribal cultural resources – for consideration under CEQA. Tribal cultural resources may include sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe. AB 52 requires that the CEQA lead agency consult in good faith with participating California Native American tribes regarding projects that may affect tribal cultural resources. Under AB 52, a project that has potential to impact a tribal cultural resource such that it would cause a substantial adverse change constitutes a significant effect on the environment unless mitigation reduces such effects to a less-than-significant level.

Local

City of San Diego. The City of San Diego regulations and policies pertaining to cultural resources can be found in Chapters 11, 12, and 14 of the Municipal Code, which establish the Historical Resources Board authority, appointment and terms, meeting conduct, and powers and duties; the designation process including the nomination process, noticing and report requirements, appeals, recordation, amendments or recision, and nomination of historical resources to state and national registers; and development regulations for historical resources. The purpose of these regulations is to protect, preserve, and, where damaged, restore the historical resources of San Diego. The historical resources regulations require that designated historical resources, important archeological sites, and traditional cultural properties be preserved unless deviation findings can be made by the decision-maker as part of a discretionary permit.

Minor alterations consistent with the U.S. Secretary of the Interior's Standards are exempt from the requirement to obtain a separate permit, but must comply with the regulations and associated historical resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.

The Historical Resources Guidelines, located in the City of San Diego's Land Development Manual, provide property owners, the development community, consultants, and the general public explicit guidance for the management of historical resources located within the City of San Diego's jurisdiction. These guidelines are designed to implement the historical resources regulations and guide the development review process. The guidelines also address the need for a survey and how impacts are to be assessed, available mitigation strategies, and report requirements. They also include appropriate methodologies for treating historical resources located in the City of San Diego.

Paleontological Regulations

California Environmental Quality Act (CEQA) (PRC Sections 21000-21889). This law encourages the protection of all aspects of the environment by requiring state and local agencies to prepare multidisciplinary analyses of the environmental impacts of a proposed project, and to make decisions based on the findings of those analyses. CEQA also takes into account the laws and procedures of local California jurisdictions.

CEQA includes in its definition of historical resources, "any object [or] site …that has yielded or may be likely to yield information important in prehistory" (14 CCR 15064.5[3]), which is typically interpreted as including fossil materials and other paleontological resources. More specifically, destruction of a "unique paleontological resource or site or unique geologic feature constitutes a significant impact under CEQA" (State CEQA Guidelines, Appendix G). CEQA does not provide an explicit definition of a "unique paleontological resource," but a definition is implied by comparable language within the act relating to archeological resources: "The procedures, types of activities, persons, and public agencies required to comply with CEQA are defined in: Guidelines for the Implementation of CEQA, as amended March 29, 1999" (Title 14, Chapter 3, California Code of Regulations: 15000 et seq.)(AEP, 2012).

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in the project area; assessment of potential impacts on significant or unique resources; and development of mitigation measures for potentially significant impacts, which may include avoidance, monitoring, or data recovery excavation.

The California Public Resources Code 5097.5. This law affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the overseeing public land agency. It further states under Code 30244 that any development that would adversely impact paleontological resources shall require reasonable mitigation. These regulations apply to projects located on land owned by or under the jurisdiction of the State or any city, county, district, or other public agency (PRC § 5097.5 [California State Historic Preservation Office, 2005]).

City of San Diego Paleontological Guidelines. The City of San Diego (1996, 2007) requires that "all discretionary projects that involve earth disturbance should be evaluated for potential impacts to paleontological resources." As such, the City of San Diego sets forth several policies for the mitigation and management of paleontological resources, including requirements for paleontological resources inventory and impact potential evaluation**;** development of a Mitigation, Monitoring, and Reporting

Program (MMRP); approval of a Principal Investigator (PI) and Paleontological Monitor**;** construction monitoring, fossil salvage, preparation, and curation; and final reporting (City of San Diego, 1996, 2007).

Approach to Analysis of Cultural Resources and Previous Cultural Resource Studies

This section assesses the potential impacts of the Proposed Project on cultural resources. Data used in this analysis derive from *Cultural Resource Review for the SDG&E proposed Vine 69/12 kV Substation Project, San Diego County, California (SDG&E ETS #25059, ASM Project #21430* (Castells, 2015)). For the purposes of the cultural resource study, the Proposed Project area is defined as the 1.5-acre Vine Substation site and approximately 1.8 miles of distribution circuits and fiber optic telecommunication lines within public rights-of-way (ROWs) (Castells, 2015:2-3).

Record Search Results

Archaeological records and literature searches were conducted at the South Coastal Information Center (SCIC), housed at San Diego State University, San Diego. The records searches included an examination of all previously documented cultural resources within a one-mile radius centered on the Proposed Project area. The records search materials contain information collected from the California Historical Resources Information System, which includes the locations of previous cultural resource surveys and prehistoric and historic sites as well as listings in the National Register of Historic Places (NRHP), CRHR, California Historic Landmarks, and California Points of Historic Interest.

The searches indicated that 38 previously documented archaeological resources were located within one-mile of the Proposed Project area. Of these, one resource, a historic-era refuse scatter and pre-1925 sewer line (P-37-024258), is located within the Proposed Project area, and described below. In addition to the 38 archaeological resources, 128 historical built environment resources were reported within ¼-mile radius of the Proposed Project area. Many of these structures were documented and evaluated as a potential historical district related to the General Dynamics, Convair Division, Lindberg Field Plant, which manufactured airplanes during World War II (Castells, 2015:5). While some of the structures, as well as the district itself, were recommended eligible for listing on the CRHR, they were destroyed to provide additional parking and staging for Lindbergh Field (a.k.a. San Diego International Airport) (Castells, 2015:5).

<u>Site P-37-024258</u> was documented in 2001 as a historic refuse scatter surrounding a pre-1925 sewer line at the intersection of Kalamia Street and Kettner Boulevard. Artifacts noted at the site include metal wire, brick fragments, pipe casings, and glass fragments. No diagnostic artifacts were observed.

Background research and review of historic aerials and maps (Sanborn Fire Insurance Maps, U.S. Department of Agriculture) revealed that the San Diego Electrical Railway (Trolley) is known to have run along Kettner Boulevard in the Proposed Project area. In addition, the Burlington Northern Santa Fe Railway (BNSF), historically known as the Santa Fe Railway, is within the Proposed Project area (Castells, 2015:6).

Cultural Resource Field Survey Results

The Proposed Project is located within a previously developed area; therefore, a cultural resource field survey was not conducted.

Sacred Lands File Search Results and Native American Communication

ASM Affiliates requested a search of the Sacred Lands File (SLF) maintained by the Native American Heritage Commission (NAHC) on December 13, 2013. The NAHC responded on December 19, 2013, stating that no Native American traditional cultural places are present within the Proposed Project area; the NAHC requested that Native American individuals and organizations be contacted to elicit information and/or concerns regarding cultural resource issues related to the Proposed Project. Correspondence was initiated on December 20, 2013 with the Barona Group of the Capitan Grande, the Sycuan Band of the Kumeyaay Nation, the La Posta Band of Mission Indians, the Viejas Band of Kumeyaay Indians, the Manzanita Band of Kumeyaay Nation, the Kumeyaay Cultural Historic Committee, the San Pasqual Band of Mission Indians, the Campo Band of Mission Indians, the Jamul Indian Village, the Mesa Grande Band of Mission Indians, the Ewiiaapaayp Tribal Office, the Kwaaymii Laguna Band of Mission Indians, the Ipay Nation of Santa Ysabel, the Inaja Band of Mission Indians, the Kumeyaay Diegueno Land Conservancy, the Inter-Tribal Cultural Resource Protection Council, and the Kumeyaay Cultural Repatriation Committee. As of late August 2015, no responses have been received.

Prior to filing a Permit to Construct Application with the CPUC, SDG&E informed the NAHC of the Proposed Project on May 21, 2014. The NAHC responded on May 23, 2014, stating that the SLF search failed to indicate the presence of Native American traditional sites/places within the Proposed Project area. The NAHC requested that Native American individuals and organizations be informed about the Proposed Project and potential impacts the Proposed Project may have on cultural resources. SDG&E initiated correspondence on June 5, 2014 with the Barona Group of the Capitan Grande, the Sycuan Band of the Kumeyaay Nation, the La Posta Band of Mission Indians, the Viejas Band of Kumeyaay Indians, the Manzanita Band of Kumeyaay Nation, the Kumeyaay Cultural Historic Committee, the San Pasqual Band of Mission Indians, the Campo Band of Mission Indians, the Jamul Indian Village, the Mesa Grande Band of Mission Indians, the Ewiiaapaayp Tribal Office, the Kwaaymii Laguna Band of Mission Indians, the Ipay Nation of Santa Ysabel, the Inaja Band of Mission Indians, the Kumeyaay Diegueno Land Conservancy, the Inter-Tribal Cultural Resource Protection Council, the Inter-Tribal Cultural Repatriation Committee, and the Kumeyaay Cultural Repatriation Committee. Follow-up phone calls were conducted between June 20 and June 27, 2014. As of late August 2015, no responses have been received.

AB -52 Consultation Results

The CPUC issued a letter on May 4, 2015 stating that the application filed by SDG&E for a Permit to Construct Electrical Facilities with Voltages between 50 kV and 200 kV to the CPUC was complete. In accordance with AB 52 and Public Resource Code Section 21080.3.1(d), the CPUC as the lead CEQA agency had up to 14 days from determining that the application for the Project was complete to provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice. As of May 17, 2015 (14 days from the issuance of the completeness letter), no California Native American tribes whose traditional and culturally affiliated area include the Vine Substation site had requested formal notification of proposed projects from the CPUC. Because no tribes required formal notification of the proposed Project from the CPUC, the AB 52 process was concluded on May 17, 2015.

Approach to Analysis of Paleontological Resources and Previous Paleontological Resource Studies

Methods Used to Identify Paleontological Resources

Paleontological resources are not found in "soil" but are contained within the geologic deposits or bedrock that underlies the soil layer. Therefore, in order to ascertain whether or not a particular project area has the potential to contain significant fossil resources at the subsurface, it is necessary to review local and regional museum collection records, relevant scientific literature, and geologic mapping to determine the underlying geology and stratigraphy of the area and whether or not fossil localities have been previously discovered within the project area or a particular rock unit. For the Proposed Project, a preliminary paleontological sensitivity assessment and museum record search was conducted by the SDNHM's Department of Paleontology (2013). It included a review of the area geology and any known significant paleontological resources recovered from the Proposed Project vicinity, as well as the geologic units that are likely to be encountered during excavation activities associated with the Proposed Project.

Absent specific agency guidelines, most professional paleontologists in California adhere to guidelines set forth by Society of Vertebrate Paleontology (SVP) in "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources" (SVP, 2010). These guidelines establish detailed protocols for the assessment of the paleontological resource potential (i.e., "sensitivity") of a project area, and outline measures to follow in order to mitigate adverse impacts to known or unknown fossil resources during project development. Using baseline information gathered during a paleontological resource assessment, the paleontological resource potential of the geologic unit(s) (or members thereof) underlying a project area can be assigned to one of four categories defined by SVP (2010). These categories include high, undetermined, low, and no potential, and are listed in Table B.3.5-1. Additionally, the County of San Diego paleontological sensitivity classification system was used by the SDNHM (2013) during their initial assessment and paleontological inventory of the Proposed Project area. These categories include high, moderate, low, and marginal, and zero potential, and are listed in Table B.3.5-1 (Deméré and Walsh, 2003).

According to SVP (2010) guidelines, if one or more geologic formations in a given project area are determined to have high potential for paleontological resources following the initial assessment, and the geologic formation(s) cannot be avoided (i.e., the project rerouted or redesigned), then the next step is to develop a Paleontological Mitigation Plan (Plan) to be implemented during the construction phase of a project. The Plan shall describe, in detail, when and where paleontological monitoring will take place and establish communication protocols to be followed in the event that an unanticipated fossil discovery is made during project development. If significant fossil resources are known to occur within the boundaries of the project and have not been collected, then the Plan shall outline the procedures to be followed prior to the commencement of construction (i.e., preconstruction salvage efforts or avoidance measures, including fencing off a locality). Should microfossils be known or suspected to occur in the geologic unit(s) underlying the project area, then the Plan shall describe the methodology for matrix sampling and screening. The Plan should be prepared by a qualified professional paleontologist and developed using the results of the initial paleontological assessment and survey. Elements of the Plan can be adjusted throughout the course of a project as new information is gathered and conditions change, so long as the lead agency is consulted and all parties are in agreement. For example, if after 50 percent of earth-disturbing activities have occurred in a particular unit or area, and no fossils whatsoever have been discovered, then the project paleontologist can reduce or eliminate monitoring efforts in that unit or area.

In addition, the City of San Diego has specific mitigation and monitoring guidelines for paleontological resources, which are described above under, "Paleontological Regulations".

Table B.3.5-1. Paleontological Sensitivity/ Resource Potential Categories

Resource Potential	Criteria	Mitigation Recommendations
No Potential (SVP, 2010) Zero Sensitivity (Deméré and Walsh 2003)	Rock units that are formed under or exposed to immense heat and pressure, such as high-grade metamorphic rocks and plutonic igneous rocks.	No mitigation required.
Marginal Sensitivity (Deméré and Walsh 2003)	Marginal sensitivity is assigned to geologic formations that are composed either of pyroclastic volcanic rocks or metasedimentary rocks, but which nevertheless have a limited probability for producing fossil remains from certain sedimentary lithologies at localized outcrops.	Mitigation is not typically required.
Low Potential (SVP 2010) Low Sensitivity (Deméré and Walsh 2003)	Rocks units that have yielded few fossils in the past, based upon review of available literature and museum collections records. Geologic units of low potential also include those that yield fossils only on rare occasion and under unusual circumstances.	Mitigation is not typically required.
Moderate Sensitivity (Deméré and Walsh 2003)	Moderate sensitivity is assigned to geologic formations known to contain paleontological localities with moderately preserved, common elsewhere, or stratigraphically long-ranging fossil material. The moderate sensitivity category is also applied to geologic formations that are judged to have a strong, but unproven potential for producing important fossil remains (e.g., Pre Holocene sedimentary rock units representing low to moderate energy, marine to non-marine depositional settings).	Mitigation may be required.
Undetermined Potential (SVP 2010)	In some cases, available literature on a particular geologic unit will be scarce and a determination of whether or not it is fossiliferous or potentially fossiliferous will be difficult to make. Under these circumstances, further study is needed to determine the unit's paleontological resource potential (i.e., field survey).	A field survey is required to further assess the unit's paleontological potential.
High Potential (SVP 2010) High Sensitivity (Deméré and Walsh 2003)	Geologic units with high potential for paleontological resources are those that have proven to yield vertebrate or significant invertebrate, plant or trace fossils in the past or are likely to contain new vertebrate materials, traces, or trackways. Rock units with high potential also may include those that contain datable organic remains older than late Holocene (e.g., animal nests or middens).	Typically, a field survey as well as onsite construction monitoring will be required. Any significant specimens discovered will need to be prepared, identified, and curated into a museum. A final report documenting the significance of the finds will also be required.

Source: Deméré and Walsh, 2003:39; and SVP, 2010.

Results of the Paleontological Resources Assessment

According to the SDNHM's (2013) paleontological records search, published geologic maps indicate the Proposed Project area is immediately underlain by the Middle to Late Pleistocene Bay Point Formation (SDG&E, 2014). The Bay Point Formation has proven to yield significant paleontological resources within the Proposed Project vicinity and throughout San Diego County. As a result, this geologic unit has been determined to have a high paleontological sensitivity with high potential for buried fossil resources in the Proposed Project area.

The Bay Point Formation is underlain at an unknown depth by the Early to Middle Pleistocene Lindavista Formation and the Pliocene San Diego Formation. The Lindavista Formation is known to yield vertebrate fossils in the vicinity of the Proposed Project, although predictability of occurrence is low; as a result, the Lindavista Formation has been determined to have a moderate potential for buried fossil resources. The SDNHM reports that at least 85 fossil localities have been recorded within one-mile of the Proposed Project area from within the San Diego Formation. Recovered specimens include seal, walrus, sea cow, dolphin, whale, shark, bony fish, rabbit, bird, snake, bryozoan, foraminifera, barnacle, brachiopod, shrimp, crab, urchin, snail, clam, mussel, and plant remains. As a result, the San Diego Formation has been determined to have a high paleontological sensitivity and a high potential for buried paleontological resources (SDG&E, 2014).

Based on SDNHM's (2013) findings and the results of preliminary geotechnical investigations for the Proposed Project (SDG&E, 2014), shallow excavations in the Proposed Project area are unlikely to encounter undisturbed sediments (i.e., the Bay Point Formation) because the native geologic deposits have been shallowly buried by artificial fill related to prior road-building, paving, and construction activities. However, deeper excavations would occur within the native sediments of the Bay Point Formation. Substantial excavation in these areas have the potential to encounter the underlying Lindavista Formation and San Diego Formation, at an unknown depth.

B.3.5.2 Environmental Impacts and Mitigation Measures

Applicant Proposed Measures

In order to reduce or avoid impacts to cultural and paleontological resources, SDG&E has proposed the following APMs, which are also presented in Table B.1-11.

APM CUL-01 An archaeological monitor(s) familiar with the types of prehistoric and historic resources that could be encountered within the Project area will be present during ground-disturbing activities associated with the Vine Substation. In addition, an archaeological monitor(s) will be present during all trenching activities associated with the underground 12-kilovolt lines along Kettner Boulevard. In the event that cultural resources are discovered, the archaeological monitor will have the authority to divert or temporarily halt ground disturbance to allow evaluation of the potentially significant cultural resources. The archaeological monitor will contact San Diego Gas & Electric's (SDG&E's) Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeological monitor, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program would be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the history of the area. Faunal material will be identified to the species level. If locomotive and/or electric rails are discovered during construction and fall within a recommended period of significance, and cannot be preserved in place, they will be immediately documented using standard documentation. All materials that cannot be preserved in place will be offered to the Pacific Southwest Railway Museum for preservation. If preservation is not feasible, the monitor will photograph, map and document the location of the resource and summarize the results in a Department of Parks and Recreation (DPR 523) form that will be submitted to the South Coastal Information Center (SCIC). A monitoring results report—which includes appropriate graphics and describes the results, analyses, and conclusions of the monitoring program—will be prepared and submitted to SDG&E's Cultural Resource Specialist and Environmental Project Manager following completion of the program. Any cultural sites or features encountered will be recorded on appropriate Department of Parks and Recreation forms. All forms and reports will be submitted to the SCIC at San Diego State University and to the City of San Diego Development Services Department.

APM CUL-02 A paleontological monitor will be on site to observe excavation operations that involve the original cutting of deposits with high paleontological resource sensitivity (i.e., Bay Point Formation) to depths greater than 3.5 feet. In the event that fossils are encountered, the paleontological monitor will have the authority to divert or temporarily halt construction activities in the area of discovery to allow the recovery of fossil remains. The paleontological monitor will contact San Diego Gas & Electric's (SDG&E's) Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. When fossils are discovered, a paleontologist (or the paleontological monitor) will recover them, along with pertinent stratigraphic data. Fossil remains collected during monitoring and salvage would be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final summary report will be completed that outlines the results of the mitigation program. The report will discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

Cultural Resources Impacts

a. Would the project cause a substantial adverse change in the significance of an historical resource as defined in §15064.5 [§15064.5 generally defines **historical resource** ***under CEQA]?***

LESS THAN SIGNIFICANT. The Santa Fe Railroad (now known as the BNSF Railway) intersects the Proposed Project area. However, as the Proposed Project includes boring under the railroad line, such that no impacts are anticipated to the historic resource. Although a cultural resources records and literature search conducted at the SCIC identified no other historical resources within the Proposed Project area, due to the previous residential and commercial use of the area, there is a likelihood of uncovering buried historical resources during grading and trenching activities associated with the Proposed Project. No visual impacts to historical resources were identified for the Proposed Project. SDG&E has committed to APM CUL-01, in which an archaeological monitor would be present during ground-disturbing activities associated with the Proposed Project. APM CUL-01 ensures that impacts are reduced to a less-than-significant level.

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

LESS THAN SIGNIFICANT. As mentioned above, one cultural resource has been previously identified within the Proposed Project area. This resource has not been formally evaluated for CRHR eligibility.

Although no other known archaeological sites are present within the Proposed Project area, historical research indicates that the remains of the San Diego Electric Railway line may be encountered during ground disturbing activities associated with Proposed Project construction. In addition, unknown and potentially significant buried resources could be inadvertently unearthed during ground-disturbing activities associated with construction. Destruction of potentially significant archaeological resources would be a significant impact. APM CUL-01 would ensure that any previously unrecorded or unknown archaeological resource discovered during the course of construction would be subsequently avoided or provided proper treatment. Impacts would be less than significant.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. According to the SDNHM (2013) paleontological records search, published geologic maps indicate the Proposed Project area is immediately underlain by the Middle to Late Pleistocene Bay Point Formation (SDG&E, 2014). This formation has proven to yield significant paleontological resources within the Project vicinity and throughout San Diego County. As a result, the geologic unit has been determined to have a high paleontological sensitivity with high potential for buried fossil resources in the Proposed Project area. The Bay Point Formation is underlain by the Early to Middle Pleistocene Lindavista Formation and the Pliocene San Diego Formation; these formations have been determined to have moderate to high potential for buried paleontological resources, respectively (SDG&E, 2014).

Geotechnical investigations in the Proposed Project area indicate that the Bay Point Formation is shallowly buried by artificial fill and portions of the geologic unit have been disturbed due to prior road-building, paving, and construction activities. As a result, shallow excavations in the Proposed Project area are likely to occur within previously disturbed sediments; however, deeper project-related excavations would occur within the native sediments of the Bay Point Formation (SDG&E, 2014). Previously undisturbed Pleistocene to Pliocene age sediments within the Proposed Project area may contain buried vertebrate fossil resources, which may be at risk of being adversely impacted by ground-disturbing activities during construction. With implementation of APM CUL-02 and Mitigation Measures C-1 (*Paleontological Resource Mitigation Plan*), C-2 (*Train Construction Personnel*), and C-3 (*Monitor Construction for Paleontological Resources*), adverse impacts to paleontological resources would be reduced to a less-than-significant level.

Mitigation Measure(s)

C-1 **Paleontological Resource Mitigation Plan**. A Paleontological Resource Mitigation Plan (PRMP) shall be prepared by a Qualified Paleontologist in accordance with Society of Vertebrate Paleontology Guidelines (2010). The PRMP shall identify construction impact areas with the potential of encountering significant resources and the approximate depths at which those resources are likely to be encountered. The PRMP shall outline a coordination strategy to ensure that one or more qualified paleontological monitors will conduct full-time monitoring of all ground disturbance in sediments determined to have a high to moderate sensitivity (i.e., the Bay Point Formation, and the underlying Lindavista and San Diego Formations, if encountered). The PRMP shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The PRMP shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at an accredited repository, data analysis, and reporting. The PRMP shall be submitted to the California Public Utilities Commission for review and approval at least 30 days before the start of construction.

C-2 **Train Construction Personnel.** Prior to the start of construction, all field personnel shall receive a worker's environmental awareness training module on paleontological resources. The training shall provide a description of the fossil resources that may be encountered in the Project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Qualified Paleontologist and onsite monitor(s). The training shall be developed by the Qualified Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.). The training may also be videotaped or presented in an informational brochure for future use by field personnel not present at the start of the Project.

C-3 **Monitor Construction for Paleontological Resources.** Consistent with Mitigation Measure C-1 (*Paleontological Resource Mitigation Plan*), full-time construction monitoring shall be conducted by the qualified paleontological monitor(s) within previously undisturbed sediments in areas determined to have high to moderate sensitivity (i.e., the Bay Point Formation, and the underlying Lindavista and San Diego Formations, if encountered). Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. The monitor may also screen sediments to check for the presence of microvertebrates, if they are believed to be present. In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance, and collected.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. No human remains are known to be located within the Proposed Project area. However, there is always the possibility that unmarked burials may be unearthed during construction. In the unlikely event of an accidental discovery of any human remains, Mitigation Measure C-4 (*Treatment of Human Remains*) would be implemented and work within the immediate area of the discovery shall be halted and directed away from the discovery. Health and Safety Code Section 7050.5, CEQA Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the unlikely event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Mitigation Measure C-4 would reduce this impact to a less-than-significant level.

Mitigation Measure(s)

C-4 **Treatment of Human Remains.** If human remains are unearthed during construction activities, construction work in the immediate area of the discovery shall be halted and directed away from the discovery until the county coroner can determine whether the remains are those of a Native American. If they are those of a Native American, the following would apply:

a. The coroner shall contact the Native American Heritage Commission.

b. If discovered human remains are determined to be Native American remains, and are released by the coroner, these remains shall be left in situ and covered by fabric or other temporary barriers.

c. The human remains shall be protected until San Diego Gas & Electric and the Most Likely Descendant, as designated by the Native American Heritage Commission, come to a decision on the final disposition of the remains.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

e. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074?

NO IMPACT. No tribal cultural resources have been identified within the Proposed Project area. Therefore, the Proposed Project would not impact tribal cultural resources.

B.3.6 Geology and Soils

GEOLOGY AND SOILS Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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.	☐	☐	☒	☐
ii) Strong seismic groundshaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.6.1 Setting

This section describes geology, soils, and seismic conditions and analyzes environmental impacts related to geologic and seismic hazards that are expected to result from the implementation of the Proposed Project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction and operation. In addition, existing laws and regulations relevant to geologic and seismic hazards are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the Project.

Baseline geologic, seismic, and soils information were collected from published and unpublished literature, GIS data, and online sources for the Proposed Project and the surrounding area. Data sources included the following: the PEA, geologic literature from the U.S. Geological Survey and California Geological Survey, and online reference materials. The study area was defined as the locations of Proposed Project components and the areas San Diego immediately adjacent to the Proposed Project for most geologic and soils issue areas with the following exception: the study area related to seismically induced ground shaking includes significant regional active and potentially active faults within 50 miles of the Proposed Project.

Regional Geology

The Proposed Project area is located along the western edge of the Peninsular Ranges geomorphic province of Southern California. The Peninsular Range geomorphic province is approximately 900 miles long extending from the Transverse Ranges and the Los Angeles Basin southward to the southern tip of Baja California, and varies in width from approximately 30 to 100 miles (Norris & Webb, 1976). In the project area the Peninsular Ranges region can be divided into two geomorphic zones: mountains of the Peninsular Ranges to the east and the Coastal Plain to the west. The Proposed Project is located within the Coastal Plain area. The Coastal Plain area consists of a "layer cake" sequence of Tertiary to late Cretaceous marine and non-marine sedimentary rock units forming mesa and terraces primarily overlying Mesozoic granitic rocks. The terraces and mesas along the Coastal Plain were formed by fluctuations in relative elevations of the land and sea (uplift and sea level changes), which has resulted in the presence of ancient marine rocks preserved in locations of up to 900 feet above MSL and ancient river deposits in areas of as much as 1,200 feet above MSL. The "layer cake" of sedimentary rocks in the Coastal Plain area has been broken up into a number of distinct fault blocks in the southwestern part of the county by the La Nacion and Rose Canyon fault zones.

Local Geology

The Proposed Project is underlain by four geologic units: artificial fill, colluvium, Old Paralic Deposits, and San Diego Formation. These units are summarized below:

- Artificial Fill – Undocumented artificial fill has been noted in previous geotechnical studies at the Vine Substation site at depths of 0 to 5 feet across most of the site, with a maximum depth of 12.25 feet near the central portion of the site (Geosyntec, 2013). The fill was noted to be deepest near areas of prior development at the site. The artificial fill encountered consisted primarily of loose to medium dense silty fine sand to fine sandy silt with local gravel and metal and concrete debris were noted. Thin layers of artificial fill and road base are expected to be encountered beneath the roadways where the distribution conduits are being installed.
- Colluvium – Quaternary aged colluvial deposits were encountered underlying the artificial fill at the Vine Substation site in most of the borings conducted at depths of 3.5 to 11.5 feet. The colluvium was variable and consisted of silty fine sand to silt and silty clay. Colluvium may also be encountered near the surface and/or under thin fill in the excavations for the distribution conduit. Colluvium was not encountered in the geotechnical boring conducted for the new wood poles for the 69kV loop-in (GEOCON, 2015).
- Old Paralic Deposits – Old Paralic Deposits (Unit 6), formerly described and mapped as Bay Point Formation, were encountered beneath the colluvium and artificial fill at the Vine Substation site and is mapped as underlying most of the distribution alignment. It consists of late to middle Pleistocene interfingered strandline, beach, estuarine, and colluvial deposits resting on the Nestor terrace (USGS, 2008). In the Project area, the old Paralic deposits consists primarily of reddish-brown, poorly sorted, moderately permeable, siltstone, sandstone, and conglomerate.
- San Diego Formation – Plio-Pleistocene San Diego Formation underlies the portion of the distribution alignment that traverses along W Redwood Street and Columbia Street to W Maple Street (approximately 775 feet). San Diego Formation is typically fossiliferous sandstone and transitional marine to non-marine pebble and coble conglomerate.

Groundwater has been inferred to be at depths of 24 to 25 feet in 2013 at the Vine Substation site and was noted at a depth of 19.5 feet at the new pole locations for the 69kV loop-in (Geosyntec, 2013;

Geocon, 2015). Groundwater depths beneath the substation site were noted to slope to the southwest, following the general layering of the underlying geologic units.

Soils

Soils within the Proposed Project area reflect the underlying rock type, the extent of weathering of the rock, the degree of slope, and the degree of human modification. The Proposed Project is located in a developed urban and industrial city area that is primarily covered by concrete and asphalt. The NRCS Web Soil Survey was reviewed to identify soil units and characteristics underlying the Proposed Project (NRCS, 2015). The Proposed Project components are entirely underlain by soils that are classified as Urban Land (NRCS, 2015). Urban land is described by the NRCS as a miscellaneous area that has little or no natural soil.

Potential soil erosion hazards vary depending on the use, conditions, and textures of the soils. The properties of soil which influence erosion by rainfall and runoff are ones that affect the infiltration capacity of a soil, and those which affect the resistance of a soil to detachment and being carried away by falling or flowing water. Additionally, soils on steeper slopes would be more susceptible to erosion due to the effects of increased surface flow (runoff) on slopes where there is little time for water to infiltrate before runoff occurs. Soils containing high percentages of fine sands and silt and that are low in density, are generally the most erodible. As the clay and organic matter content of these soils increases, the potential for erosion decreases. Clays act as a binder to soil particles, thus reducing the potential for erosion. Geologic material underlying the Proposed Project are variable in texture and contain various amounts of sand, silt, and clay. Units with higher percentages of sand may be subject to wind and water erosion.

Expansive soils are characterized by their ability to undergo significant volume change (shrink and swell) due to variation in soil moisture content. Changes in soil moisture could result from a number of factors, including rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soils are typically very fine grained with a high to very high percentage of clay. Soils with moderate to high shrink-swell potential would be classified as expansive soils. Soil sampling and testing as part of the geotechnical investigation for the Vine Substation site indicated that the near surface soils have a low to medium potential for expansion (Geosyntec, 2013).

Slope Stability

Important factors that affect the slope stability of an area include the steepness of the slope, the relative strength of the underlying rock material, and the thickness and cohesion of the overlying colluvium and alluvium. The steeper the slope and/or the less strong the rock, the more likely the area is susceptible to landslides. The steeper the slope and the thicker the colluvium, the more likely the area is susceptible to debris flows. Another indication of unstable slopes is the presence of old or recent landslides or debris flows. No landslides or landslide deposits are mapped along the distribution circuit/ fiber optic telecommunication cable alignments (CGS, 1975; USGS, 2008).

The Proposed Project is located on and within crossing coastal terraces. The majority of the Proposed Project is located along existing graded roads and a graded lot on flat to gently sloping terrace surfaces. Several small portions of the new distribution conduit traverse east-west across the moderately sloping transition between the two terraces; within the graded and paved roadways of Vine Street, W. Redwood Street, and W Palm Street.

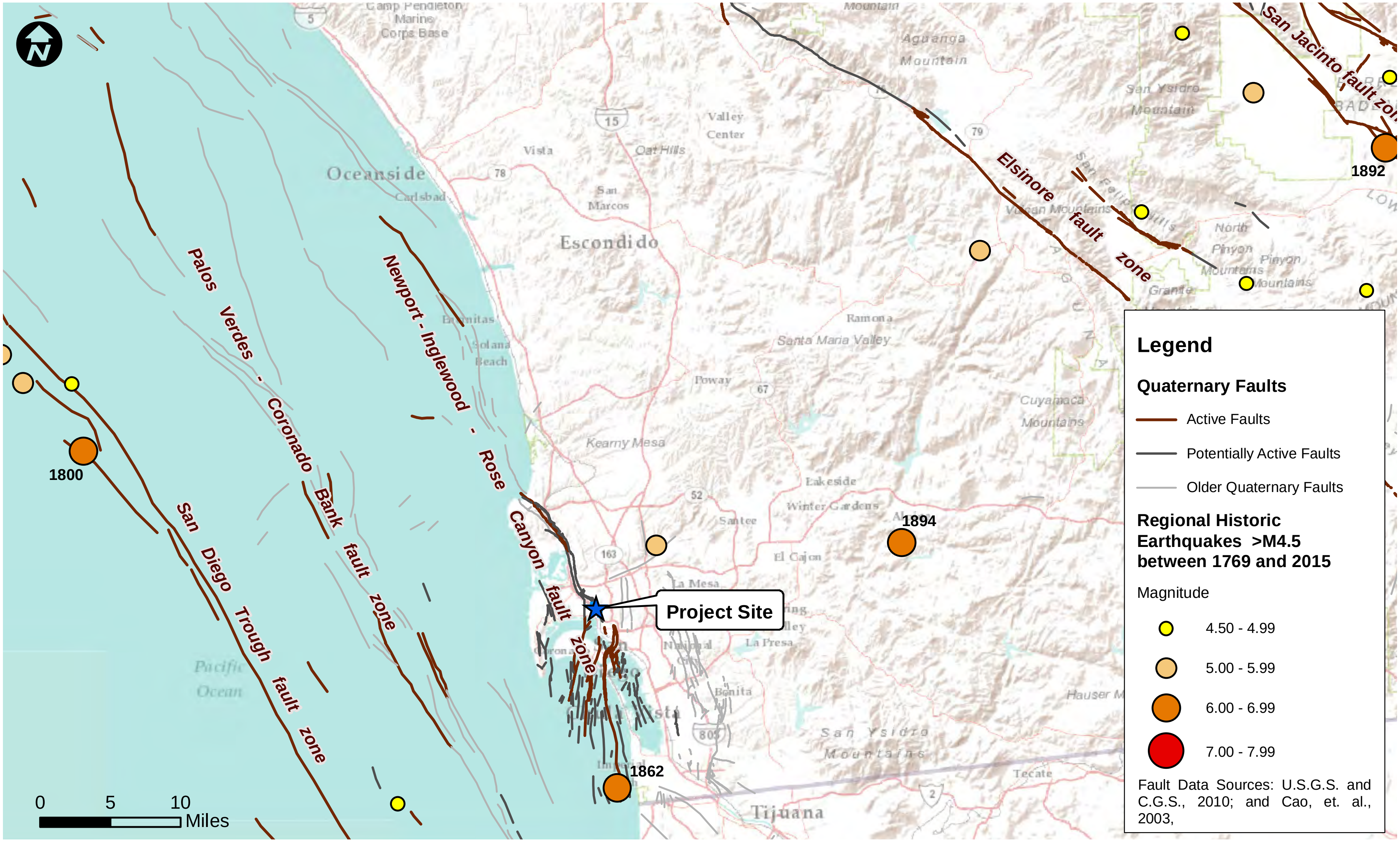
The City of San Diego Seismic Safety Study Map (San Diego, 2008) maps the Project area as within two Hazard Categories: 52 - Other Level Areas – gently sloping to step terrain, favorable geologic Structure, low risk; and 53 - Level or Sloping Terrain – unfavorable geologic structure, low to moderate risk. Only the portion of the Project west of I-5 and north of Sassafras Street is the area located within the area mapped as Category 52, however most of this area is flat to gently sloping.

Seismicity

The seismicity of the Project area is dominated by the north-northwest trending onshore and offshore Continental Borderland faults and the San Andreas Fault zone system and. Both systems are responding to strain produced by the relative motions of the Pacific and North American Tectonic Plates. Deformation and effects from this seismic strain and faulting in the San Diego area includes mountain building; basin development; deformation of Quaternary marine terraces; widespread regional uplift; and generation of earthquakes. The San Diego coast and surrounding offshore and inland areas contain faults of varying ages and activity. These faults can be classified as historically active, active, potentially active, or inactive, based on the following criteria (CGS, 1999):

- Faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) and faults that exhibit aseismic fault creep are defined as Historically Active.
- Faults that show geologic evidence of movement within Holocene time (approximately the last 11,000 years) are defined as Active.
- Faults that show geologic evidence of movement during the Quaternary (approximately the last 1.6 million years) are defined as Potentially Active.
- Faults that show direct geologic evidence of inactivity during all of Quaternary time or longer are classified as Inactive.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, this classification is based on the assumption that if a fault has moved during the Holocene epoch, it is likely to produce earthquakes in the future. Since periodic earthquakes accompanied by surface displacement can be expected to continue in the study area through the lifetime of the Proposed Project, the effects of strong ground shaking and fault rupture are of primary concern to safe operation of the Proposed Project components. The Project area will be subject to ground shaking associated with earthquakes on both on- and offshore faults. Active faults of both the Continental Borderland offshore system and of the San Andreas fault system are predominantly strike-slip faults accommodating translational movement, however some of the faults also have some dip-slip components. Figure B.3.6-1 (Regional Active Faults and Historic Earthquakes) shows locations of active and potentially active faults (representing possible seismic sources) and earthquakes greater than magnitude 5.0 in the region surrounding the Proposed Project. Active and potentially active faults within 50 miles of the Project alignments that are significant potential seismic sources relative to the Proposed Project are presented in Table B.3.6-1.



Source: Geotechnical Consultants, Inc., 2015

Figure B.3.6-1
Regional Active Faults and Historic Earthquakes

Table B.3.6-1. Significant Active and Potentially Active Faults within 50 miles of the Proposed Project			
Fault Name	**Distance[a] (miles)**	**Closest Project Component(s)**	**Estimated Maximum Magnitude[b,c]**
Rose Canyon-Newport-Inglewood fault zone (rupture of Rose Canyon alone or with Newport-Inglewood)	0	Potentially active trace of the San Diego section of the Rose Canyon fault crosses proposed new conduit along India Street between W Upas and Sassafras Streets and runs subparallel to and crosses existing and new conduit along Kettner Boulevard between W Redwood and W Laurel Streets	6.9-7.5
Palos Verde - Coronado Bank fault zone (rupture of Coronado Bank alone or with the Palos Verde)	11.7	Coronado Bank fault is located offshore to the west of the Proposed Project, fault it subparallel to the project so all components approximately the same distance from the fault zone	7.4-7.7
San Diego Trough fault zone	23.8	Located offshore to the west of the Proposed Project, fault it subparallel to the project so all components approximately the same distance from the fault zone	6.1-7.7[d]
Newport-Inglewood Offshore	32.2	Offshore segment located north of the Proposed Project, closest project component is the Vine Substation	7.0
Elsinore fault zone (various rupture combinations of the Whittier, Glen Ivy, Julian, Temecula, and Coyote Mountain Segments)	41.4	Closest point along the Elsinore fault zone is located east of the Proposed Project and the closest project component is the distribution conduit on the east side of the I-5.	7.1-7.8

Notes:
(a) Fault distances measured from USGS GIS Quaternary fault data (USGS and CGS, 2010).
(b) Maximum Earthquake Magnitude – the maximum earthquake that appears capable of occurring under the presently known tectonic framework, magnitude listed is "Ellsworth-B" magnitude from USGS OF08-1128 (Documentation for the 2008 Update of the United States National Seismic Hazard Maps) unless otherwise noted.
(c) Range of Magnitude represents varying potential rupture scenarios with single or multiple segments rupturing in various combinations.
(d) Maximum potential magnitude is not well defined, potential range from San Diego County Office of Emergency Services (San Diego County, 2015).

Fault Rupture. Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. Fault rupture and displacement almost always follows preexisting faults, which are zones of weakness, however not all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture). Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. In addition to damage cause by ground shaking from an earthquake, fault rupture is damaging to buildings and other structures due to the differential displacement and deformation of the ground surface that occurs from the fault offset leading to damage or collapse of structures across this zone.

No mapped active or Alquist-Priolo zoned faults cross the Proposed Project (CGS, 2003) nor is it located in the City of San Diego designated Downtown Special Fault Zone. However, the Proposed Project is located within the Rose Canyon Fault Zone (RCFZ) and is located near and crosses a mapped potentially active (late Quaternary) strand of the RCFZ. A strand of the potentially active San Diego section of the RCFZ crosses the distribution alignment several times, along India Street and Kettner Boulevard as noted above in Table B.3.6-1.

The proposed Vine Substation site is located approximately 500 feet west of and approximately 3,000 feet east of potentially active strands of the RCFZ, with the nearest mapped active strand located approximately 5,100 feet southwest of the substation site and trending approximately toward the site

(USGS and CGS, 2010). The faulting evaluation conducted as part of the geotechnical investigation for the Vine Substation did not find any evidence of offset or surface anomalies which would indicate the presence of the fault crossing the Vine Substation site (Geosyntec, 2013). Geosyntec concluded that the potential for surface rupture at the site was low.

Ground Shaking. An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale. Recently, seismologists have begun using a Moment Magnitude (M) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M 7.0, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than M 7.0, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude. San Diego is located in an area of sparse seismicity and has not experienced many large or significant earthquakes, the closest earthquake of magnitude 6.0 or greater near to the Proposed Project was a M6.2 earthquake in 1862 approximately 12 miles south of the Project on the trend of the Rose Canyon fault zone. Figure B.3.6-1 (Regional Active Faults and Historic Earthquakes) depicts this and other historic earthquakes within the project vicinity.

The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between the Project area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the Project area. Earthquakes occurring on faults closest to the Project area would most likely generate the largest ground motion. The intensity of earthquake induced ground motions can be described using peak site accelerations, represented as a fraction of the acceleration of gravity (g). The USGS National Seismic Hazard (NSH) Maps were used to estimate approximate peak ground accelerations (PGAs) in the Proposed Project area. The NSH Maps depict peak ground accelerations with a 2 percent probability of exceedance in 50 years which corresponds to a return interval of 2,475 years for a maximum considered earthquake. The estimated approximate peak ground acceleration from large earthquakes for the Proposed Project ranges from approximately 0.5g to 0.6g for earthquake recurrence interval 2,475 years (USGS, 2015), which corresponds to minor to moderate ground shaking.

Liquefaction. Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong groundshaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. In order to determine liquefaction susceptibility of a region, three major factors must be analyzed. These include: (a) the density and textural characteristics of the alluvial sediments; (b) the intensity and duration of groundshaking; and (c) the depth to groundwater. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects (Youd and Perkins, 1978). In addition, densification of the soil resulting in vertical settlement of the ground can also occur.

The geotechnical investigation by Geosyntec for the substation site included a liquefaction analyses that concluded that there are some potentially liquefiable layers within the old Paralic deposits and that liquefaction at the site would likely be manifested as minor local ground subsidence, settlement, and reduction of shear strength at depth. However, due to the thin and discontinuous nature of these potentially liquefiable layers, there is low potential for lateral spreading and the magnitude of liquefaction related settlement would be small (1 to 2 inches). Geosyntec included foundation recommendations to avoid the potential for differential settlement. Liquefaction potential is considered to be low at the new 69kV pole location due to the dense/cohesive nature of the units noted below the water level (GEOCON, 2015).

Seismic Slope Instability. The other form of seismically-induced ground failure which may affect the Project area includes seismically-induced landslides. Landslides triggered by earthquakes have been a significant cause of earthquake damage; in southern California large earthquakes such as the 1971 San Fernando and 1994 Northridge earthquakes triggered landslides that were responsible for destroying or damaging numerous structures, blocking major transportation corridors, and damaging life-line infrastructure. Areas that are most susceptible to earthquake-induced landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. As noted above in the Slope Stability section, the Proposed Project is located on and within previously graded and paved roadways and a previously graded, gently sloping lot, and the Proposed Project components would not be susceptible to seismically induced slope instability during construction or operation.

Applicable Regulations

Federal

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the Waters of the U.S. The Act authorized the Public Health Service to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters with the goal of improvements to and conservation of waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. The Proposed Project construction would disturb a surface area greater than one acre; therefore, SDG&E would be required to obtain under Clean Water Act regulations a National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity. Compliance with the NPDES would require that the applicant prepare and submit a Storm Water Pollution Prevention Plan (SWPPP).

The International Building Code (IBC) is published by the International Code Council (ICC), the scope of this code covers major aspects of construction and design of structures and buildings, except for three-story one- and two-family dwellings and town homes. The International Building Code has replaced the Uniform Building Code as the basis for the California Building Code and contains provisions for structural engineering design. The 2015 IBC addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire- and life-safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

The Institute of Electrical and Electronics Engineers (IEEE) 693 "Recommended Practices for Seismic Design of Substations" was developed by the Substations Committee of the IEEE Power Engineering Society, and approved by the American National Standards Institute and the IEEE-SA Standards Board. This document provides seismic design recommendations for substations and equipment consisting of seismic criteria, qualification methods and levels, structural capacities, performance requirements for equipment operation, installation methods, and documentation. This recommended practice emphasizes the qualification of electrical equipment. IEEE 693 is intended to establish standard methods of providing and validating the seismic withstand capability of electrical substation equipment. It provides detailed test and analysis methods for each type of major equipment or component found in electrical substations. This recommended practice is intended to assist the substation user or operator in providing substation equipment that will have a high probability of withstanding seismic events to predefined ground acceleration levels. It establishes standard methods of verifying seismic withstand capability, which gives the substation designer the ability to select equipment from various manufacturers, knowing that the seismic withstand rating of each manufacturer's equipment is an equivalent measure. Although most damaging seismic activity occurs in limited areas, many additional areas could experience an earthquake with forces capable of causing great damage. This recommended practice should be used in all areas that may experience earthquakes

State

The California Building Code, Title 24, Part 2 (CBC, 2013) provides building codes and standards for design and construction of structures in California. The 2013 CBC is based on the 2012 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC, contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

The Alquist-Priolo Earthquake Fault Zoning Act of 1972, Public Resources Code (PRC), sections 2621–2630 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. While this act does not specifically regulate transmission and telecommunication lines; it does help define areas where fault rupture is most likely to occur. This Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether building setbacks should be established.

The Seismic Hazards Mapping Act (the Act) of 1990 (Public Resources Code, Chapter7.8, Division 2, sections 2690–2699.) directs the California Department of Conservation, Division of Mines and Geology [now called California Geological Survey (CGS)] to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

California Public Utilities General Order 95 (GO95) and General Order 128 (GO128) contain State of California rules formulated to provide uniform requirements for overhead electrical line construction and underground electrical supply and communication systems, respectively, to insure adequate service and secure safety to persons engaged in the construction, maintenance, operation or use of overhead electrical lines and underground electrical supply and communication systems and to the public. GO95 and GO 128 are not intended as complete construction specifications, but to embody requirements which are most important from the standpoint of safety and service. Construction shall be according to accepted good practice for the given local conditions in all particulars not specified in the rules. GO95 applies to all overhead electrical supply and communication facilities which come within the jurisdiction of the California Public Utilities Commission, located outside of buildings, including facilities that belong to non-electric utilities, as follows: Construction and Reconstruction of Lines, Maintenance of Lines, Lines Constructed Prior to This Order, Reconstruction or Alteration, Emergency Installation, and Third Party Nonconformance. GO128 applies to (a) all underground electrical supply systems used in connection with public utility service; when located in buildings, the vaults, conduit, pull boxes or other enclosures for such systems shall also meet the requirements of any statutes, regulations or local ordinances applicable to such enclosures in buildings; and (b) all underground communication systems used in connection with public utility service located outside of buildings. GO128 applies to the following activities related to underground electrical supply and communication systems: Construction and Reconstruction of Lines, Maintenance, Systems Constructed Prior to These Rules, Reconstruction or Alteration, and Third Party Nonconformance.

Local

City of San Diego General Plan. The Public Facilities, Services and Safety (Public Facilities) Element addresses facilities and services that are publicly managed, and have a direct influence on the location of land uses and includes Disaster Preparedness, and Seismic Safety. It includes goals, policies, and guidelines and standards to reduce the potential effects of known seismic and other geologic hazards.

B.3.6.2 Environmental Impacts and Mitigation Measures

a. Would the project 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.

LESS THAN SIGNIFICANT. Although the Proposed Project is not located within a designated Alquist-Priolo Earthquake Fault Zone (CGS, 2003) or included in the City of San Diego designated Downtown Special Fault Zone, the Proposed Project is located within the Rose Canyon Fault Zone (RCFZ) and is located near and crosses a mapped potentially active (late Quaternary) strand of the Rose Canyon fault. The proposed Vine Substation site is located approximately 500 feet west of and approximately 3,000 feet east of potentially active strands of the RCFZ, with the nearest mapped active strand located approximately 5,100 feet southwest of the substation site and trending approximately toward the site (USGS and CGS, 2010). The preliminary geotechnical investigation conducted for the substation site (Geosyntec, 2013) included a faulting evaluation of the site to identify subsurface anomalies that may represent fault offsets. The investigation did not reveal any evidence of faulting across the site. Therefore, there is a less-than-significant potential for surface fault rupture to expose people or structures to substantial adverse effects at the substation site.

The proposed new 12-kV duct banks along India Street and Kettner Boulevard both cross a mapped potentially active strand of the RCFZ. The duct bank along India Street crosses the strand approximately 260 feet northwest of Sassafras Street and the duct bank along Kettner Boulevard runs subparallel to the duct bank between Kettner Substation and the I-5 southbound onramp, crossing new duck banks several times between approximately 300 feet northwest of Kettner Substation and West Palm Street. However, this segment of the RCFZ is only mapped as potentially active and is not well located due to urbanization of the area. While there is a chance for damage to the duct banks in the unlikely event of fault rupture along this segment of the RCFZ, due to the underground nature of the duct banks it is unlikely that fault rupture along them would cause substantial adverse effects such and injury or loss of life. Impacts would be less than significant.

ii) Strong seismic ground shaking?

LESS THAN SIGNIFICANT. Although the Proposed Project is located in an area of southern California with sparse seismicity, there are several onshore and offshore regional and local faults that could cause moderate ground shaking in the Project area. These faults and their distances from the Proposed Project are: the Rose Canyon fault zone, 0 miles; the Coronado Bank fault zone (offshore), 12.5 miles west; the Newport-Inglewood fault zone (offshore section), 32.2 miles north; and the Elsinore fault zone, 41.4 miles northeast (USGS, 2015). Estimated peak ground acceleration (PGA) for a large earthquake is approximately 0.6 g (fraction of gravity) for a two percent in 50 year probability of exceedance for the Project area (CGS, 2015), which corresponds to moderate ground shaking. However, the Vine Substation would be designed based on site-specific seismic criteria based on the current California Building Code and on guidelines presented in IEEE 693 (Recommended Practices for Seismic Design of Substations) and the underground distribution and telecommunications lines would be designed based on CPUC G.O. 128 for underground electrical supply and communication systems. Compliance with these regulations and guidelines would reduce the potential for adverse effects (damage to Project components and/or injury or death) due to strong ground shaking to a less-than-significant level.

iii) Seismic-related ground failure, including liquefaction?

LESS THAN SIGNIFICANT. Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments, and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. The preliminary geotechnical investigation (Geosyntec, 2013) revealed that groundwater under the proposed Vine Substation site is approximately 24 feet below ground surface (bgs) and that potentially liquefiable thin and non-continuous layers exist between 20 to 60 feet bgs. The liquefaction analysis conducted by Geosyntec concluded that liquefaction-related settlements of a maximum of 21.3 inches and an average of one inch could occur at the site, and that lateral spreading would be unlikely due to topography and characteristics of the underlying geologic units. Geosyntec recommended that appropriate foundation design would be adequate to mitigate this small amount of settlement. The geotechnical investigation for the new 69kV poles concluded no liquefaction potential at the pole site due to the density of the geologic materials below the water line (Geocon, 2015). As part of the Project design, SDG&E will consider the results and recommendations of the Project-specific geotechnical investigations (SDG&E, 2014). Additionally, the substation would be designed based on guidelines presented in IEEE 693 (Recommended Practices for Seismic Design of Substations). Implementation of recommended geotechnical design elements and IEEE 693 design guidelines would reduce potential impacts from liquefaction to a less-than-significant level.

Damage and hazards related to seismically induced landslides is generally confined to areas at, above, and below hillside and mountainous areas. While the Project area generally slopes up to the east along a marine terrace, the Project components are located within established roads and on previously graded primarily gently sloping to flat parcels. The three new sections of conduit that will be installed on moderate slopes on Vine, W. Redwood, and W. Palm Streets would be constructed in existing stable roadways. As such, there would be no potential for seismically induced slope failures or landslides.

iv) Landslides?

NO IMPACT. As discussed above, while the Project area generally slopes up to the east along a marine terrace, the Proposed Project components are located within established roads and are predominantly on previously graded gently sloping to flat parcels. The few sections that cross moderately sloping areas along Vine, W. Redwood, and W. Palm Streets are also in developed, stable roadways. As such, there would be no potential for slope failures or landslides during project construction or operation.

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

LESS THAN SIGNIFICANT. The Proposed Project site and alignment are currently covered by impervious materials such as asphalt and concrete and are not subject to erosion; however, excavation and grading for the Proposed Project would remove this protection and would expose and loosen soils. This could result in triggering or acceleration of soil erosion due to wind or rain. Since the Proposed Project would disturb an area greater than one acre, current regulations require that the Proposed Project obtain a National Pollution Discharge Elimination System (NPDES) Permit, which in turn requires the Applicant to submit a SWPPP. The SWPPP would require development and implementation of BMPs to identify and control erosion. Compliance with permit requirements, SWPPP BMPs, and SDG&E's Water Quality Construction BMP Manual would reduce the potential for construction triggered erosion. Impacts would be less than significant.

c. Would the project be located on geologic units 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. Potential impacts related to liquefaction, liquefaction-related phenomena, unstable slopes, and landslides are discussed in Section B.3.6(a)(iii and iv). Impacts would be less than significant.

d. Would the project 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?

LESS THAN SIGNIFICANT. The Project area is underlain by soils that are classified by the NRCS as Urban Land (NRCS, 2015). Urban land is described by the NRCS as a miscellaneous area that has little or no natural soil. Soils in the Project area are largely overlain by materials such as concrete or asphalt. Therefore, the expansion of the soils underlying most of the Project components is unknown; however, limited soil testing (plasticity and expansion index) at the proposed Vine Substation site during the preliminary geotechnical investigation (Geosyntec, 2013), indicate that soils underlying the substation site have low to medium potential for expansion. As noted by SDG&E, based on recommendations in the final geotechnical investigation and the final grading plans unsuitable soils at the substation site would be removed and engineered fill consisting of imported soil or a blend of imported and native soil that meets appropriate limited expansion characteristics and grain size guidelines would be used to bring the site back up to the planned grade (SDG&E, 2014 – Section 3.6.3). Trenches for the other Project components would be backfilled with engineered slurry backfill. Implementation of the final geotechnical recommendations regarding fill characteristics and placement and the use of engineered fill at the substation and within the trenches reduces potential impacts from expansive soils to a less-than-significant level.

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

NO IMPACT. The San Diego Department of Environmental Health (DEH) oversees the design, installation, and maintenance of septic systems (on-site wastewater treatment systems). Included in the DEH septic guidelines are soil condition requirements and restrictions. However, during Project construction portable toilets would be used and during project operation the site would not be manned and would not include restroom facilities. Therefore, no septic tanks or system would be needed for disposal of sanitary wastewater.

B.3.7 Greenhouse Gas Emissions

GREENHOUSE GAS EMISSIONS Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.7.1 Setting

Environmental Setting

While climate change has been a concern since at least 1998, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. Global climate change refers to the impacts that occur from the accumulation of GHGs in the atmosphere combined with other sources of atmospheric warming. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Without these natural GHGs, the Earth's surface would be approximately 61°F cooler (CalEPA, 2006); however, emissions from fossil fuel combustion for activities such as electricity production and vehicular transportation have elevated the concentration of GHGs in the atmosphere above natural levels. Scientific evidence indicates a trend of increasing global temperatures near the Earth's surface over the past century due to increased human-induced levels of GHGs. Worldwide over the past 132-year record, the ten warmest years have all occurred since 1998, with the two hottest years on record being 2010 and 2005 (NASA, 2013). According to "The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California," a California Energy Commission document, the American West is heating up faster than other regions of the United States (CEC, 2009). The California Climate Change Center (CCCC) reports that, by the end of this century, average global surface temperatures could rise by 4.7°F to 10.5°F due to increased GHG emissions (CCCC, 2006a).

According to the National Oceanic & Atmospheric Administration (NOAA), the atmospheric concentration of Carbon Dioxide (CO_2) measured at Mauna Loa, Hawaii in January 2015 was 399.96 parts per million (ppm) (NOAA, 2015) compared to the pre-industrial levels of 280 ppm +/- 20 ppm (IPCC, 2007a). NOAA's Mauna Loa data also show that the mean annual CO_2 concentration growth rate is accelerating, where in the 1960s it was about 0.9 ppm per year and in the first decade of the 2000s it was almost 2 ppm per year. The impact to climate change due to the increase in ambient concentrations of GHGs differ from criteria pollutants in that GHG emissions from a specific project do not cause direct adverse localized human health effects. Rather, the direct environmental effect of GHG emissions is the cumulative effect of an overall increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. The impacts of climate change include potential physical, economic and social effects. These effects could include: inundation of settled areas near the coast from rises in sea level associated with melting of land-based glacial ice sheets, exposure to more frequent and powerful climate events, changes in suitability of certain areas for agriculture, reduction in Artic sea ice, thawing permafrost, later freezing and earlier breakup of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, earlier spring events such as the flowering of trees, and a substantial reduction in winter snowpack (IPCC, 2007b).

Specifically, California could experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, it is predicted that California could witness the following events by the end of the century: (CCCC, 2006a)

- Temperature rises between 3 and 10.5°F,
- 6 to 30 inches or greater rise in sea level,
- 2 to 4 times as many heat-wave days in major urban centers,
- 2 to 6 times as many heat-related deaths in major urban centers,
- 1.5 to 2.5 times more critically dry years,
- 30 to 90 percent loss in Sierra snowpack,
- 25 to 85 percent increase in days conducive to ozone formation,
- 3 to 20 percent increase in electricity demand,
- 7 to 30 percent decrease in forest yields (pine), and
- 10 to 55 percent increase in the risk of wildfires.

Similar major changes to existing weather patterns and associated impacts could occur world-wide, but these climate changes will not always result in less rainfall or warmer temperatures. In some areas, rainfall would increase and average temperatures would drop. However, it is not specifically drought or increased temperatures that create the environmental, social, and economic impacts from climate change; rather, it is the significant change from existing weather patterns and conditions that causes these impacts.

Greenhouse Gas Emissions

GHGs are gases that trap heat in the atmosphere and are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include Carbon Dioxide (CO_2), Methane (CH_4), and Nitrous Oxide (N_2O). The State of California and the USEPA have identified six GHGs generated by human activity that are believed to be the primary contributors to man-made global warming: (1) CO_2, (2) CH_4, (3) N_2O, (4) hydrofluorocarbons (HFCs), (5) perfluorocarbons (PFCs), and (6) sulfur hexafluoride (SF_6).

- Carbon Dioxide: CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- Methane: CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices, and the decay of organic waste in municipal solid waste landfills.
- Nitrous Oxide: N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- Fluorinated Gases: HFCs, PFCs, and SF_6 are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochloro-fluorocarbons, and halons). These gases

are typically emitted in smaller quantities, but because they are potent climate-change gases, they are sometimes referred to as high "Global Warming Potential" (GWP) gases.

GHGs have varying amounts of GWP, where the GWP is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, CO_2 is assigned a GWP of 1. In comparison, SF_6 has a GWP of 22,800, which means that it has a global warming effect 22,800 times greater than CO_2 on an equal-mass basis (TCR, 2015). To account for their GWP, GHG emissions are often reported as CO_2 equivalent (CO_2e). The CO_2e for a source is calculated by multiplying each GHG emission by its GWP, and then adding the results together to produce a single, combined emission rate representing all GHGs.

GHG emissions in the United States and the State of California come mostly from energy use. Energy-related CO_2 emissions, resulting from fossil fuel exploration and use, account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO_2 emissions from burning fossil fuels. More than half the energy-related emissions within the United States come from large stationary sources, such as power plants; approximately a third comes from transportation; while agriculture and forestry and other land uses (residential and commercial) make up a majority of the remainder of sources (USEPA, 2014). The United States and State of California emissions of GHGs in 1990 and later years are summarized in Table B.3.7-1.

Table B.3.7-1. United States and California Greenhouse Gas Emissions (million metric tons CO_2e.)

Inventory Sector [a]	1990	2005	2008	2009	2010	2011	2012
United States Emissions [b]							
Electric Power Industry	1,866.1	2,445.7	2,401.8	2,187.0	2,302.5	2,200.9	2,064.9
Transportation	1,553.2	2,012.3	1,916.5	1,839.1	1,853.5	1,832.2	1,815.5
Industry	1,527.9	1,403.5	1,367.6	1,217.2	1,297.3	1,290.5	1,273.9
Agriculture	518.1	583.6	615.3	605.3	600.9	612.7	614.1
Commercial	385.3	370.4	379.2	381.9	376.6	378.4	353.2
Residential	345.4	371.3	365.4	357.9	359.9	353.9	322.0
U.S. Territories	33.7	58.2	49.8	47.9	58.0	57.9	57.9
United States Total	**6,229.6**	**7,244.9**	**7,095.5**	**6,636.3**	**6,848.6**	**6,726.6**	**6,501.5**
State of California Emissions [c]							
Electricity Generation	110.6	108.2	120.4	101.6	90.5	88.3	95.3
Transportation	150.7	192.0	181.3	174.9	174.0	171.7	171.0
Industry	103.7	101.5	97.5	95.2	99.3	99.7	100.7
Commercial	14.4	16.6	18.5	19.8	21.1	21.8	22.0
Residential	29.7	30.2	31.2	31.0	32.2	33.0	31.6
Agriculture & Forestry	16.9	36.5	38.0	35.8	37.7	36.3	37.8
Not Specified	1.3	0.2	0.2	0.2	0.2	0.2	0.2
California Total	**433.3**	**485.1**	**487.1**	**458.4**	**453.1**	**450.9**	**458.7**

Source: USEPA, 2014; CARB, 2007 (for California 1990); CARB, 2014a.
Notes:
(a) Sectors are as provided in each of the references used, with the in-state and out–of-state electricity generation values totaled.
(b) Does not include the emissions sinks presented in this reference.
(c) Emissions are the non-excluded emissions totals, not including emissions sinks, provided in the first two pages of the respective references rounded to the nearest tenth of a million metric ton.

For comparison with the emission data given in Table B.3.7-1, the estimated global emissions of CO_2e in 2010 are 50,911 million metric tons (EDGAR, 2015). This indicates that the United States, which has about 4.4 percent of the global population, emits roughly 13 percent of the total global GHG emissions.

The State of California, which has approximately 0.55 percent of the global population, emits just less than 0.9 percent of the total global GHG emissions, which is 80 percent lower per capita than the overall United States average.

A critical interpretation of the data provided in Table B.3.7-1, along with knowledge regarding other current events, regulatory actions, and population levels, provides for several potential conclusions regarding the California and United States GHG emission trends, such as:

- After peaking earlier in the first decade of this millennia, emissions from electricity generation are dropping, which is likely due to both the increased use of natural gas, reduced reliance on coal, and the increase in renewable power (e.g., solar, wind, etc.).
- Transportation emissions are dropping, likely primarily due to the impact of increased vehicle fuel efficiency standards.
- Commercial and agricultural emissions are increasing along with the increase in population.
- GHG emissions can fluctuate from year to year, where such fluctuations may be based on economic conditions, severe weather conditions, or other factors that relate to fuel consumption and consumer habits.
- California has a significantly lower per capita GHG emissions footprint than the United States average (about 45 percent lower based on 2010 emissions and population).

GHG emissions for the Proposed Project would include both direct and indirect emissions that occur as a result of Project actions. Direct emissions from construction activities include GHG emissions generated from construction equipment and vehicles. Direct emissions from operation activities include a small amount of GHG emissions generated from O&M activities and from leaks of SF_6 from the new substation electrical equipment.

Indirect GHG emissions sources can take many forms depending on the type of project. Some of these forms include increase or decrease in electricity or water use, loss of natural CO_2 uptake from developing formerly vegetated areas, material recycling, etc. For the Proposed Project, the indirect GHG emissions would be minor, as there is no anticipated electricity use for the Project and water use would primarily be in the form of the temporary use of water for fugitive dust control during construction. The purpose of the Project is to improve local grid reliability and efficiency, which should reduce electricity generation needs, and the Project would also reduce GHG emissions through the recycling of excavated asphalt and concrete.

Applicable Regulations

All levels of government have some responsibility for the protection of air quality, and each level (federal, State, and regional/local) has specific responsibilities relating to air quality regulation. The regulation of GHGs and climate change is a relatively new component of air quality. Several legislative actions have been adopted to regulate GHGs on a federal, State, and local level, as detailed in this section.

Federal

United States Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the federal CAA. In reaching its decision, the court also acknowledged that climate change results, in part, from anthropomorphic causes. The Supreme Court's ruling paved the way for the regulation of GHG emissions by the USEPA under the CAA. The Court held that the USEPA must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the USEPA is required to follow the language of Section 202(a) of the federal CAA. The Supreme Court decision resulted from a petition for rulemaking under section 202(a) filed by more than a dozen environmental, renewable energy, and other organizations.

On April 17, 2009, the Administrator signed proposed endangerment and cause or contribute findings for GHGs under Section 202(a) of the federal CAA. The USEPA held a 60-day public comment period, which ended June 23, 2009, and received over 380,000 public comments. These included both written comments as well as testimony at two public hearings in Arlington, Virginia, and Seattle, Washington. The USEPA carefully reviewed, considered, and incorporated public comments and has issued final Findings.

The USEPA found that the current and projected concentrations of the GHGs in the atmosphere threaten the public health and welfare of current and future generations. The USEPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare under CAA Section 202(a). These findings were based on careful consideration of the full weight of scientific evidence and a thorough review of numerous public comments received on the Proposed Findings published April 24, 2009. The findings became effective on January 14, 2010 (USEPA, 2009).

The USEPA has enacted a number of GHG regulations, and other environmental regulations that impact GHG emissions, including:

- Mandatory GHG Reporting,
- GHG Tailoring Rule for Prevention of Serious Deterioration Permits,
- Carbon Pollution Standards for Power Plants,
- Oil and Natural Gas Air Pollution Standards,
- GHG Vehicle Emissions Standards,
- Corporate Average Fuel Economy Standards,
- Renewables Fuel Standard, and
- Geologic Sequestration of Carbon Dioxide, under the Safe Drinking Water Act. (USEPA, 2015a; USEPA, 2015b)

None of these federal regulations are specifically relevant to the construction or operation of the Proposed Project; however, the vehicle and fuel-related standards would indirectly cause GHG emission reductions from the regulated vehicles used during construction and operation of the Proposed Project.

State

Climate change is a global phenomenon, and the regulatory background and scientific data are changing rapidly. In addition to the federal regulations and policies on climate change, several states, including California, are formally addressing climate change. As of 2013, California is one of 20 states that have set GHG emission targets (C2ES, 2013). Executive Order S-3-05 and Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, promulgated targets to achieve reductions in GHG to 1990 GHG levels by the year 2020. This target-setting approach allows progress to be made in addressing climate change, and is a forerunner to setting emission limits. The CARB is designated as the responsible State agency for traditional air quality regulations. In addition, AB 32 vested CARB with regulatory authority for GHGs.

There are a variety of statewide rules and regulations that have been implemented or are in development in California that mandate the quantification or reduction of GHGs, or plan for adaptation for expected climate change scenarios. The relevant State actions are discussed below.

<u>Executive Order S-3-05</u>

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger in June 2005. Executive Order S-3-05 establishes the following statewide emission reduction targets through the year 2050:

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

Executive Order S-3-05 also calls for the CalEPA to coordinate oversight in the efforts to meet these targets and to prepare biennial science reports on the potential impact of continued global climate change on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California", and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006 (CCCC, 2006a, CCCC, 2006b). The Climate Action Team has prepared subsequent Executive Order S-3-05 mandated reports in 2007/2008, 2009, and 2010.

This Executive Order does not include any specific requirements that directly pertain to the Proposed Project.

<u>Assembly Bill 32</u>

In response to Executive Order S-3-05 (June 2005), which declared California's particular vulnerability to climate change, the California Global Warming Solutions Act of 2006, AB 32, was signed into effect on September 27, 2006. In passing the bill, the California Legislature found that:

"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems." (California Health & Safety Code, Sec. 38500, Division 25.5, Part 1).

AB 32 was established to mandate the quantification and reduction of GHGs to 1990 levels by 2020, and is the first law to comprehensively limit GHG emissions at the State level. The law establishes periodic targets for reductions, and requires certain facilities to report emissions of GHGs annually. The bill also reserves the ability to reduce emissions targets lower than those proposed in certain sectors that contribute the most to emissions of GHGs, including transportation.

Additionally, the bill requires:

- GHG emission standards to be implemented by 2012; and
- CARB to develop an implementation program and adopt GHG control measures "to achieve the maximum technologically feasible and cost-effective GHG emission reductions from sources or categories of sources." CARB issued a draft Climate Change Scoping Plan (Scoping Plan) in December 2008.

The AB 32 Scoping Plan contains the main strategies California will use to reduce the GHGs that cause climate change. The Scoping Plan includes recommendations for reducing GHG emissions from most sectors of the California economy. The Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. These measures were introduced through four workshops between November 30, 2007 and April 17, 2008. A draft Scoping Plan was released for public review and comment on June 26, 2008, followed by more workshops in July and August 2008. The proposed Scoping Plan was released on October 15, 2008, and approved at the Board hearing on December 12, 2008.

The draft of the First Update to the Scoping Plan was published in February 2014, followed by its accompanying Environmental Analysis (CEQA Equivalent Document) published in March 2014 and approved in June 2014 (CARB, 2014b).

California Renewable Portfolio Standard Program

Senate Bill (SB) 1078 established California's Renewable Portfolio Standard (RPS) program in 2002. The RPS program requires electrical corporations and electric service providers to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. The bill requires the California Energy Commission to certify eligible renewable energy resources, to design and implement an accounting system to verify compliance with the RPS by retail sellers, and to allocate and award supplemental energy payments to cover above-market costs of renewable energy. Under SB 1078, each electrical corporation was required to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales were procured from eligible renewable energy resources.

In 2006, SB 107 accelerated the RPS program by establishing a deadline of December 31, 2010, for achieving the goal of having 20 percent of total electricity sold to retail customers in California per year generated from eligible renewable energy resources.

The RPS goal was increased to 33 percent when Governor Schwarzenegger signed Executive Order S-14-08 in November 2008. Executive Order S-14-08 was later superseded by Executive Order S-21-09 on September 15, 2009. Executive Order S-21-09 directed the California Air Resources Board (CARB) to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. On September 23, 2010, the CARB approved a Renewable Electricity Standard regulation.

The 33 percent RPS goal became law when SB X1-2 was signed into law by Governor Brown in April 2011. SB X1-2, which was codified into the California Public Resources Code (25740 through 25751) and Public Utilities Code (PUC 399.11 through 399.31), requires that all electricity retailers in the State meet a 33 percent RPS by the end of 2020, and also requires that they have met a 20 percent RPS by 2013, and will meet a 25 percent RPS by 2016.

Early in 2015, the Governor and Legislature started work to increase the RPS standard to 50 percent by the year 2030, but currently there is no official Executive Order or approved bill to enact this increase in the RPS into state law.

This law does not specifically apply to the Proposed Project, but the Proposed Project would increase grid reliability and efficiency that helps the integration of intermittent renewable energy resources that will enable electricity retailers to meet their RPS obligations required under this law.

<u>Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulating Gear</u>

This CARB regulation (17 CCR 95350) became effective on June 17, 2011. This regulation requires that owners of SF_6 containing gas insulating gear meet annual leakage rate limits, and requires that they measure, record, and report annual SF_6 emissions.

<u>California Senate Bill 97</u>

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs the Office of Planning and Research (OPR) to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The OPR published a technical advisory on CEQA and Climate Change on June 19, 2008 (OPR, 2008). The guidance did not include a suggested threshold, but stated that the OPR has asked the CARB to, "recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state." The OPR does recommend that CEQA analyses include the following components:

- Identify GHG Emissions,
- Determine Significance, and
- Mitigate Impacts.

On December 30, 2009, the California Natural Resources Agency adopted amendments to the CEQA Guidelines including GHG/Climate Change analysis guidelines. According to the California Natural Resources Agency, "due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis" (CNRA, 2009). Two GHG CEQA checklist items were included as part of the Guideline amendment; they are discussed further in Section B.3.7.2, below.

As discussed in State CEQA Guidelines Section 15064.4, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good-faith effort, to the extent possible, on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project.

A lead agency shall have discretion to determine, in the context of a particular project, whether to:

- Use a model or methodology to quantify GHG emissions resulting from a project, and determine which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

- Rely on a qualitative analysis or performance based standards.

Section 15064.4 also advises a lead agency to consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Office of the California Attorney General

The Office of the California Attorney General maintains a website with a list of resources that set forth potential CEQA mitigations for global climate change impacts (OAG, 2015). The Attorney General has listed reference documents that local agencies may consider to offset or reduce global climate change impacts from a project. These references are examples that are not intended to be exhaustive and provide measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General recommends that the lead agency use its own informed judgment in deciding which measures it would analyze, and which measures it would require for a given project.

The references, provided in the Attorney General's website, list energy efficiency measures that could be undertaken or funded by a diverse range of projects, including: renewable energy, water conservation and efficiency, solid waste measures, land use measures, transportation and motor vehicles, and carbon offsets (OPR, 2008; CAPCOA, 2009). However, most of the listed measures would not be applicable to the Proposed Project because they are more appropriate as measures to reduce long-term operational GHG emissions. However, these and other potential GHG emissions reduction measures listed by state agencies will be evaluated for applicability.

Local

Many local air pollution control agencies in California have proposed numerical or other GHG significance criteria. The SDAPCD, which has local regulatory authority over the air pollutant emissions, has not established a recommended CEQA-significant emissions level and currently has no GHG emissions regulations that are relevant to the Proposed Project. However, the City of San Diego has adopted a General Plan that includes climate change and sustainable development goals and policies. There are a total of three general goals and fourteen policies (City of San Diego, 2008) that include the reuse/recycling of building materials, reduction of construction waste, and use of green building techniques. Additionally, the City of San Diego has developed a draft Climate Action Plan (City of San Diego, 2015), and has developed draft significance thresholds for GHG Emissions (City of San Diego, 2013). These City of San Diego documents have been used to establish the significance criteria used to evaluate the Proposed Project's impacts.

B.3.7.2 Environmental Impacts and Mitigation Measures

The assessment of environmental impacts and determination of necessary mitigation measures has been completed independently based on an analysis of the Project Description provided in Section B.1 and environmental setting provided above, within consideration and review of the GHG emissions analysis and GHG emissions estimation information provided by SDG&E in their Proponent's

Environmental Assessment (PEA), Supplemental PEA, and responses to deficiencies (SDG&E, 2014; SDG&E, 2015a; SDG&E, 2015b).

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

LESS THAN SIGNIFICANT. The Proposed Project would generate GHG emissions through construction activities and operations and maintenance (O&M) activities. The period of construction would be short-term, and construction-phase GHG emissions would occur directly from the off-road heavy-duty equipment and the on-road motor vehicles needed to mobilize crew, equipment, and materials to prepare the construction sites, and to construct the substation and other Project elements. Operation emissions would be minimal, resulting from vehicle and equipment emissions required for maintenance activities.

The City of San Diego has four separate GHG emission significance criterion depending on project type. For this project, the Stationary Source Threshold of 10,000 metric tons per year (11,025 tons per year) has been selected as the appropriate threshold, as it is the threshold to use for industrial projects; and the amortized construction emissions have been included in the determination of the annual Project emissions. The estimated Project GHG emissions compared to the City of San Diego GHG emissions significance criterion are provided below in Table B.3.7-2.

Table B.3.7-2. Project Greenhouse Gas Emissions

Construction Emissions Source	**GHG Emissions (Metric Tons CO_2e)**
Total Construction	3,110.3
Construction Water Use (indirect)	N/A[a]
Construction Subtotal	**3,110.3**
Operation Emissions Source	
Motor Vehicles	5.0
SF_6 Equipment Leaks [b]	3.1
Operating Water Use [a]	N/A[a]
Operation Annual Subtotal	**8.1**
Amortized Annual Construction Emissions [c]	103.7
Total Direct/Indirect Annualized Emissions	**111.8**
City of San Diego Significance Threshold	10,000
Exceed Significance Threshold	No

Source: Appendix 3.

Notes:

(a) The amount of water used during construction, primarily used for dust control, and operation are not known (N/A) and so the indirect CO_2e emissions from water use cannot be calculated. However, this indirect GHG emissions source is expected to be very low in comparison with the direct construction emissions contribution to the total CO_2e emissions shown above.

(b) Estimated based on the SDG&E basis of 33 pounds of SF_6 in each of nine 69 kV circuit breakers (297 total pounds of SF_6) and a 0.1 percent annual leakage rate. GWP for SF_6 is 22,800.

(c) Amortized emissions are the operation emissions plus the annualized construction emissions over the Project life (30 years).

The amortized total Project life annual GHG emissions are estimated to be approximately 112 metric tons of CO_2e per year, and therefore would be well below the County of San Diego's GHG emissions significance threshold of 10,000 tons per year of CO_2e for industrial projects. Additionally, the Project's purpose is to improve the efficiency and reliability of the local electricity distribution system. Any gains in electricity distribution efficiency could reduce the GHG emissions from electricity generation; however, the indirect emissions reductions that would be attributable to the Project cannot be estimated. Therefore, the Project's total direct and indirect GHG emissions cannot be reliably determined to be a net reduction to provide a beneficial impact, so Project GHG emissions impacts have been determined to be less than significant.

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

LESS THAN SIGNIFICANT. The GHG emissions are expected to be minimal both during construction and operation of the Proposed Project. In addition, SDG&E has ongoing standard internal programs and practices that ensure compliance with the applicable SF_6 regulations. Estimated GHG emissions of the Proposed Project would be well below the threshold of federal and State mandatory reporting regulations. The level of the Project's GHG emissions would be too low to be subject to the federal 40 CFR Part 52 and the State cap-and-trade regulations.

The Proposed Project, which includes the building of the new Vine Substation and improving the local electrical distribution system, would also help to improve the capacity, reliability, and efficiency of the overall system, which would reduce electricity sector GHG emissions. Additionally, the Proposed Project would recycle construction wastes, such as metals, concrete, and asphalt to the extent feasible to reduce GHG emissions from the production of new materials. Therefore, the Proposed Project would not conflict with any applicable plan, policy or regulation related to reducing GHGs, including those in the City of San Diego's General Plan and Climate Action Plan, and would therefore have a less-than-significant impact.

B.3.8 Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
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?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.8.1 Setting

This section addresses issues related to hazards and hazardous materials in the Project area. Potential environmental hazards include accidental spills of hazardous materials, the presence of existing subsurface contamination, the risk of wildfire, and aircraft safety. Hazardous materials include fuel, oil, and lubricants. If encountered, contaminated soil can pose a health and safety threat to workers or the public.

Land Use

Existing and past land use activities are commonly used as indicators of sites or areas with potential for hazardous material storage and use or potential environmental contamination. For example, many industrial sites, historic and current, have soil or groundwater contamination by hazardous substances. Other hazardous materials sources include leaking underground tanks in commercial areas, contaminated surface runoff from polluted sites, and contaminated groundwater plumes.

The Proposed Project is located in a historically industrial, commercial, and residential area north of downtown San Diego. Components of the Proposed Project traverse residential areas but also pass near former solvent recycling facilities, former leaking underground storage tanks (service stations and rental car companies), and defense contractors located adjacent to the San Diego International Airport.

Hazardous Materials

During construction, hazardous materials such as cleaning solvents, paints, adhesives, vehicle fuels, oil, hydraulic fluid, and other vehicle and equipment maintenance fluids would be used and stored in construction staging yards. Spills and leaks of hazardous materials during construction activities could result in soil or groundwater contamination. As part of the Project design features (Section B.1.13, Applicant-Proposed Measures), all hazardous materials would be stored, handled, and used in accordance with applicable regulations, worker training on hazardous material protocols would be provided, and best management practices (BMPs) would be employed. These design features would be detailed in the Safety and Environmental Awareness Program (SEAP); Hazardous Materials Business Plan (HMBP); Spill Prevention, Control, and Countermeasure Plan (SPCC); and the Stormwater Pollution Prevention Plan (SWPPP) prepared for the Proposed Project. Additionally, the Health and Safety Plan would guide construction workers on the proper management of contamination, if found. No acutely hazardous materials would be stored or used at the Project sites during the construction or operation of the Proposed Vine 69/12 KV Substation Project.

Environmental Contamination

Components of the Proposed Project where ground disturbance would occur would be susceptible to encountering environmental contamination, if located in the vicinity of commercial or industrial sites with known contamination or adjacent to sites that store and use large quantities of hazardous materials. Ground disturbing activities for the Proposed Project are as follows:

- Grading, trenching, and excavation for construction and installation of the new Vine Substation facilities and equipment and the new TSP poles (2) (east side of Pacific Highway).
- Trenching and jack-and-bore crossing for installation of underground duct banks.

A Phase I Environmental Site Assessment (ESA) was conducted for the proposed Vine Substation site (Geosyntec, 2014). The ESA indicates that a gas station and automotive repair facility occupied the proposed Vine Substation site in the early 1970's, although no leaking underground storage tanks have been identified (Geosyntec, 2014; SDG&E, 2014), and historic gas stations occupied the site in 1927, 1930, 1933, and 1944 (Geosyntec, 2014). A former solvent recycling facility located approximately 400 feet northwest of the proposed Vine Substation site (3596 and 3625 California Street) continues active groundwater remediation (SWRCB, 2015), but may be used as a non-occupied facility (Geosyntec, 2014). Several former leaking underground storage tank sites are located along the duct bank routes, but all have received case closed status (SWRCB, 2015).

Schools

The new 12-kV duct bank alignment along India Street is located about 300 feet west of the Montessori School of San Diego (1323 West Spruce Street). There are no other schools within one-quarter mile of the Proposed Project.

Airports and Airstrips

The Proposed Project is located less than 0.5 miles from San Diego International Airport. There are no private airstrips in the Project vicinity.

Wildland Fires

The Proposed Project is located in an urban environment with no risk of wildland fire considering the lack of vegetation at the proposed substation site or along the public roadways.

Electromagnetic Fields

Electric voltage and electric current from transmission lines create electromagnetic fields (EMF). Possible health effects associated with exposure to EMF have been the subject of scientific investigation since the 1970s, and there continues to be public concern about the health effects of EMF exposure. However, EMF is not addressed here as an environmental impact under CEQA. The CPUC has repeatedly recognized that EMF is not an environmental impact to be analyzed in the context of CEQA because (1) there is no agreement among scientists that EMF does create a potential health risk, and (2) there are no defined or adopted CEQA standards for defining health risks from EMF.

Applicable Regulations

Hazardous substances are defined by federal and State regulations that aim to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 101(14), and also in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66260 et seq.

For this analysis, soil that is excavated from a site containing hazardous materials would be considered hazardous waste if it exceeded specific CCR Title 22 criteria or criteria defined in CERCLA or other relevant federal regulations. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; it may also be required if certain other activities occur. Even if soils or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Federal

The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the United States Environmental Protection Agency (USEPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

CERCLA, including the Superfund program, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan

(NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

State

The California Environmental Protection Agency (Cal/EPA) was created in 1991, which unified California's environmental authority in a single cabinet-level agency and brought the Air Resources Board (ARB), SWRCB, Regional Water Quality Control Boards (RWQCBs), Department of Resources Recycling and Recovery (CalRecycle, formerly Integrated Waste Management Board), Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality.

The California Hazardous Waste Control Law (HWCL) is administered by Cal/EPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Local

San Diego County. The County of San Diego, Department of Environmental Health, Hazardous Materials Division (HMD) has been the Certified Unified Program Agency (CUPA) for San Diego County since 1996. The HMD protects human health and the environment by ensuring that hazardous materials, hazardous waste, medical waste, and underground storage tanks are properly managed. The HMD regulates facilities that handle or store hazardous materials, are part of the California Accidental Release Prevention Program (CalARP), generate or treat hazardous wastes, store at least 1,320 gallons of aboveground petroleum, or own or operate underground storage tanks.

B.3.8.2 Environmental Impacts and Mitigation Measures

Applicant Proposed Measures

In order to reduce or avoid hazards and hazardous materials impacts, SDG&E has proposed the following Applicant Proposed Measure (APM), which is also presented in Table B.1-11.

APM HAZ-01 Prior to approval of the final construction plans for the Proposed Project, a project-specific Hazardous Materials and Waste Management Plan will be prepared for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations. The Hazardous Materials and Waste Management Plan will reduce or avoid the use of potentially hazardous materials for the purposes of worker safety, protection from groundwater contamination, and proper disposal of hazardous materials. The plan will include the following information related to hazardous materials and waste, as applicable:

- A list of the hazardous materials that will be present on site during construction, including information regarding their storage, use, and transportation;
- Any secondary containment and countermeasures that will be required for onsite hazardous materials, as well as the required responses for different quantities of potential spills;
- A list of spill response materials and the locations of such materials at the Proposed Project site during construction;
- A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials;
- A description of the waste-specific management and disposal procedures that will be conducted for any hazardous materials that will be used or are discovered during construction of the Proposed Project; and
- A description of the waste minimization procedures to be implemented during construction of the Proposed Project.

Hazards and Hazardous Materials Impacts

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

LESS THAN SIGNIFICANT. Construction and operation of the Proposed Project would use hazardous materials that could cause soil and groundwater contamination as a result of accidental spills or leaks. Hazardous materials associated with construction include fuel, lubrication oil, hydraulic fluid, solvents, paints and adhesives. These materials, as well as transformer oil would be used during Project operation. Contaminated soil, particularly from former leaking underground tank sites, may be encountered during grading and excavation at the proposed Vine Substation site and along the new 12-kV duct bank trenches and vault sites. As noted above in Section B.3.8.1 under "Environmental Contamination", a gas station occupied the proposed Vine Substation site in the early 1970's, although no leaking underground storage tanks have been identified (SDG&E, 2014), and historic gas stations occupied the site in 1927, 1930, 1933, and 1944 (Geosyntec, 2014). APM HAZ-01 includes preparation of a Project-specific Hazardous Materials and Waste Management Plan, which outlines the requirements to define the procedures for the use, storage, and transport of hazardous materials; protocols for secondary containment and spill countermeasures; listing and storage locations of spill response materials; and description of the hazardous waste management and disposal procedures. In addition, all workers would receive training on hazardous material protocols and BMPs as part of a Project-specific SEAP (SDG&E, 2014). Implementation of APM HAZ-01; SDG&E's Water Quality Construction BMP Manual requirements; Project-specific Health and Safety Plan); HMBP; SPCC Plan, and worker training, would reduce impacts related to the routine use, storage, or disposal of hazardous materials to a less-than-significant level.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

LESS THAN SIGNIFICANT. Accidental spills of hazardous chemicals could occur during construction of the Proposed Project as discussed in Section B.3.8.2(a). Contaminated soil and groundwater could be encountered during excavations of the duct bank trench, vaults, and jack and bore sites. Additionally, leaks and spills of hazardous chemicals, including transformer oil contained in transformers or stored at the Vine Substation site could occur during Project operation. Implementation of APM HAZ-01 (Hazardous Materials and Waste Management Plan), Health and Safety Plan, HMBP, and SPCC Plan would protect workers and the general public in the event of upset and accidents resulting in less-than-significant impacts.

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

LESS THAN SIGNIFICANT. The new 12-kV duct bank alignment along India Street is located about 300 feet southwest of the Montessori School of San Diego (1323 West Spruce Street). There are no other schools within one-quarter mile of the Proposed Project. Impacts related to hazardous material spills and accidental releases during construction and maintenance of the 12-kV duct bank are considered to be less than significant after implementation of APM HAZ-01 (Hazardous Materials and Waste Management Plan). Implementation of the HMBP and SPCC Plan for the new Vine Substation would result in less-than-significant impacts at the Montessori School of San Diego.

d. Would the project be located on a site that 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?

LESS THAN SIGNIFICANT. The proposed Vine Substation site and 12-kV duct banks would not be located on any known hazardous materials sites as identified on government agency listings. However, the new duct banks, vaults, and jack and bore sites are located very close to former leaking underground storage tank sites that have received case closed status (SWRCB, 2015). It is possible that some residual soil or groundwater contamination sourced from the adjacent tank sites remain near the Project alignment within the public streets. In general, deeper excavations for vaults and the jack-and-bore shafts (14 to 20 feet deep) would have the greatest potential to encounter contaminated soil or groundwater. However, implementation of APM HAZ-01 (Hazardous Materials and Waste Management Plan), SDG&E's Water Quality Construction BMP Manual requirements, the Project-specific Health and Safety Plan, and worker training, impacts related to encountering previously unknown hazardous materials in the construction areas would reduce the potential impact from unknown contamination to a less-than-significant level. There would be no impact related to listed hazardous material or waste sites during operation and maintenance of the Proposed Project.

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?

LESS THAN SIGNIFICANT. The Proposed Project is located less than 0.5 miles from San Diego International Airport and must comply with the airport's Airport Land Use Compatibility Plan (ALUCP) (SDALUC, 2014). Height restrictions must be evaluated through a Federal Aviation Administration (FAA) obstruction evaluation and the FAA must be notified prior to the start of construction. As noted under "Project Design Features" in Section B.1.13 (Applicant-Proposed Measures), SDG&E would consult with the FAA concerning aerial marking and lighting requirements for all new overhead facilities. As required, lighting and aerial marking would be added to applicable overhead facilities, including new structures. The FAA confirmed on October 8, 2014 that the proposed TSPs will not require marking or lighting. The FAA's determination is valid for 18 months, at which point SDG&E can apply for a one-time 18-month extension, if necessary (SDG&E, 2015). SDG&E would comply with FAA requirements resulting in a less than significant impact related to construction and operation of the Proposed Project within two miles of a public airport.

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?

NO IMPACT. The Proposed Project elements are not located within the vicinity of a private airstrip and, therefore, would not affect the safety of people working at or residing near such a facility. Consequently there would be no impact.

g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The construction and operation of the proposed Vine Substation would occur within the site boundaries and would not affect emergency vehicles using the public ROWs. However, construction of the 12-kV duct banks, 69-kV loop-in, and telecommunication system extension would occur in the public roadways. This work requires lane closures, possibly for several weeks, and may include one-way traffic on some routes temporarily. Construction would occur during nighttime to avoid peak traffic on Kettner Boulevard, and open trench segments would be limited to 500 feet in length to further reduce traffic impacts. As required by Mitigation Measure T-1 (*Construction Traffic Control Plan*), the Project would obtain the required encroachment permits and implement the required traffic control and safety measures and, therefore, would result in less-than-significant impacts during construction. Operation and maintenance of the Proposed Project may require accessing vaults and temporarily closing lanes. Use of standard traffic control procedures, as noted under "Project Design Features" in Section B.1.13 (Applicant-Proposed Measures), such as appropriate signage and traffic control devices, would result in less-than-significant impacts to the use of public roadways by emergency vehicles.

Mitigation Measure(s)

T-1 **Construction Traffic Control Plan**. (see full text under Transportation/Traffic, Section B.3.16)

h. Would the project 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?

NO IMPACT. The Proposed Project is located in an urban environment with no risk of wildland fire considering the lack of vegetation at the Vine Substation site or along the public roadways. The new overhead 69-kV power poles must meet the requirements of CPUC G.O. 95, Rules for Overhead Electric Line Construction, and would therefore result in no impact.

B.3.9 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY **Would the project:**		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater discharge such that there would be a net deficit in the aquifer volume or a lowering of the local groundwater table level (i.e., 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)?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e.	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f.	Otherwise substantially degrade water quality?	☐	☐	☒	☐
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 hazard delineation map?	☐	☐	☐	☒
h.	Place within 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
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.	☐	☐	☐	☒
j.	Cause inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

The following discussion addresses the existing hydrologic and water quality conditions in the Project area, identifies and analyzes potential environmental impacts of the Proposed Project, and recommends measures to reduce or avoid significant impacts anticipated from Project construction, operation, and maintenance. In addition, existing laws and regulations relevant to hydrology and water quality are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with implementation of the Proposed Project.

B.3.9.1 Setting

The Vine Substation Project is proposed to be located within the southwestern portion of the City of San Diego, California near the San Diego International Airport. The Proposed Project lies entirely within the Peninsular Ranges geomorphic province. This geomorphic province occupies the southwestern corner of California and contains the Elsinore Mountains, the Laguna Mountains, the San Jacinto Mountains, the Santa Ana Mountains, and the Santa Rosa Mountains. The northern portion of the province includes the Los Angeles Basin and is bound on the east by the Colorado Desert (CGS, 2002).

Most of the Project area is relatively flat and low-lying, although portions of the proposed distribution system improvements would traverse gently-sloped coastal foothills. Elevation in the Project area ranges from approximately 40 to 160 feet above mean sea level (USGS, 2015). The topography of the Project area generally slopes towards the southwest (USGS, 2015). Climate in the Project area is characterized as Mediterranean, with warm, dry summers and cool, mild winters. Average winter temperatures range from lows in the upper-40s degrees Fahrenheit to highs in the mid-60s (WRCC, 2015). Average summer temperatures range from lows in the mid-60s to highs in the mid-70s (WRCC, 2015). Average annual precipitation as measured at Lindbergh Field (adjacent to the Project area) is 10.13 inches (WRCC, 2015). Most rain falls during the winter and early spring. The wettest months of the year are January and February, which each receive an average of approximately two inches of rain (WRCC, 2015).

Surface watersheds in California are divided into ten hydrologic regions, as defined by the California Department of Water Resources. The Proposed Project is located within the South Coast Hydrologic Region (HR), a large coastal watershed in southern California (CDF, 2004). The South Coast HR covers nearly seven million acres and is bounded on the west by the Pacific Ocean, on the north by the Transverse Ranges, on the east by the Colorado River HR, and on the south by the international boundary with Mexico (DWR, 2003). Hydrologic Regions are subdivided into Hydrologic Units (HUs), and further into Hydrologic Areas (HAs) and Hydrologic Subareas (HSAs). Within the South Coast HR, the Project area is located within the Pueblo San Diego HU, the San Diego Mesa HA, and the Lindbergh HSA (CDF, 2004). The watershed that contains the Proposed Project is subject to the jurisdiction of the San Diego Regional Water Quality Control Board (SDRWQCB) and must comply with the rules and regulations set forth in the SDRWQCB Basin Plan (SDRWQCB, 2011).

The Proposed Project runs roughly parallel to Interstate 5 and crosses residential, commercial, and industrial land in the City of San Diego. Much of the drainage system in the Project area is highly altered. Stormwater runoff is captured by numerous ditches and drains and is routed through the city's stormwater conveyance system. There are no named streams within the Project area. The nearest natural stream to the Proposed Project that is shown on the National Hydrography Dataset is an unnamed, intermittent stream that flows through Olive Park and ends near the intersection of Curlew Street and West Maple Street, close to an existing 12 kV duct bank on the eastern edge of the Project area. A concrete-lined drainage channel is located on the west side of the proposed Vine Substation site (SCE, 2014). This channel does not exhibit characteristics of a natural stream, such as vegetation or accumulated sediment (SCE, 2014). The nearest major waterbodies include the San Diego Bay, which is located approximately 700 feet west-southwest of the southern portion of the Proposed Project at the closest point, and the San Diego River, which is located approximately 1.5 miles north of the northern portion of the Proposed Project (USGS, 2015).

The Proposed Project area is governed by the Water Quality Control Plan for the San Diego Basin, also known as the Basin Plan (SDRWQCB, 2011). The basin plan identifies beneficial uses for surface water and groundwater and establishes water quality objectives to attain those beneficial uses. The identified beneficial uses and the water quality objectives to maintain or achieve those uses are together known as water quality standards. The basin plan lists several beneficial uses for unnamed intermittent coastal streams in the Pueblo San Diego HU, including existing beneficial uses for non-contact water recreation, warm freshwater habitat, and wildlife habitat (SDRWQCB, 2011). The basin plan also list a potential beneficial use for contact water recreation for these intermittent streams. The basin plan identifies multiple beneficial uses for the San Diego Bay, including: industrial supply water; navigation; contact and non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance, estuarine, wildlife, and marine habitat; rare, threatened, or endangered species;

migration of aquatic organisms; spawning, reproduction, or early development; and shellfish harvesting (SDRWQCB, 2011).

The Clean Water Act 303(d) list is a register of impaired and threatened waters which the CWA requires all states to submit for EPA approval. The list identifies all waters where the required pollution control measures have so far been unsuccessful in reaching or maintaining the required water quality standards. Waters that are listed are known as "impaired." There are no 303d-listed waterbodies within the Project area (SWRCB, 2010). The San Diego Bay is the nearest impaired waterbody to the Proposed Project and is listed as impaired by polychlorinated biphenyls (PCBs). A Total Maximum Daily Load (TMDL) is required but has not yet been developed (SWRCB, 2010). Other nearby impaired waterbodies include Switzer Creek (located approximately 1.5 miles east of the Project area and listed for copper, lead, and zinc) and the San Diego River (located approximately 1.5 miles north of the Project area and listed for enterococcus, fecal coliform, low dissolved oxygen, manganese, nitrogen, phosphorus, total dissolved solids, and toxicity). A TMDL is required of each of the impairments listed above but none has been developed (SWRCB, 2010).

Areas that are subject to a risk of flooding from a 100-year flood event are identified by the Federal Emergency Management (FEMA) on the National Flood Hazard Layer (NFHL). A very short segment of existing 12 kV Duct Bank (approximately 125 feet) in the southeastern portion of the Project area is within an approximate 100-year flood hazard zone (Zone A) that is associated with several intermittent streams that flow southwest towards the San Diego Bay (FEMA, 2015).

The Proposed Project is underlain by the Mission Valley Groundwater Basin. This basin is filled with Quaternary age alluvium that is approximately 100 feet thick (DWR, 2004). The semi-permeable San Diego Formation lies beneath the alluvial deposits (DWR, 2004). The estimated storage capacity is approximately 40,000 acre-feet, and the amount of groundwater currently in storage is unknown (DWR, 2004). Infiltration of stream flow from the San Diego River is the primary source of recharge in the basin (DWR, 2004). The basin is characterized by high levels of magnesium, sulfate, chloride, and total dissolved solids (DWR, 2004). Exploratory borings conducted by the Applicant discovered groundwater at approximately 25 feet below ground surface (SDG&E, 2014). Previous underground cable projects in the region have not encountered shallow groundwater, and no dewatering is expected to be required during construction of the Proposed Project (SDG&E, 2015).

Applicable Regulations

Federal

Clean Water Act. The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq., formerly the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. The National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402) regulates those discharges. NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its' nine Regional Water Quality Control Boards (RWQCB). The proposed Project is within areas administered by the San Diego RWQCB. The proposed Project would disturb more than one acre in total, and the Applicant may be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) to comply with Clean Water Act NPDES requirements. This permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) to prevent and control polluted runoff.

State

California Porter Cologne Water Quality Control Act. The Porter Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the Project area are contained in the Water Quality Control Plan for the San Diego Basin (SDRWQCB, 2011). Water quality protection relative to the Proposed Project relates primarily to the avoidance of increased erosion and sedimentation, and the avoidance of toxic pollutant discharges to surface waterbodies or groundwater aquifers.

California Streambed Alteration Agreement. Sections 1600–1616 of the California Fish and Game Code requires that any entity that proposes an activity that would substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from 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, must notify the California Department of Fish and Wildlife (CDFW). If the CDFW determines the alteration may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement would be prepared. The Agreement includes conditions necessary to protect those resources. The Agreement applies to any CDFW jurisdictional stream, including ephemeral streams and desert washes.

Local

County of San Diego Standard Urban Stormwater Mitigation Plan. In order to comply with the San Diego RWQCB's San Diego Municipal Permit (NPDES No. CAS0109266), a Standard Urban Stormwater Mitigation Plan (SUSMP) was developed for San Diego County. A Storm Water Management Plan that complies with the criteria provided in the SUSMP must be developed for applicable priority development projects in San Diego County.

B.3.9.2 Environmental Impacts and Mitigation Measures

The following discussions describe the potential impacts that would result from construction, operation, and maintenance of the Proposed Project. In many cases, compliance with applicable laws and regulations would reduce the likelihood of these potential impacts. In addition, Applicant Proposed Measure (APM) HAZ-01 is also relevant to hydrology and water quality, and would further reduce the likelihood of potential impacts.

Applicant Proposed Measures

In order to reduce or avoid impacts related to hydrology and water quality, SDG&E has proposed the following APM, which is also presented in Table B.1-11.

APM HAZ-01 Prior to approval of the final construction plans for the Proposed Project, a project-specific Hazardous Materials and Waste Management Plan will be prepared for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations. The Hazardous Materials and Waste Management Plan will reduce or avoid the use of potentially hazardous materials for the purposes of worker safety, protection from groundwater contamination, and proper disposal of hazardous materials. The plan will include the following information related to hazardous materials and waste, as applicable:

- A list of the hazardous materials that will be present on site during construction, including information regarding their storage, use, and transportation;
- Any secondary containment and countermeasures that will be required for onsite hazardous materials, as well as the required responses for different quantities of potential spills;
- A list of spill response materials and the locations of such materials at the Proposed Project site during construction;
- A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials;
- A description of the waste-specific management and disposal procedures that will be conducted for any hazardous materials that will be used or are discovered during construction of the Proposed Project; and
- A description of the waste minimization procedures to be implemented during construction of the Proposed Project.

a. Would the project violate any water quality standards or waste discharge requirements?

LESS THAN SIGNIFICANT. The Proposed Project could result in a significant impact to hydrology and water quality if activities related to construction or O&M would result in the violation of water quality standards or waste discharge requirements. Construction activities for the Proposed Project would expose and loosen previously unexposed soil. Without proper management, this disturbed soil could enter nearby waterbodies and increase the turbidity and sediment load for those waterbodies. In addition, the eroded soil could transport other contaminants that are bound to the soil. The Proposed Project is located on relatively flat ground and is surrounded by urban land uses that include existing stormwater conveyance systems. Soil disturbance would be limited to the Vine Substation site, work areas for the 69-kV loop-in, and excavation and trenching for the 12-kV distribution relocation and telecommunications system upgrades. Due to the relatively flat topography of the Project site and the limited amount of soil disturbance, it is unlikely that Project construction would lead to increased sediment delivery to nearby waterbodies, unless soil disturbing activities were quickly followed by a substantial precipitation event. SDG&E would be required to obtain a NPDES General Construction Storm Water Permit (Construction General Permit) that would require development and implementation of a Project-specific SWPPP. The SWPPP would specify BMPs that would prevent polluted stormwater (including eroded soil) from leaving the Project site. In addition, SDG&E would implement water quality protection measures, as outlined in SDG&E's Water Quality Construction BMPs Manual that would further reduce the potential for water quality degradation.

Construction of the Proposed Project (including excavation and trenching) is not expected to encounter shallow groundwater. However, in the event that shallow groundwater is unexpectedly encountered, dewatering of the excavation or trenching site may be required. If improperly managed, these dewatering activities could result in the discharge of contaminated groundwater. Any Project-related dewatering would be required to comply with the NPDES waste discharge requirements for construction dewatering activities. Compliance with existing regulations would ensure that this impact would be less than significant.

Construction and operation of the Proposed Project would require the handling, use, and storage of hazardous materials, such as diesel fuel, gasoline, lubrication oil, cement slurry, hydraulic fluid, anti-freeze, transmission fluid, lubricating grease, and transformer oil. Accidental spills or improper disposal of hazardous materials used during construction could wash into and pollute surface waters or groundwater. Prior to commencement of construction activities, SDG&E would prepare and implement a HMBP and SPCC Plan. These plans would reduce the potential for water quality degradation through the spill or accidental release of hazardous materials. In addition, APM HAZ-01 would be implemented as a component of the Proposed Project, which requires development and implementation of a Project-specific Hazardous Materials and Waste Management Plan. This plan would contain Project design specifications and response procedures to address a spill or accidental release of hazardous materials that would further reduce the potential for water quality degradation. Impacts would be less than significant.

b. Would the project 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 (i.e., 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)?

LESS THAN SIGNIFICANT. As described above, construction activities are not expected to encounter shallow groundwater or require dewatering. However, in the event that unexpected shallow groundwater is encountered, dewatering activities would comply with all applicable water quality regulations. Any dewatering that would be required for construction of the Proposed Project would be temporary and limited to a small amount of water, and therefore would not substantially deplete groundwater supplies. Water would be required during construction and operations for dust suppression, soil conditioning, and landscaping. This water would be provided by a permitted municipal service connection to a water supply system, such as that owned and operated by the City of San Diego. Approximately 0.2 percent of the City of San Diego's water supply comes from groundwater (San Diego, 2012). Due to the small amount of ground disturbance associated with the Proposed Project (approximately 13 acres – see Table B.1-5), and due to the small amount of landscaping that would surround the Vine Substation site, the water demands for both construction and operation of the Proposed Project would be small. Because the amount of water required for construction and operation of the Proposed Project would be small, and because the likely source of this water (the City of San Diego) includes only negligible groundwater use, the depletion of groundwater supplies is not expected. Impacts to groundwater supplies would be less than significant.

Construction of the Proposed Project would not create any new impermeable surfaces that would interfere substantially with groundwater recharge. At the Vine Substation site, the impermeable pavement would be removed and replaced with semi-permeable compacted fill material and/or aggregate base material. This semi-permeable compacted fill material and/or aggregate base material potentially would allow for a small increase in the amount of precipitation that could percolate through the ground at the proposed substation site and infiltrate into the groundwater below. Therefore, construction and operation of the Proposed Project would slightly increase the potential for groundwater recharge resulting in a beneficial impact.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or off site?

NO IMPACT. Construction of the Proposed Project would not alter the existing drainage pattern. The 12-kV distribution relocations and telecommunication system upgrades would be placed underground and would not alter any stream channels or floodplains. The proposed Vine Substation would require grading prior to construction of the substation, but these grading activities would not alter the course of any stream or river, nor would they alter any drainage patterns within a floodplain. As stated in the Project Description (Section B.1.11, Project Construction), the majority of work areas would be restored, including the drainage patterns, to pre-construction conditions to the extent practicable following completion of construction. Project-related erosion and siltation would be controlled through compliance with existing regulations, including development and implementation of a Project-specific SWPPP. No impact related to the alteration of existing drainage patterns would occur.

d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

NO IMPACT. As described in Section B.3.9(c), construction of the Proposed Project would not alter existing drainage patterns. Also, as described above, the Proposed Project would not increase the amount of impermeable surfaces and would not increase the rate or amount of surface runoff. No impact related to the alteration of existing drainage patterns or an increase in the rate or amount of surface runoff would occur.

e. Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff?

NO IMPACT. Construction of the Proposed Project does not include any alterations to the existing stormwater drainage system. As described above, the Proposed Project would not result in an increase in the rate or amount of surface runoff. Stormwater flows across the Project site would be controlled through implementation of the required Project-specific SWPPP, as well as water quality protection measures as described in SDG&E's Water Quality Construction BMP Manual. The Proposed Project would not provide a substantial additional source of polluted runoff. No impact would occur.

f. Would the project otherwise substantially degrade water quality?

LESS THAN SIGNIFICANT. Construction and operation of the Proposed Project would not substantially degrade water quality. As described above, construction and operation of the Proposed Project could lead to degradation of water quality through erosion, sedimentation, and the accidental release of hazardous materials. These potential impacts to water quality would be controlled through compliance with existing regulations, including development and implementation of a Project-specific SWPPP, SPCC Plan, and a HMBP. In addition, APM HAZ-01 would further reduce the potential for accidental releases of hazardous materials to degrade water quality through the establishment and implementation of Project design specifications and response procedures to address a spill or accidental release of hazardous materials. This impact would be less than significant.

g. Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

NO IMPACT. The Proposed Project would not include the construction of any housing. Also, the proposed Vine Substation site and 69-kV loop-in would be located outside of both the 100-year and 500-year floodplains. Other Project components would be placed underground. No impact would occur.

h. Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?

NO IMPACT. As described above, the proposed Vine Substation site is located outside of both the 100-year and 500-year floodplains. Also, neither the new or removed 69-kV structures are located within either a 100-year or 500-year floodplain. Although a very short segment of the existing 12-kV distribution system would be located within a 100-year floodplain, Project components associated with this short segment would be placed underground and would not impede or redirect flood flows. No Project structures would impede or redirect flood flows, and no impact would occur.

i. Would the project 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. As described above, the above-ground Project components are located outside of both the 100-year and 500-year floodplain. Also, the Proposed Project would not be subject to flooding as a result of the failure of a levee or dam. No impact would occur.

j. Would the project cause inundation by seiche, tsunami, or mudflow?

NO IMPACT. The topography of the Project site is generally flat and the Proposed Project is surrounded by mostly paved urban land uses. The Proposed Project would not cause or be subject to mudflow. In addition, the Proposed Project is located outside of the tsunami inundation area as mapped on the Tsunami Inundation Map for Emergency Planning – Point Loma Quadrangle (CGS, 2009). Finally, the Proposed Project is not located in close proximity to an enclosed waterbody such that it would be subject to inundation by seiche. No impact would occur.

B.3.10 Land Use and Planning

LAND USE PLANNING Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.10.1 Setting

The proposed Vine Substation Project is located in the southwestern portion of the City of San Diego, approximately two miles northwest of downtown San Diego and directly adjacent to and east of the San Diego International Airport (also known as Lindberg Field). The 1.5-acre substation site is approximately rectangular in shape, and is located on the southwest corner of Kettner Boulevard and Vine Street (see Figure B.1-2). The site is owned by SDG&E and has been leased for use as a Park 'N Fly Airport Parking lot. The Park 'N Fly Airport Parking lot is being relocated to a more centralized rental car facility, which is currently under construction near the airport. The parcel is bordered to the north by Vine Street and a commercial printing business across Vine Street, to the south by an Advantage Rental Car facility, to the east by Kettner Boulevard, and to the west by the North County Transit District Coaster and San Diego Metropolitan Transit System (MTS) Trolley rail tracks. The area is characterized by light- and medium-industrial and office uses, parking lots, and rental car facilities. The substation site is currently surrounded by a chain link fence, and paved with asphalt. The site includes approximately 220 parking stalls, a guard shack, wooden storage shed, and portable toilet.

The relocated distribution circuits would generally travel within public ROW along Kettner Boulevard, Vine Street, India Street, West Redwood Street, Columbia Street, West Laurel Street, and State Street. The distribution circuits would primarily be located within public streets, so no additional ROW would be acquired. Existing uses along the distribution circuit route within Kettner Boulevard include I-5 to the east and rental car facilities, offices, and airport parking lots to the west. Along India Street, existing uses include a gas station, a rental car facility, residential uses, and a mix of commercial and industrial uses. Existing uses along West Redwood Street and Columbia Street are predominately residential, with I-5 to the west. Budget and Alamo rental car facilities are located on West Palm Street. Along West Laurel Street, uses consist of offices, parking lots, and residences. Along State Street, existing uses include offices and residences.

Applicable Regulations

Local

The CPUC has exclusive permitting authority regarding SDG&E's application to construct the proposed Project, and no local use permit would be required. Absent CPUC involvement, construction of the proposed Project would otherwise be considered a conditional use under the site's land use designation and zoning, and would require compliance with the following land use plans and policies:

City of San Diego General Plan

Land Use Element

The Land Use Element provides policies to guide the City of San Diego's growth and implement the City of Villages strategy within the context of San Diego's community planning program. The Proposed Project is within the Midway/Pacific Highway Corridor Community Plan and Downtown Community Plan.

Midway/Pacific Highway Corridor Community Plan and Local Coastal Program Land Use Plan (San Diego, 2010)

This Plan establishes a vision for the future form of the community and provides specific recommendations for land uses designed to meet the existing and future needs of the community. The Plan also recommends actions which will implement the goals and objectives of the City of San Diego's Progress Guide and General Plan.

Industrial Land Use

Policy Preserve the existing industrial areas for industrial use, develop additional industrial areas where appropriate, and provide for the physical rehabilitation and economic revitalization of industrial areas through both public and private efforts.

Design Criteria

2. The underground installation of overhead utility lines should be implemented in a timely and coordinated manner.

Community Facilities and Services

Policy Establish and maintain a high level of public facilities and services to meet the needs of the community.

N. Improve the appearance of the electric substation at Kettner Boulevard and Vine Street through landscaping and/or redwood slatted chain link fencing.

Downtown Community Plan (San Diego, 2006)

Section 5.4 – Streetscape and Building Interface

5.4-P-3 Work with the other City departments and utilities to remove impediments to sidewalk safety and movement, undergrounding utilities/transformers or locating them on site where possible.

City of San Diego Municipal Code

The Proposed Project site would traverse the following zoning districts: IS-1-1 ((Industrial Small Lot), CC-4-5 (Commercial-Community), MCCPD-CL-6 (Commercial), and MCCPD-MR-1500 (Residential).

As stated in the City's Municipal Code, electric generation and distribution uses are conditionally permitted uses in the IS-1-1 and CC-4-5 zones (San Diego, 2014a).

The two MCCPD zones are within the Mid-City Communities Planned District. Electric generation uses are permitted in the MCCPD-CL-6 zone. All permitted uses, e.g. the Proposed Project, in abutting commercial zones would be permitted in the MCCPD-MR-1500 zone with conditions, including a Mid-City Communities Development Permit (San Diego, 2014b).

Port of San Diego Master Plan (PMP, XXX)

Embarcadero City Centre – Planning District 3

This section of the Port Master Plan provides a Precise Plan Concept for the redevelopment of the Embarcadero to create a unified waterfront, both visually and physically, which creates an overall sense of place. The Precise Plan does not include policies or regulations for the development of utilities.

San Diego International Airport's Airport Land Use Compatibility Plan (ALUCP) (ALUCP, 2014)

The Proposed Project site is within Review Area 1 of the Airport Influence Area (AIA), which is the area within where real estate disclosure is required, under state law.

1.9.1 Review Area 1

ALUCP review is required for all land use plans, regulations and projects located in Review Area 1. ALUCP staff may make a consistency determination for any land use plan, regulation or project that:

1. Is compatible with ALUCP noise and safety compatibility policies, and
2. Does not require FAA review or is determined by the FAA not to be a hazard or obstruction to air navigation

B.3.10.2 Environmental Impacts and Mitigation Measures

a. Would the project physically divide an established community?

NO IMPACT. The Proposed Project is located in an urbanized area of San Diego. The surrounding area consists of a variety of light industrial, commercial uses, and residences. The proposed Vine Substation site is situated on a 1.5-acre parcel currently utilized for long-term airport parking. It is bound by public streets to the north and east, commercial and industrial uses to the south, and rail lines to the west. Temporary lane closures would be required for the installation of the underground distribution lines and telecommunications system. Additional lane and/or road closures may be required for the installation of the 12-kV distribution relocation and 69-kV loop-in. However, such traffic control measures would be temporary and short-term. O&M activities would be similar to those currently performed by SDG&E in the area to maintain existing facilities, specifically Kettner Substation. These activities would occur on land owned by SDG&E or within public road ROWs. As such, construction and O&M of the Proposed Project would not include components that would divide an established community. No impact would occur.

b. Would the project 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. The proposed Vine Substation site is situated on a 1.5-acre parcel owned by SDG&E and is currently being leased for long-term airport parking. The relocated distribution circuits would generally be placed within the franchise portion of City of San Diego public streets (public ROW) in the Project area, including Columbia Street, India Street, Kettner Boulevard, Pacific Highway, Sassafras Street, State Street, Vine Street, West Laurel Street, West Hawthorn Street, West Palm Street, and West Redwood Street. Applicable land use plans, policies, and regulations include: City of San Diego General Plan, Downtown Community Plan, Midway/Pacific Highway Corridor Community Plan, Local Coastal Programs, Port of San Diego Master Plan, San Diego International Airport's ALUCP, and City of San Diego Municipal Code.

Due to the large size of the City of San Diego, the City's General Plan Land Use Element includes Community Plans for specific geographic areas. The majority of the Proposed Project components are located within the boundaries of the Midway/Pacific Highway Corridor (Midway) Community Plan. The relocation of distribution circuits south of West Laurel Street would occur within the boundaries of the Downtown Community Plan. Both of these community plans are also the approved local coastal programs in this area of the City. As such, the Proposed Project must comply with the land use designations under these community plans (instead of the City's General Plan). The substation site and 69-kV loop-in would be located within the Light Industrial community plan land use designation, which allows for light industrial uses. Therefore, the substation and loop-in would not conflict with this existing land use designation. The 12-kV distribution lines would be located within public ROWs along the Residential and Multiple Use land use designations. The majority of the 12-kV duct bank would be located within the Midway Community plans, which states that utility lines should be underground whenever possible (San Diego, 2010). As the 12-kV duct bank would installed underground, this component of the Proposed Project would comply with this policy.

The Proposed Project would be located within the following zoning designations: IS-1-1 ((Industrial Small Lot), MCCPD-CL-6 (Commercial), MCCPD-MR-1500 (Residential), and CC-4-5 (Commercial-Community). As stated in the City's Municipal Code, electric generation and distribution is a conditionally permitted use in the IS-1-1 and CC-4-5 zones (San Diego, 2014). Pursuant to General Order 131-D, no local discretionary permits (e.g., land use permits) for the Proposed Project would be required because the CPUC has preemptive jurisdiction over public utilities in California. However, the Applicant would still be required to obtain all ministerial building and encroachment permits from the City, and the CPUC will ensure that the Project complies with local regulations to the greatest degree feasible to minimize project conflicts with local conditions. As such, obtaining ministerial building and encroachment permits would inherently require compliance with, or issuance of a variance for deviation from, all applicable local zoning ordinances.

The relocation of distribution circuits along Pacific Highway would occur within the boundaries of the Port Master Plan as it falls within the Centre City Embarcadero: Planning District 3. This District specifically designates the Laurel Street Corridor as an aviation-related industrial use subarea. Therefore, the temporary activities associated with the relocation of the distribution circuits would not conflict with the existing industrial land uses.

The Proposed Project would comply with all FAA requirements; the proposed infrastructure would not require marking or lighting per the FAA's determinations provided October 8, 2014. Because the Proposed Project would comply with all FAA requirements, no conflict with the ALUCP or requirements of the San Diego International Airport's Approach Overlay Zone would occur. No land use-related policies were identified to conflict with the Proposed Project within those documents. Therefore, upon approval of any required ministerial building and encroachment permits from the City, a less-than-significant impact would occur as a result of construction and O&M of the Proposed Project.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

NO IMPACT. SDG&E's existing NCCP and the City of San Diego MSCP Subarea Plan are the only conservation plans that apply to the Proposed Project. SDG&E would operate under its existing NCCP, which was established according to the Federal Endangered Species Act, the California Endangered Species Act, and the State NCCP Act. The NCCP addresses potential impacts to sensitive resources associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, as well as typical expansions of those systems throughout SDG&E's service area. The NCCP also defines those measures SDG&E shall employ to avoid, minimize, or mitigate any such impacts.

The NCCP was developed in coordination with the USFWS and the CDFW, and is designed to be consistent with local Habitat Conservation Plans (HCPs) and the overall preserve planning effort, including the City of San Diego MSCP Subarea Plan. The NCCP Operational Protocols would be applied to the Proposed Project, as appropriate, to avoid or minimize potential impacts resulting from construction and O&M. Therefore, the Proposed Project would not conflict with any applicable conservation plan, and no impact would occur.

B.3.11 Mineral Resources

MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.11.1 Setting

According to the City of San Diego's General Plan, important mineral resources include salt, sand, and gravel, all of which have been produced in San Diego for many decades. San Diego's aggregate mineral resources (sand and gravel) provide necessary materials for the local economy. Extraction of sand, rock, and gravel, began in Mission Valley in 1913. Extraction still occurs in Mission Valley and in other areas of the City such as Carroll Canyon and Mission Gorge. (San Diego, 2008)

The substation site is currently surrounded by a chain link fence and paved with asphalt. The area is characterized by light- and medium-industrial and office uses, parking lots, and rental car facilities. The proposed Vine Substation and 69-kV loop-in would be located on a site that is designated Industrial Employment by the City's General Plan. Lands adjacent to the relocated distribution circuits have a General Plan designation of Industrial Employment at the northern end of the line and Multiple Use and Commercial Employment Retail and Services at the southern end. A wide variety of land uses are specified as being appropriate within these designations, including offices, general commercial uses, civic facilities, and light and heavy industrial uses; however, resource extraction does not occur in the vicinity. The nearest resource extraction activity would be approximately two miles northeast of the Project site in Mission Valley.

According to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, no oil and gas exploration has been conducted within or in the vicinity of the proposed substation expansion site. The nearest active oil and gas exploration operation is approximately three miles west of the Proposed Project site. (DOC, 2014)

Applicable Regulations

State

<u>State Surface Mining and Reclamation Act of 1975</u>

This act mandated the State Geologist to initiate mineral land classification in order to help identify and protect mineral resources in areas within the State, subject to urban expansion or other irreversible land uses, which would preclude mineral extraction. The State Surface Mining and Reclamation Act also allowed the State Mining and Geology Board, after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide importance. Mineral lands are mapped according to jurisdictional boundaries (i.e. counties) using the California Mineral Land Classification System (DOC, 2013).

The objective of the classification and designation process is to ensure, through appropriate lead agency policies and procedures, that mineral deposits of statewide or regional importance are available when needed. The State Mining and Geology Board, based on recommendations from the State Geologist and public input, prioritizes areas to be classified and/or designated. Areas that are generally given highest priority are those that are subject to urban expansion or other irreversible land uses, which would preclude mineral extraction. Classification is completed by the State Geologist in accordance with the State Mining and Geology Board's priority list, into Mineral Resource Zones (MRZs). The MRZ classification system is based on geologic and economic factors without regard to existing land use and land ownership. The divisions between MRZ classifications are MRZ-1, MRZ-2, MRZ-3, and MRZ-4; wherein lands classified MRZ-1 are areas where geologic information indicates no significant mineral deposits are present, MRZ-2 are areas that contain identified mineral resources, MRZ-3 are areas of undetermined mineral resource significance, and MRZ-4 are areas of unknown mineral resource potential (DOC, 2013).

Local

City of San Diego General Plan

Conservation Element – K. Mineral Production

Policy CE-K.1 Promote the recycling and reclamation of construction materials to provide for the City's current and future growth and development needs.

B.3.11.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. No known mineral resources of any value have been identified on or in the immediate vicinity of the Proposed Project (San Diego, 2008). Therefore, no known mineral resources would be lost due to the Proposed Project and there would be no impact.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

NO IMPACT. As described above, no mineral resources have been identified in the vicinity of the Proposed Project. Additionally, there are no mineral resource recovery sites delineated within the Proposed Project area by an applicable general plan, specific plan, or other land use plan. Therefore, no impact would occur.

B.3.12 Noise

NOISE Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Exposure of 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?	☐	☒	☐	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒	☐
d. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☒	☐	☐
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 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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.12.1 Setting

General Information on Noise

The assessment of noise utilizes specialized terminology; therefore, to assist in understanding the subsequent analysis, Table B.3.12-1 provides definitions for these technical terms.

Table B.3.12-1. Summary of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
A-Weighted Sound Level (dBA)	The sound level in decibels as measured on a sound level meter using the A weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Ambient Noise Level	The composite noise from all sources resulting in the existing normal level of environmental noise at a given location.
Equivalent Noise Level (Leq)	The average dBA level, on an equal energy basis, during the measurement period.
Maximum Noise Level (Lmax)	The maximum noise level during a sound measurement period.
Minimum Noise Level (Lmin)	The minimum noise level during a sound measurement period.
Community Noise Equivalent Level (CNEL)	The average sound level over a 24-hour period, with a penalty of 5 dB added between 7 pm and 10 pm. and a penalty of 10 dB added for the nighttime hours of 10 pm to 7 am.

General Information on Vibration

Vibration from objects in contact with the ground will propagate energy through the ground and can be perceptible by humans and animals in the form of perceptible movement or in the form of rumbling sound caused by the vibration of room surfaces. The latter is described as ground-borne noise. High levels of vibration can result in architectural damage and structural damage depending upon the amplitude of the vibration and the fragileness of the building or structure.

Vibration is an oscillatory motion through a solid medium, in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. When assessing damage potential, vibration is often measured and reported in terms of peak particle velocity (PPV). For evaluating human response, the accepted manner to measure and report vibration is in terms of the root mean square (RMS) amplitude. Like noise, vibration is normally expressed in terms of decibels (VdB) with a reference velocity of $1x10^{-6}$ inches per second (in/sec).

Sensitive Receptors

An example of noise-sensitive receptors would be schools, hospitals, residences, and recreational facilities. Land uses adjacent to the Project are described in Section B.3.10 (Land Use and Planning). Based on Figure B.1-2 (Project Overview Map), existing sensitive receptors are limited to residential uses along the proposed 12-kV distribution route.

Existing Ambient Noise Levels

The dominant ambient noise sources in the vicinity of the Proposed Project are transportation related. One of these sources is aircraft traffic from San Diego International Airport; the 12-kV distribution routes are partially located within the airport's 65-dB CNEL contour (SDG&E, 2015b). Additional sources include vehicle traffic from Interstate 5 (I-5) and rail traffic from the Amtrak, North County Transit District (NCTD) Coaster, and San Diego Metropolitan Transit System (MTS) Trolley which utilize the railroad tracks located in the immediate Project vicinity.

Three long-term (25-hour) noise measurements were conducted to document existing typical ambient noise conditions in the Project area. The results of these measurements are provided in Table B.3.12-2. Refer to Figure B.1-2 (Project Overview Map) for a reference to these locations.

Table B.3.12-2. Measured Ambient Noise Levels, dBA

Location	CNEL	Average Daytime Leq	Maximum 1-Hour Leq
Northwest corner of proposed Vine Substation site	73	69	72
Columbia Street, approx. 250 feet south of West Palm Street	72	67	70
Columbia Street near intersection of West Maple Street	71	65	72

Source: SDG&E, 2014 and 2015b.
Notes:
(a) Noise measurements completed between February 25 and 26, 2014.
(b) Noise measurements completed between November 17 and 18, 2014.

Applicable Regulations

Federal

Although no federal noise regulations exist, the United States Environmental Protection Agency (USEPA) has promulgated noise guidelines (USEPA, 1974). The USEPA guideline recommends CNEL of 55 dBA to protect the public from the effect of broadband environmental noise outdoors in residential areas and farms, and other outdoor areas where people spend widely varying amounts of time with low existing ambient noise conditions (USEPA, 1974). Administrators of the USEPA determined in 1981 that subjective issues, such as noise, would be better addressed at lower levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred from the federal government to state and local governments. Noise control guidelines and regulations contained in rulings by the USEPA in prior years remain valid, but more individualized control for specific issues is allowed by designated state and local government agencies.

State

California Government Code Section 65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. These recommendations have been incorporated into the local plans and policies discussed below.

The California Department of Transportation (Caltrans) has established guidance for assessing impacts due to architectural or structural damage from ground vibration. Caltrans has also synthesized criteria relating to human perception. Some individuals may be annoyed at barely perceptible levels of vibration, depending on the activities in which they are participating. Based on Caltrans guidance, older residential structures have a damage potential threshold of 0.5 in/sec PPV for transient sources (i.e., single isolated vibration event such as blasting), and 0.3 in/sec PPV for continuous/frequent intermittent sources, such as impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment (Caltrans, 2004 – Table 19). The Caltrans guidance for vibration annoyance states that vibrations become distinctly perceptible at 0.25 in/sec PPV for transient sources and 0.04 in/sec PPV for continuous/frequent intermittent sources (Caltrans, 2004 – Table 20). Construction vibration amplitudes of 0.035 in/sec PPV, which would be just below the distinctly perceptible threshold, is generated at a distance of approximately 50 feet by a loaded truck and approximately 70 feet by trenching activities (SDG&E, 2015b).

Local

<u>City of San Diego General Plan</u>

The General Plan Noise Element provides goals and policies to guide compatible land uses and the incorporation of noise attenuation measures for new uses to protect people living and working in the City of San Diego from an excessive noise environment. A review of the 2008 General Plan Noise Element identified the following policies applicable to operational noise generated by the Proposed Project (San Diego, 2008):

- **F. Industrial Activity Noise**
  - *Policy NE-F.1*: Provide for sufficient spatial separation between industrial uses and residential and other noise-sensitive uses. This would include utilizing other feasible mitigation measures to reduce the noise source, such as noise attenuation methods, interrupting the noise path, or insulating the receptor to minimize the exposure of noise-sensitive uses to excessive industrial-related noise.

- *Policy NE-F.2*: Encourage the design and construction of industrial development to minimize excessive off-site noise impacts to residential and other noise-sensitive uses.

City of San Diego Municipal Code

The City of San Diego Municipal Code contains no standards pertaining to vibration. However, the following Municipal Code sections regulate noise and are applicable to the Project (San Diego, 2015).

- **Chapter 5, Article 9.5, Division 4, Section 59.5.0404**: Construction noise is not allowed as follows:
  (a) Between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, on legal holidays as specified in Section 21.04 of the City of San Diego Municipal Code, or on Sundays.
  (b) To conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.

- **Chapter 5, Article 9.5, Division 4, Section 59.5.0401**: Permanent noise shall not exceed the one-hour average sound level limits defined within Table B.3.12-3.

Table B.3.12-3. City of San Diego Municipal Code One-Hour Average Sound Level Limits

Land Use Type	Time of Day	One-Hour Average Sound Level (Decibels)
Single-Family Residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	50 45 40
Multi-Family Residential (Up to a maximum density of 1/2000)	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	55 50 45
All other Residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	60 55 50
Commercial Residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	65 60 60
Industrial or Agricultural	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	75 75 75

Source: San Diego, 2015.
Notes:
(a) Fixed–location public utility distribution or transmission facilities located on or adjacent to a property line shall be measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

City of San Diego CEQA Significance Determination Thresholds

The purpose of these Significance Determination Thresholds is to assist City of San Diego staff, project proponents, and the public in determining whether, based on substantial evidence, a project may have a significant effect on the environment. The following thresholds established by the City have been found applicable to the Proposed Project (San Diego, 2011):

4. **Noise from Adjacent Stationary Uses**. A project which would generate noise levels at the property line which exceed the City's Noise Ordinance Standards is considered potentially significant. If a non-residential use, such as a commercial, industrial or school use, is proposed to abut an existing residential use, the decibel level at the property line should be the arithmetic mean of the decibel levels allowed for each use as set forth in Section 59.5.0401 of the Municipal Code. Although the

noise level above could be consistent with the City's Noise Ordinance Standards, a noise level above 65 dBA CNEL at the residential property line could be considered a significant environmental impact.

6. **Temporary Construction Noise**. Temporary construction noise which exceeds 75 dBA Leq at a sensitive receptor would be considered significant. Construction noise levels measured at or beyond the property lines of any property zoned residential shall not exceed an average sound level greater than 75 dBA during the 12-hour period from 7:00 a.m. to 7:00 p.m. In addition, construction activity is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, that would create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator, in conformance with San Diego Municipal Code Section 59.5.0404. Additionally, where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, a significant noise impact may be identified.

B.3.12.2 Environmental Impacts and Mitigation Measures

a. Would the Project result in exposure of 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?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction. Project Description Table B.1-6 (Construction Equipment Requirements) identifies the types of equipment utilized during construction of the Proposed Project. Temporary noise would also be generated by vehicles trips associated with construction. Table B.3.12-4 presents typical maximum noise levels for several types of heavy equipment listed in Table B.1-6 that would generate maximum noise levels.

Table B.3.12-4. Typical Noise Levels for Construction Equipment

Equipment	Lmax dBA at 50 Feet
Dozer	85
Excavator	85
Paver	85
Roller	85
Scraper	85
Loader	80
Loaded Large (Heavy Duty) Truck	84
Generator	82
Backhoe	80
Compactor	80
Air Compressor	80

Source: FHWA, 2006.

Construction activities associated with 12-kV duct bank construction and vault installation would occur along the Project route near existing residences. This is the only construction occurring near sensitive receptors. The noisiest phase of this particular construction is the use of concrete saws to cut the trench. Each phase of duct bank construction would progress down the streets at an average rate of approximately 65 to 85 feet per day over a six-month period, spending approximately one day in front of a residence (SDG&E, 2015a – Attachment 3.12-A). These construction activities would be intermittent and there may be no construction activity for weeks at any one location along the route (SDG&E, 2015a – Attachment 3.12-A). Table B.3.12-5 presents the estimated composite Leq (12-hour between 7:00 a.m. and 7:00 p.m.) for each stage of duct bank construction and vault installation.

Table B.3.12-5. Duct Bank Construction and Vault Installation 12-hour Composite Noise Levels

Construction Phase	12-hour Composite Leq dBA at 50 Feet
Duct Bank	
Saw Cutting	86
Foreign Utilities Identification	85
Mechanical Excavation	80
Vault Installation	
Mechanical Excavation, Day 1	82
Mechanical Excavation, Day 2	78
Street Repair	
Base Paving	79
Final Paving	85

Source: SDG&E, 2015b – Attachment 3.12-A (Tables 1 through 7).

Noise during the loudest day of construction activity was modeled using the Computer Aided Noise Abatement (CadnaA) noise model to identify the extent of the 75 dBA contour (City's Significance Determination Threshold #6). The noise model considered the spatial locations and sizes of noise sources, the elevation of sources and the surrounding topography, and ground and air absorption. The construction of the duct banks could expose residences to noise levels exceeding 75 dBA on either side of the street without the implementation of additional noise controls. Residences located within approximately 130 feet of the construction activity could exceed 75 dBA for intermittent periods lasting approximately one day (SDG&E, 2015a – Attachment 3.12-A). As such, receptors located within 130 feet of active construction are considered to be temporarily exposed to perceptible periodic maximum noise levels (Lmax) exceeding the 75 dBA threshold set forth in City of San Diego Municipal Code Section 59.5.0404(b) and the City's Significance Determination Threshold #6. Mitigation Measure N-1 (*Municipal Code Non-Compliance Approval or Prepare Construction Noise Control Plan*) is proposed to reduce the severity of temporary noise to the extent feasible.

With respect to City of San Diego Municipal Code Section 59.5.0404(a) and the City's Significance Determination Threshold #6, while most construction activities would occur within the allowable days and hours, it may be necessary to conduct some construction activities after 7:00 p.m. SDG&E has conferred with the City of San Diego's Development Services office on two occasions (May 1, 2014 and February 4, 2015) to discuss the Proposed Project, and informed the City of San Diego that an exception from the City's Noise Abatement and Control Administrator would be sought for any construction activities occurring after 7:00 p.m. (SDG&E, 2015a). Mitigation Measure N-2 (*Construction Work Hours Authorization*) is proposed to ensure SDG&E obtains all needed authorization(s) from the City and copies are provided to the CPUC prior to the start of construction.

With the incorporation of Mitigation Measures N-1 and N-2, impacts from construction noise would be less than significant and would comply with the requirements of the City of San Diego Municipal Code and CEQA Significance Determination Thresholds.

Mitigation Measure(s)

N-1 Municipal Code Non-Compliance Approval or Prepare Construction Noise Control Plan. Prior to a Notice to Proceed, San Diego Gas & Electric (SDG&E) shall complete one of the following (a) or (b):

(a) Obtain written authorization(s) from the City of San Diego allowing construction of the Project to exceed the noise performance standards identified in Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404(b). Official copies of the written authorization(s) shall be submitted to the CPUC.

(b) Prepare a detailed Construction Noise Control Plan (Plan) for review by the California Public Utilities Commission (CPUC) and City of San Diego. The Plan is intended to minimize noise from construction activities to the maximum extent feasible at work areas within 130 feet of residences. The Plan must include, but not be limited to:

- Methods to reduce mobile and stationary construction noise levels, to the maximum extent feasible, occurring within 200 feet of sensitive receptors (i.e., residences) or expected to exceed 75 A-Weighted sound level (dBA) during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- Methods to reduce mobile and stationary construction noise levels, to the maximum extent feasible, occurring outside the 12-hour period from 7:00 a.m. to 7:00 p.m. assuming the requirements of Mitigation Measure N-2 are met. Any conditions or performance standards required by the City of San Diego or CPUC through the implementation of Mitigation Measure N-2 shall be met.
- Identification of heavy truck trip routes accessing the Vine Substation site, construction staging yards, 12-kilovolt distribution circuits, and telecommunication routes to reduce travel on residential streets and avoid noise sensitive receptors to the maximum extent feasible.
- The Plan shall detail how SDG&E and its contractor(s) will respond to noise complaints, and how to document the resolution of those complaints.

In addition to completing either (a) or (b) above, SDG&E shall:

- Establish of a telephone number for use by the public to report any nuisance noise conditions associated with construction activities. SDG&E shall ensure that a public liaison is assigned to respond to all public construction complaints in a timely manner, and either (a) the telephone number is staffed by the public liaison during construction hours; or (b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. Public complaints shall be forwarded to the CPUC within 48 hours. This telephone number shall be posted at entrances to work areas and construction yards in a manner visible to passersby.
- SDG&E and its contractor(s) shall respond to public complaints and document the resolution of those complaints.
- Methods for conflict resolution shall be documented in the event a noise complaint cannot be resolved.
- A log of all complaints and the current status shall be provided to the CPUC monthly.

N-2 Construction Work Hours Authorization. Construction activities shall not occur during the following hours and days without obtaining all necessary authorization(s) from the City of San Diego allowing for construction to occur outside the hours allowable within Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404(a). SDG&E shall provide copies of City authorization(s) to the California Public Utilities Commission (CPUC) for review.

- Between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, on legal holidays as specified in Section 21.04 of the City of San Diego Municipal Code, or on Sundays.

Operation and Maintenance. The primary noise sources associated with the operation of the proposed Vine Substation would be from the four 69/12-kV transformers and the cooling systems associated with the four pieces of 12-kV switchgear and the control shelter. The maximum operational noise at the substation wall would be approximately 46.6 dBA (SDG&E, 2015b). Therefore, operations of the proposed Vine Substation would not exceed any of the one-hour performance standards identified by City of San Diego Municipal Code Section 59.5.0401 shown in Table B.3.12-3 (75 dBA Leq 1-hr in an industrial area).

Corona noise from operation of the proposed overhead 69-kV lines is anticipated to be below 15 to 35 dBA at a distance of 100 feet (SDG&E, 2015a). Therefore, overhead 69-kV lines would not exceed any of the one-hour performance standards identified by City of San Diego Municipal Code Section 59.5.0401 in Table B.3.12-3. Therefore, all permanent operational noise of the Proposed Project would have a less-than-significant impact and would comply with the requirements of the City of San Diego Municipal Code, CEQA Significance Determination Thresholds, and General Plan policies.

Routine and infrequent planned maintenance activities would be temporary and are expected to occur between 7:00 a.m. to 7:00 p.m. While some activities may generate momentary noise exceeding the overall daytime performance standard levels identified in Table B.3.12-3, such momentary noise would not result in a one-hour average sound level exceeding the standards. Therefore, temporary maintenance noise from the Proposed Project would be less than significant and would comply with the requirements of the City of San Diego Municipal Code, CEQA Significance Determination Thresholds, and General Plan policies.

b. Would the Project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

LESS THAN SIGNIFICANT. During construction, minor localized vibration may occur proximate to the work areas. The primary vibration activity would be jack and bore construction under the San Diego MTS railroad at West Palm Street. However, no residential or other sensitive land uses are located in this area. The main activity that may generate temporary vibration proximate to residences would be during underground excavations and construction of the 12-kV distribution relocations and telecommunication system upgrades and from heavy truck trips. However, momentary vibration from these activities would be barely perceptible at residential receptors (SDG&E, 2015b). Additionally, duct bank installation activities are expected to progress at a rate of 85 to 95 feet per day, such that the potential for exposure to vibrations would be short-term, lasting approximately 10 days at any one location. As such, excessive groundborne vibration or groundborne noise would not be expected and impacts would be less than significant.

Once operational, the only vibration source would be from temporary maintenance activities, primarily within the Vine Substation, where no sensitive receptors are located nearby. Maintenance of the 12-kV distribution relocations and telecommunication system upgrades are not expected to generate perceptible vibration levels at any adjacent residential receptors. Therefore, vibration impacts from O&M would be less than significant.

c. Would the Project result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

LESS THAN SIGNIFICANT. As discussed in Section B.3.12.2(a), the maximum operational noise at the Vine Substation wall would be approximately 46.6 dBA (SDG&E, 2015b). Furthermore, corona noise from operation of the proposed overhead 69-kV lines is anticipated to be below 15 to 35 dBA at a distance of 100 feet (SDG&E, 2015a). These levels would not exceed any noise performance standard identified within the City of San Diego Municipal Code, CEQA Significance Determination Thresholds, or General Plan. Furthermore, these levels are well below the ambient conditions of the Project area presented in Table B.3.12-2. Operation of the Proposed Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Furthermore, routine and infrequent maintenance activities would only generate temporary noise. Therefore, noise associated with O&M of the Proposed Project would have a less-than-significant impact.

d. Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Construction of the Proposed Project would require the temporary use of various types of noise-generating construction equipment, both stationary and mobile. At construction locations proximate to residences (primarily during 12-kV duct bank construction along India Street and Columbia Street), construction would likely result in temporary or periodic noise exceeding the ambient conditions of the Project area presented in Table B.3.12-2. As discussed for B.3.12.2(a), Mitigation Measures N-1 (*Municipal Code Non-Compliance or Prepare Construction Noise Control Plan*) and N-2 (*Construction Work Hours Authorization*) would ensure temporary construction noise is consistent with the requirements set forth within City of San Diego Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404. While construction noise levels may periodically exceed ambient levels at residential locations, the implementation of these measures would ensure compliance with City’s performance standards pertaining to temporary construction noise levels. Therefore, Proposed Project impacts pertaining to temporary or periodic increase in ambient noise levels would be less than significant.

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 levels?

LESS THAN SIGNIFICANT. The Proposed Project site is located approximately one mile from San Diego International Airport and is within the area covered by the airport’s ALUCP. The Proposed Project does not include any permanently staffed facilities; therefore, only temporary construction personnel would potentially be affected by airport-related noise. While the Proposed Project is located within the Airport’s CNEL 65-dB contour (SDG&E, 2015b), these levels are not considered to be excessive. Impacts would be less than significant.

f. For a Project within the vicinity of a private air strip, would the Project expose people residing or working in the Project area to excessive noise levels?

NO IMPACT. There are no private airstrips located within two miles of the Proposed Project. Therefore, people working in the Proposed Project area during construction and O&M would not be exposed to excessive noise levels attributable to a private airstrip, and no impact would occur.

B.3.13 Population and Housing

POPULATION AND HOUSING **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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)?	☐	☐	☐	☒
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.13.1 Setting

The study area for population and housing includes the City of San Diego and San Diego County. Table B.3.13-1 summarizes the current population for these areas, housing unit availability, total employment, as well as employment in construction trades. As shown, the study area contains relatively low vacancy rates and contains a sizeable workforce, including a high number of construction workers throughout the County, which accounts for 4.4 percent of the total work force.

Table B.3.13-1. Existing Conditions – Population, Housing, and Employment

Location	Population	Housing		Employment	
		Total Units	Vacant Units	Total Employed	In Construction Trades
San Diego County	3,227,496	1,188,445	74,872 (6.3%)	1,473,500	64,900
City of San Diego	1,368,061	527,466	30,593 (5.8%)	661,100	N/A

Source: DOF, 2015; CA EDD, 2015.
N/A: Data Not Available

Applicable Regulations

Federal

There are no federal regulations applicable to the Proposed Project with respect to potential population and housing impacts.

State

There are no State regulations applicable to the Proposed Project with respect to potential population and housing impacts.

Local

A review of the City of San Diego General Plan did not identify any applicable goals or policies with respect to population and housing impacts resulting from implementation of the Proposed Project.

B.3.13.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. The Proposed Project would employ an average of 46 workers throughout the 19-month construction period, with a peak of up to 83 workers (SDG&E, 2015b). The workers would consist of existing SDG&E employees and contract workers. The construction workforce would come from within San Diego County (SDG&E, 2015a). As shown in Table B.3.13-1, the County contains a strong construction workforce, where a peak of 83 workers would only account for 0.1% of the total construction workforce available within the County. Therefore, construction of the Project would not induce any temporary population growth either directly or indirectly.

Once operational, maintenance activities would be performed by current SDG&E employees (SDG&E, 2015b). Therefore, construction and operation of the Proposed Project would not directly induce any population growth within the area. No direct population growth impact would occur.

As discussed in Section B.1 (Project Description), the Proposed Project would meet existing and anticipated customer-driven electrical load growth, and improve distribution equipment reliability to prevent potential long outages or disruption of service to existing SDG&E customers in downtown and the surrounding area. Since the Proposed Project would not provide electrical service to an area not already served, it would not indirectly induce population growth within the area. No indirect population growth impact would occur.

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

NO IMPACT. As discussed in Section B.1.5 (Project Location), the Proposed Project would not result in temporary displacement of housing or require the removal of any existing housing units. Therefore, no impact would occur.

c. Would the project displace substantial numbers of people necessitating the construction of replacement housing elsewhere?

NO IMPACT. As discussed in Section B.1.5 (Project Location), the Proposed Project would not result in temporary displacement of housing or require the removal of any existing housing units. The proposed substation site is owned by SDG&E and has been leased for use as a Park 'N Fly Airport Parking lot. The Park 'N Fly Airport Parking lot is being relocated to a more centralized rental car facility, which is currently under construction near the airport. Therefore, no persons would be displaced and no impact would occur.

B.3.14 Public Services

PUBLIC SERVICES 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:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.14.1 Setting

Fire and Emergency Services

The San Diego Fire-Rescue Department (SDFD) provides City of San Diego residents with fire and life-saving services, including fire protection, emergency medical services, and lifeguard protection at San Diego beaches. The Proposed Project would be served by Fire Station 3, located at 725 West Kalmia Street, approximately 0.8 mile southeast of the proposed Vine Substation site. The fire station provides both fire protection and medical/rescue services.

Police Protection Services

The City of San Diego Police Department serves the Proposed Project area. In addition to police protection services, the police department operates a number of specialized divisions that include the domestic violence, financial crimes, forensic science, and traffic units. The Proposed Project would be served by the police department’s Western Division, headquartered at 13396 Salmon River Road, approximately 2.1 miles to the northwest of the proposed Vine Substation site, and serves a population of 129,709 people with a service area of approximately 22.7 square miles (City of San Diego, 2015). The Proposed Project would also be served by the Peninsula Storefront Station, located at 3750 Sports Arena Boulevard, Suite #3. The station is located approximately 2.4 miles northwest of the proposed Vine Substation site.

Hospitals

The following are the two closest major medical facilities to the Proposed Project:

- *Scripps Mercy Hospital*, located at 4077 Fifth Avenue, approximately 1.3 miles northeast of the proposed Vine Substation, and
- *St. Pauls’ Program of All-Inclusive Care for the Elderly*, located at 111 Elm Street, approximately 1.3 miles southeast of the proposed Vine Substation.

Schools

The San Diego Unified School District serves the Proposed Project area. The following schools are located within approximately one mile of the Proposed Vine Substation:

- *Montessori School of San Diego* (approximately 0.25 mile southeast of the Proposed Vine Substation;
- *Grant Elementary School* (approximately 0.7 mile north of the Proposed Vine Substation);
- *Old Town Academy K-8 Charter School* (approximately 0.85 mile northeast of the Proposed Vine Substation);
- *Saint Vincent de Paul School* (approximately 0.9 mile north of the Proposed Vine Substation);
- *Fleur de Lis School* (approximately 0.95 mile northeast of the Proposed Vine Substation);
- *Museum School* (approximately one mile southeast of the Proposed Vine Substation); and
- *Florence Elementary School* (approximately one mile northeast of the Proposed Vine Substation).

Parks and Libraries

The closest public library to the Proposed Vine Substation is the Mission Hills Branch Library, located at 925 West Washington Street, approximately 0.82 mile northeast of the Proposed Vine Substation.

The parks nearest to the Proposed Project site include the following:

- *Pioneer Park* (approximately 0.7 mile north of the Proposed Vine Substation);
- *Mission Hills Park* (approximately 0.7 mile north of the Proposed Vine Substation);
- *Beeson Field* (approximately 0.9 mile west of the Proposed Vine Substation);
- *Beth Israel Park* (approximately one mile southeast of the Proposed Vine Substation); and
- *Balboa Park* (approximately one mile east of the Proposed Vine Substation).

Trails

The following is the closest trail to the Proposed Vine Substation:

- *Maple Canyon Trail* (approximately 0.95 mile east of the Proposed Vine Substation);

Applicable Regulations

Federal

There are no federal regulations related to public services applicable to the Proposed Project.

State

There are no State regulations related to public services applicable to the Proposed Project.

Local

The following local plans and policies related to public services are applicable to the Proposed Project, and include the City of San Diego General Plan (City of San Diego Planning Department, 2008) and Downtown Community Plan (Civic San Diego, 2013).

<u>City of San Diego General Plan</u>

- **Midway/Pacific Highway Corridor Community Plan and Local Coastal Program Land Use Plan**

  <u>Community Facilities and Services</u>

  Policy - Establish and maintain a high level of public facilities and services to meet the needs of the community.

  Further

  - Provide local recreational opportunities for residents of the Midway area.
  - Provide for adequate educational facilities to meet the existing and future needs of the community.
  - Provide adequate library service to meet the needs of residents.
  - Maintain a high level of police protection throughout the Midway/Pacific Highway Corridor community planning area.
  - Maintain a high level of fire protection throughout the Midway area.
  - Support the regular upgrading of fire stations and traffic control signals so as to provide an adequate response to fires and other emergencies.

  Specific Recommendations

  <u>Park and Recreation Facilities</u>

  A. Require the provision of private recreational facilities in conjunction with new planned residential development projects.

- **Downtown Community Plan**

  <u>Public Facilities and Amenities</u>

  Education Facilities

  - Goals
    - 8.1-G-1 Encourage the provision of quality and accessible educational facilities to downtown families and adult learners.
  - Policies
    - 8.1-P-3 Work proactively with the San Diego Unified School District and the various private educational institutes to meet the needs of downtown's growing population and to provide quality educational opportunities to the urban population.

Police and Fire Facilities

- Goals
  - 8.2-G-1 Maintain a safe and livable environment downtown working with the City to ensure appropriate levels of fire and police services proportionate to population and activity level.
  - 8.2-G-2 Work with City fire and life safety departments to anticipate construction and expansion of fire and police facilities.
- Policies
  - 8.2-P-1 Institute the collection of development impact fees for all development projects to help pay for the needed fire and police facilities.
  - 8.2-P-4 In close proximity to emergency facilities, avoid special events that require street closure and/or cause severe traffic congestion that could impede response.

City of San Diego CEQA Significance Determination Thresholds (City of San Diego, 2011)

Public Services

The analyst should evaluate the significance of a project's impacts related to construction of public service facilities as follows:

a. Does the project conflict with the community plan in terms of the number, size, and location of public service facilities?

b. If so, are there direct impacts from construction of proposed new public service facilities needed to serve the project?

The Proposed Project would not result in the need for new or altered governmental services. Therefore, this significance threshold would not apply.

B.3.14.2 Environmental Impacts and Mitigation Measures

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:

a) Fire protection?

LESS THAN SIGNIFICANT. Construction activities associated with the Proposed Project are not anticipated to increase the demand for fire protection services in a way that would result in the need for new or altered facilities. Fire risk would not be greater than at any other construction site. Following construction, operation of the Vine Substation could result in instances requiring fire protection services. However, the California Fire Code and Uniform Building Code require the Proposed Project to include fire protection features. Fire risk would be comparable to that from other existing electrical infrastructure in the area, and this would not create the need for new or physically altered fire protection facilities. The Proposed Project would have less-than-significant impacts with regard to fire protection.

b) Police Protection?

LESS THAN SIGNIFICANT. Construction activities associated with the Proposed Project are not anticipated to increase the demand for police protection services in the area. An approximately 10-foot-tall, "La Paz" brown colored masonry wall would enclose the entire Vine Substation. Two approximately 10-foot-tall and 30-foot-wide sliding gates would be installed within the perimeter wall to provide primary and secondary access to the substation. These gates would be constructed from chain-link material and would be designed to accommodate standard brown slats. Five strands of barbed wire would be installed horizontally along the interior of the wall, to prevent passage by intruders. These design features would help reduce the demand for police protection associated with the Proposed Project; other elements of the Proposed Project are generally underground (12-kV distribution and telecommunication lines). Criminal activity and the need for police protection would be comparable to that from other existing electrical infrastructure in the area. As with fire services, the construction and operation of the Proposed Project would not result in a need for additional police facilities nor would it affect response times or other service performance. The result would be a less-than-significant impact with regard to police protection.

c) Schools?

NO IMPACT. Construction of the Proposed Project would last for approximately 19 months and would require up to 83 workers during peak activity. These construction personnel are expected to commute to the site from within San Diego County and would not create a permanent change in local population. Upon completion, the Vine Substation would be automated and would not require additional SDG&E employees for operations and maintenance activities. Since the Proposed Project would not increase the local population, no increase in demand for school facilities would occur, and no new school facilities would be required. No impacts to schools would occur. See Section B.3.13 (Population and Housing) for additional discussion on the Project's potential to induce population growth.

d) Parks?

NO IMPACT. As described in Section B.3.14(c) above regarding schools, the Proposed Project would not increase the region's population. Consequently, the Proposed Project would not increase long-term demands on existing parks in the Project area, and no new or expanded park facilities would be required as a result of the Proposed Project. No impacts to parks would occur. See Section B.3.15 (Recreation) for a complete discussion the Proposed Project's potential impacts to parks and other recreational facilities.

e) Other Public Facilities?

NO IMPACT. The Proposed Project would not increase population and would therefore not affect other governmental services or public facilities or require new or expanded facilities to be developed. Therefore, no impact on other public facilities would occur.

B.3.15 Recreation

RECREATION	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.15.1 Setting

The substation site is located in an area characterized by light- and medium-industrial and office uses, parking lots, and rental car facilities. The proposed Vine Substation and 69-kV loop-in would be located on a site that is designated Industrial Employment by the City's General Plan. Lands adjacent to the relocated distribution circuits have a General Plan designation of Industrial Employment at the northern end of the line and Multiple Use and Commercial Employment Retail and Services at the southern end. Residential uses are located east of State Highway 5; however, there are no recreation facilities in the immediate vicinity of the Proposed Project site or along the distribution circuit routes. The closest recreation areas are Pioneer Park and Mission Hills Park approximately 0.75 mile north of the Proposed Project site.

Applicable Regulations

Local

<u>City of San Diego General Plan</u>

Recreation Element

The purpose of this element is to preserve, protect, acquire, develop, operate, maintain, and enhance public recreation opportunities and facilities throughout the City for all users (San Diego, 2008). A review of this document found that none of the goals or policies for recreational resources apply to the Proposed Project.

B.3.15.2 Environmental Impacts and Mitigation Measures

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

NO IMPACT. During the construction period, up to approximately 83 workers would be required. This increase in daily worker population would not result in additional demand on existing recreational facilities due to the small and temporary nature of the increase. O&M of the Proposed Project is not anticipated to result in the need for additional workforce, as the facilities would be unmanned and maintenance activities would be handled by existing personnel. Therefore, the Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impacts would occur.

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

NO IMPACT. The Proposed Project does not include recreational facilities, nor does it require the construction of new facilities or the expansion of existing facilities recreational facilities. Therefore, no impact would occur.

B.3.16 Transportation/Traffic

TRANSPORTATION AND TRAFFIC Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☒	☐	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e. Result in inadequate emergency access?	☐	☒	☐	☐
f. Conflict with adopted policies, plans, or programs supporting regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☒	☐	☐

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.16.1 Setting

Roadway Network

Regional access to the Proposed Project area is provided by I-5, which is a major north-south transportation corridor through San Diego County. Construction vehicles will likely utilize the South Kettner Boulevard and the North India Street exits from I-5 to locally access the Project work sites. Access to the proposed Vine Substation would be accomplished from Vine Street via the existing driveway. Access to the 69-kV loop-in would primarily occur from Vine Street, California Street, and Pacific Highway. The relocated distribution circuits would generally travel within public ROW along the following streets:

- Kettner Boulevard between Vine Street and West Hawthorn Street;
- Vine Street between California Street and India Street;
- India Street between Vine Street and West Redwood Street;
- West Redwood Street between India Street and Columbia Street;
- Columbia Street between West Redwood Street and State Street;
- West Laurel Street between Kettner Boulevard and State Street; and
- State Street between West Laurel Street and Maple Street.

Table B.3.16-1 includes existing roadway characteristics, average daily traffic (ADT) volumes, and performance information (where available) for those roadways that are anticipated to be affected by the Proposed Project (refer to Figure B.1-2, Project Overview Map).

Table B.3.16-1. Study Area Roadway Characteristics and Existing Traffic Conditions

Roadway	Cross Street(s) or Segment	Number of Lanes	ADT	Level of Service (LOS)[a]
I-5	India/Sassafras Streets	8	192,000	N/A
Pacific Highway	Vine Street, Sassafras Street, and West Laurel Street	6	12,800	A
Pacific Highway	Pacific Highway viaduct (I-5) and Sassafras Street	6	23,000	A
Kettner Boulevard	Vine Street to West Palm Street	4 (one-way)	N/A	N/A
Kettner Boulevard	I-5 off-ramp and I-5 on-ramp	4	19,300	B
West Palm Street	Pacific Highway and Kettner Boulevard	2	6,000	D
California Street	Vine Street	1 (one-way)	N/A	N/A
California Street	Vine Street and West Palm Street	2	N/A	N/A
Vine Street	California Street to India Street, Kettner Boulevard and California Street	2	N/A	N/A
India Street	Vine Street to West Redwood Street	3 (one-way)	16,700	B
India Street	Upas Street and Quince Street	4	16,700	C
West Redwood Street	India Street to Columbia Street	2	N/A	N/A
Columbia Street	West Redwood Street to West Laurel Street	2	N/A	N/A
West Laurel Street	Kettner Boulevard and Pacific Highway	4	27,600	C
West Laurel Street	Columbia Street to State Street, India Street and State Street	4	9,900	A
West Quince Street	State Street	2	N/A	N/A
West Nutmeg Street	Columbia Street	2	N/A	N/A
Ibis Street	India Street	2	N/A	N/A
State Street	West Laurel Street	2	N/A	N/A
West Hawthorn	Kettner Boulevard and India Street	3	25,200	C
West Hawthorn	Kettner Boulevard and Pacific Highway	3	24,700	C
Sassafras Street	India Street and Kettner Boulevard	2	N/A	N/A
Sassafras Street	Kettner Boulevard and Pacific Highway	2	9,700	B
Upas Street	India Street	2	N/A	N/A

Source: SDG&E, 2015a (Attachment L); SDG&E, 2015b (Table 3.16-1); Caltrans, 2015.
Notes:
N/A: Data is not available
(a) Level of service (LOS) is a qualitative indicator used for describing the performance of a roadway segment or intersection operating conditions. It is measured from LOS A (excellent conditions) to LOS F (extreme congestion), with LOS A through D typically considered to be acceptable.

Airport Facilities

The nearest airport to the Proposed Project is the San Diego International Airport, which is located less than 0.5 mile to the southwest. This airport operates an average of 514 aircraft per day (based on the 12-month period ending June 30, 2014) along a single 9,400-foot long runway (AirNav, 2015). Due to the proximity of the airport, the Proposed Project site lies within the City's Airport Environs Overlay Zone, as designated in the City's Municipal Code (SDG&E, 2015b). The Overlay Zone provides supplemental regulations for property surrounding the airport pertaining to land use compatibility, noise impacts, and safety hazards, among other issues.

Railway

The North Country Transit District (NCTD) Coaster provides commuter rail service to the Proposed Project area along existing railway lines running north-south between Pacific Highway and Kettner Boulevard. The service links the North County and the City of San Diego and operates more than 20 Coaster trains each weekday, with 10 trains operating on Saturdays. The Coaster does not operate regular service on Sundays. Amtrak (a service of Caltrans and Amtrak) operates the Pacific Surfliner train, which runs from San Luis Obispo to the Santa Fe Depot in the City of San Diego. The tracks, which are utilized by Amtrak, are owned by the Burlington Northern Santa Fe (BNSF) Railway. The Pacific Surfliner runs between five and seven trains on a daily basis, generally between 5:50 a.m. and 12:59 p.m. (SDG&E, 2015b).

Public Transportation

Bus

Bus service in the Project area is provided by the San Diego Metropolitan Transit System (MTS). The Following MTS Bus Routes are located along roadways affected by the Proposed Project (MTS, 2015; SDG&E, 2015b):

- Bus Route 5 utilizes India Street.
- Bus Route 3, 10, 30, and 150 utilize Pacific Highway.
- Bus Route 43 utilizes State Street/Reynard Way.

Trolley

The MTS Trolley's Green Line connects downtown San Diego in the south to the City of Santee in the northeast. This trolley line is located adjacent to the previously described Amtrak and NCTD Coaster tracks. The Middletown Station is located adjacent to the proposed 12-kV duct banks within West Palm Street. Westbound weekday service from the Santee station to downtown runs from 5:04 a.m. until 11:19 p.m., with trolleys departing every 15 minutes. Eastbound weekday service from the Downtown Station (12th and Imperial) to Santee runs from 4:51 a.m. until 11:36 p.m., with trolleys departing every 15 minutes. (SDG&E, 2015b).

Bicycle Facilities

The City of San Diego designates and maintains three types of bicycle facilities: bike paths, bike lanes, and bike routes. Existing bikeways include Class III routes that run along Pacific Highway, India Street, and State Street. As defined by the City of San Diego Uptown Community Plan, Class III bikeways provide signage only and do not include striped lanes (i.e., shared use with motor vehicle traffic within the same travel lane). (SDG&E, 2014 and 2015b).

Applicable Regulations

Federal

14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace. Construction of a project could potentially impact aviation activities if a structure or equipment were positioned such that it would be a hazard to navigable airspace. The Federal Aviation Administration (FAA) has established reporting requirements for construction or alterations around airport and heliport facilities that meet certain criteria regarding final height above ground level and penetration of an imaginary conical surface extending out from the air facility.

With regard to aviation safety, Subpart B, Section 77.9 of the regulations indicates that for areas around airports having runways longer than 3,200 feet, if any construction that is more than 200 feet above ground level or results in an object penetrating an imaginary surface extending outward and upward at a ratio of 100 to 1 from a public or military airport runway out to a horizontal distance of 20,000 feet (approximately 3.78 miles), then an applicant is required to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area for review and approval of the project (FAA, 2015). For areas around heliports, this same requirement applies to any construction that is more than 200 feet above ground level or would penetrate an imaginary surface extending outward and upward at a ratio 25 to 1 from a public or military heliport out to a horizontal distance of 5,000 feet.

State

California Vehicle Code (CVC) (DMV, 2015) includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials.

California Government Code Sections 65352, 65404, 65940, and 65944, amended by Senate Bill 1462, requires local planning agencies to notify the military whenever a proposed development project or general plan amendment is located within 1,000 feet of a military installation, located within special use airspace, or is located beneath a low-level flight path.

<u>Caltrans</u>

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

1. Generates over 100 peak hour trips assigned to a State highway facility.
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS “C” or “D”).
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing significant delay; unstable or forced traffic flow conditions (LOS “E” or “F”).

As discussed later in Section B.3.16.2(a), during construction the Proposed Project would generate a maximum of 108 daily trips. These trips are not expected to all occur along the I-5 freeway (Caltrans jurisdiction) during the morning and afternoon peak periods. Therefore, no Traffic Impact Study is needed per the thresholds defined above.

Local

<u>San Diego Association of Governments (SANDAG) 2050 Regional Transportation Plan and Sustainable Communities Strategy</u>

Federal Highway Administration 23 CFR 450.320 requires that each transportation management area address congestion management through a process involving an analysis of multimodal metropolitan wide strategies that are cooperatively developed to foster safety and integrated management of new and existing transportation facilities eligible for federal funding. SANDAG is the transportation management agency for the San Diego region. The *2050 Regional Transportation Plan and Sustainable Communities Strategy* (2050 RTP) meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-single-occupancy vehicle analysis, land use impact analysis, the provision of congestion management tools, and integration with the regional transportation improvement program process (SANDAG, 2011). A review of the 2050 RTP did not identify any objectives, policies, or specific actions with performance standards or other actions applicable to traffic generated by or temporary roadway disruption from the Proposed Project.

City of San Diego General Plan

The General Plan Mobility Element identifies the proposed transportation network and strategies that have been designed to meet the future transportation needs generated by the planned land uses (San Diego, 2008). A review of the 2008 General Plan Mobility Element did not identify any objectives, policies, or specific actions with performance standards or other actions applicable to traffic generated by or temporary roadway disruption from the Proposed Project.

City of San Diego CEQA Significance Determination Thresholds

The purpose of these Significance Determination Thresholds is to assist City of San Diego staff, project proponents, and the public in determining whether, based on substantial evidence, a project may have a significant effect on the environment. The following thresholds have been established by the City to determine significant traffic impacts (San Diego, 2011):

1. If any intersection or roadway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, the impact would be significant if the project exceeds the following allowable increases in delay or intersection capacity utilization for affected intersections or volume-to-capacity (V/C) ratio or speed for affected roadway segments presented in Table B.3.16-2.

Table B.3.16-2. City of San Diego CEQA Significance Thresholds: Allowable Change Due to Project Impacts [a]

LOS With Project [b]	Freeways		Roadway Segments		Intersections	Ramp Metering
	ICU (V/C)	Speed	ICU (V/C)	Speed	Delay	Delay
E	0.010	1.0 mph	0.02	1.0 mph	2.0 sec.	2.0 min.
F	0.005	0.5 mph	0.01	0.5 mph	1.0 sec.	1.0 min.

Source: San Diego, 2011.
Notes:
Delay = Average stopped delay per vehicle
ICU = Intersection Capacity Utilization
V/C = Volume-to-Capacity Ratio (Capacity at level of service E should be used, as specified in Table 1 of the City of San Diego Traffic Impact Study Manual)
(a) If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS.
(b) The acceptable LOS for freeways, roadways, and intersections is generally LOS D (LOS C for undeveloped locations). For metered freeway ramps, LOS does not apply; however, ramp meter delays above 15 minutes are considered excessive.

2. At any ramp meter location with delays above 15 minutes, the impact would be significant if the project exceeds the thresholds shown in Table B.3.16-2.

3. If a project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp, the impact may be significant.

4. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in Table B.3.16-2.

5. If a project would increase traffic hazards to motor vehicles, bicyclists or pedestrians due to proposed non-standard design features (e.g., poor sight distance, proposed driveway onto an access-restricted roadway), the impact would be significant. Note: analysts should refer readers to a discussion of this issue in the Health and Safety section of the environmental document.

6. If a project would result in the construction of a roadway which is inconsistent with the General Plan and/or a community plan, the impact would be significant if the proposed roadway would not properly align with other existing or planned roadways.

7. If a project would result in a substantial restriction in access to publicly or privately owned land, the impact would be significant.

B.3.16.2 Environmental Impacts and Mitigation Measures

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?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction. Project Description Table B.1-8 (Construction Truck Trip Summary) and Table B.1-9 (On-Road Vehicle Trips) identify the total number of vehicle trips generated during the 19-month construction period. During construction, a maximum of approximately 108 total daily trips would be expected to occur (SDG&E, 2015a). The addition of these trips to the roads utilized by construction-related vehicles would be temporary. The City of San Diego CEQA Significance Determination Thresholds provide acceptable LOS standards for the City when a project's trips are added to existing conditions. As shown in Table B.3.16-2 (Note "b"), for roadways and intersections the acceptable LOS standard is D. As shown in Table B.3.16-1, no roadway in the Project area is currently operating below LOS D (based on available data).

To evaluate the potential impact on LOS, the maximum number of construction vehicle trips (108 trips per day) were added to the ADT volumes shown in Table B.3.16-1. This value was then compared to the LOS standards presented in the City of San Diego Traffic Impact Study Manual (San Diego, 1998 – Table 2). Based on this analysis, the addition of construction vehicle trips would not change the existing LOS of any roadway segment under peak traffic conditions. (SDG&E, 2015a – Q#1-75)

In order to qualitatively assess whether the Proposed Project would exceed the allowable increase in V/C ratio, the existing V/C ratio for each roadway segment was calculated. Per the City of San Diego Traffic Impact Study Manual, the volume threshold for LOS E was assumed to be the capacity for each roadway segment. The ADT volumes shown in Table B.3.16-1 were used to approximate the existing traffic volumes along each segment. To determine the V/C ratio during construction, the maximum number of construction vehicle trips (108 trips per day) were added to the ADT traffic volumes for each roadway segment and then the V/C ratio was recalculated. The "Without Project" and "With Project"

V/C ratios were compared to determine whether the change in the V/C ratio exceeds the allowable increase to warrant further study per the City of San Diego Traffic Impact Study Manual (LOS A=0.10, LOS B=0.06, LOS C=0.04, LOS D/E/F=0.02 – City of San Diego, 1998 – Table 1). The results of this analysis indicate that the Proposed Project will not exceed the allowable increase in V/C ratio along any of the roadway segments under peak traffic conditions; no further study is required. (SDG&E, 2015a – Q#1-75 and Attachment L)

The addition of all 108 total daily trips to I-5 would result in a temporary increase of 0.06 percent over existing ADT volumes. These temporary increase are considered negligible. Furthermore, while current LOS is not available for all affected roadways, daily trips were distributed and added to the ADT volumes of affected roadways shown in Table B.3.16-1 (as available). The addition of temporary construction-related trips do not significantly decrease capacity levels over existing conditions or change existing LOS levels (SDG&E, 2015a – Attachment L). None of the affected roadways would operate below LOS D, which meets the City of San Diego CEQA Significance Determination Thresholds (SDG&E, 2015a – Attachment L).

Implementation of the Proposed Project would require the temporary closure of travel lanes during construction of the proposed 12-kV and telecommunications duct banks, as well as the proposed 69-kV overhead line. Refer to Figure B.1-2 (Project Overview Map) for the locations of these routes. Temporary lane closures would result in travel delays and disruptions to the affected portions of the circulation system. It is likely that during construction, vehicle delays during temporary travel lane closures may exceed the City of San Diego significance thresholds presented in Table B.3.16-2.

While SDG&E's Project design features include implementation of standard traffic control procedures, obtaining encroachment permits, and implementation of proper safety measures while construction work is occurring within or near public roadways (see Section B.1.13, Applicant-Proposed Measures), Mitigation Measure T-1 (*Construction Traffic Control Plan*) is proposed, which provides additional specificity regarding the requirements of the Construction Traffic Control Plan (SDG&E has specified it would prepared a "Traffic Management Plan"). The purpose of this plan would be to reduce potential impacts to the circulation system from the temporary addition of traffic volumes and closure/disruption to roadways and travel lanes. With the incorporation of this mitigation, construction would result in a less-than-significant impact to the performance of the circulation system and would not exceed the City of San Diego Significance Determination Thresholds, as identified in Table B.3.16-2.

Mitigation Measure(s)

T-1 Construction Traffic Control Plan. Prior to the start of construction, San Diego Gas & Electric (SDG&E) shall prepare and submit a Construction Traffic Control Plan for review and/or approval to the California Public Utilities Commission (CPUC) and all agencies with jurisdiction over public roads and transportation facilities that would be directly affected by the construction activities and/or would require permits and approvals. The Construction Traffic Control Plan shall include, but not be limited to:

- The locations and use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc. according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual.
- Additional methods to reduce temporary traffic delays to the maximum extent feasible.

- Defining methods to coordinate with all agencies responsible for encroachment permits throughout construction to minimize cumulative lane disruption impacts should simultaneous construction projects affect shared segments/portions of the circulation system.
- Prior to the start of construction, provide (or identify the timing to provide) copies of all approved permits and agreements to the CPUC and methods to comply with all specified requirements, including but not limited to:
  - Public Right-of-Way Permit from the City of San Diego.
  - Right-of-Entry Permit(s) from the North County Transit District (NCTD) and San Diego Metropolitan Transit System (MTS).
  - License Agreement from the MTS.
  - Temporary Occupancy Agreement and a Utility Agreement License from Burlington Northern Santa Fe Railway.
- Plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Police departments and fire departments shall be notified in advance by SDG&E of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions that could impact their effectiveness. At locations where roads will be blocked, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. Documentation of the coordination with police and fire departments shall be provided to the CPUC prior to the start of construction.
- Provisions for ensuring detours or safe movement through all affected pedestrian and bicycle facilities.
- Plans to coordinate with affected bus transit agencies (where applicable) at least one month prior to construction to minimize the impacts associated with the interruption of bus transit service. Documentation of the coordination with bus transit companies shall be provided to the CPUC prior to the start of construction.

Operation. During normal routine maintenance, approximately six round-trips per year by a two- to four-person crew would occur. Routine operations would require one or two workers in a light utility truck to visit the substation on a daily or weekly basis. One annual major maintenance inspection is expected to result in a maximum of approximately 30 vehicle trips (assumes 20 daily worker commute trips [10 personnel in/out] and up to 10 truck trips [3 pick-up trucks and 2 line trucks in/out]). This represents a conservative worst-case operational traffic volume. The worst-case temporary addition of all 30 trips to each roadway shown in Table B.3.16-1 would range between a maximum temporary increase of 0.5 percent over existing ADT Volumes (West Palm Street, the only segment operating at LOS D) to a minimum temporary increase of 0.02 percent over existing ADT volumes (I-5). These temporary increase are considered negligible. When maximum daily operational traffic volumes are added to existing ADT of all affected roadways presented in Table B.3.16-1 (as available), a negligible increase in daily traffic volumes would occur and would not increase LOS or existing ADT volumes over existing conditions. Therefore, operational traffic volumes would result in a less-than-significant impact to the performance of the circulation system and would not exceed the City of San Diego Significance Determination Thresholds, as identified in Table B.3.16-2.

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?

LESS THAN SIGNIFICANT. No policies or requirements related to construction or operation of the Proposed Project were identified within the San Diego Association of Governments (SANDAG) 2050 RTP (SANDAG, 2011). For the Proposed Project, the I-5 freeway is the only roadway part of the RTP system. Per the City of San Diego Traffic Impact Study Manual (1998), the Congestion Management Program requires that a regional travel forecast model be used for all developments generating more than 2,400 daily trips or 200 p.m. (afternoon) peak hour trips. The Proposed Project would add a maximum of approximately 108 average daily construction trips to I-5, which would result in a temporary 0.06 percent increase to the existing ADT volumes of I-5 near the Project area. This temporary addition of construction-related trips would not substantially decrease capacity levels over existing conditions; no additional modeling is required. Project construction is not found to conflict with SANDAG's RTP and overall congestion management process. Once operational, routine maintenance is expected to require approximately six vehicle trips per year. These trips would have negligible increase in ADT volumes on I-5. Therefore, the Project is found consistent with SANDAG's RTP and overall congestion management process. Less-than-significant impacts would occur.

c. Would the project 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?

LESS THAN SIGNIFICANT. The Project site was compared to the military flight paths and airspace designations of the California Military Land Use Compatibility Analysis (CMLUCA) database to determine whether the Proposed Project would be located within military special-use airspace or located beneath a military designated low-level flight path (CMLUCA, 2015). Based on the CMLUCA, the Proposed Project is not located within special-use military airspace or an area designated for low-level military flight paths and no action is required with respect to notifying the military about the Proposed Project (CMLUCA, 2015).

SDG&E submitted FAA Form 7460-1 for each Proposed Project component that required filing per the FAA requirements discussed above in Section B.3.16.1 (i.e., the three new TSPs to be located outside the Vine Substation). The FAA reviewed the Proposed Project and confirmed on October 8, 2014 that Project facilities would not require aviation safety lighting or marking and the Project would pose no hazard to navigable airspace (SDG&E, 2015a). Therefore, the Proposed Project would result in a less-than-significant impact with respect to airspace safety.

d. Would the project substantially increase hazards because of a design feature or incompatible uses?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Proposed Project does not include any new public roads or permanent changes to roadway features. As discussed in Section B.3.16.2(a), construction activities would require the temporary closure of travel lanes during construction of the proposed 12-kV and telecommunications duct banks, as well as the proposed 69-kV overhead line. Conductor stringing of the overhead 69-kV line from the new poles into the proposed Vine Substation would be conducted over existing rail tracks and could potentially impact the operation of the trains and MTS trolley. While construction vehicles would also travel over existing rail tracks, existing at-grade crossings have good visibility looking in all directions and warning lights with gate arms for traffic in both directions.

To ensure temporary lane closures and construction activities affecting rail lines do not result in increased hazards to the traffic circulation system, Mitigation Measure T-1 (*Construction Traffic Control Plan*) is proposed and would require review and approval of a Project-specific Construction Traffic Control Plan by the CPUC and all agencies with jurisdiction over public roads and transportation facilities that would be directly affected by the construction activities and/or would require permits and approvals. With the incorporation of this measure, temporary impacts during construction would be less than significant.

Once operational, maintenance activities are not expected to require lane closures or other disruptions to transportation facilities. Therefore, O&M of the Proposed Project would have a less-than-significant impact on roadway hazards.

Mitigation Measure(s)

T-1 Construction Traffic Control Plan. (see full text above)

e. Would the project result in inadequate emergency access?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. As discussed in Section B.3.16.2(a), construction activities would require the temporary closure of travel lanes during construction of the proposed 12-kV and telecommunications duct banks, as well as the proposed 69-kV overhead line. Prior to construction, SDG&E has committed to notifying all landowners within a 300-foot buffer of the Proposed Project of the anticipated construction schedule and ensuring local emergency providers have access through the Proposed Project areas during construction (SDG&E, 2015a – Q#1-78). To further ensure these temporary lane closures do not result in inadequate emergency vehicle access and flow or impede access to property, Mitigation Measure T-1 (*Construction Traffic Control Plan*) is proposed and would require review and approval of a Project-specific Construction Traffic Control Plan, which would include specific measures to address temporary closures/disruptions to roadways and travel lanes. With the incorporation of Mitigation Measure T-1, temporary impacts during construction would be less than significant.

Once operational, the Proposed Project would have no impact on access or movement to emergency service providers, except during maintenance activities of underground facilities. These activities would be short-term in duration and would comply with standard traffic control procedures (SDG&E, 2015a). Therefore, O&M of the Proposed Project would have a less-than-significant impact on roadway hazards.

Mitigation Measure(s)

T-1 Construction Traffic Control Plan. (see full text above)

f. Conflict with adopted policies, plans, or programs supporting regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Temporary construction activities may intermittently reduce, disrupt, or temporarily eliminate access to a 250-foot portion of an existing Class III bike route located along Pacific Highway during construction of the Proposed Project (SDG&E, 2015a – Q#1-79). Additionally, construction activities could disrupt public transit (bus and rail), pedestrian, and bicycle movements from temporary roadway or lane closures. As discussed in Section B.3.16.2(a), construction activities would require the temporary closure of travel lanes during construction of the proposed 12-kV and telecommunications duct banks, as well as the proposed 69-kV overhead line. To ensure these temporary lane closures do not impact pedestrian, bicycle, and public transit access and flow, Mitigation Measure T-1 (*Construction Traffic Control Plan*) is recommended, which requires review and approval of a Project-specific Construction Traffic Control Plan. This plan requires coordination and necessary permits be obtained and followed from affected rail agencies. This plan also requires SDG&E to ensure proper detours or safe travel through construction areas always remains open to buses, bicycles, and pedestrians, and consistency with any requirements set forth by the City of San Diego within the necessary Encroachment Permit and Public Right-of-Way Permit. Therefore, with the incorporation of Mitigation Measure T-1, construction of the Proposed Project would have a less-than-significant impact on transit, bicycle, and pedestrian circulation.

Once operational, the Proposed Project would have no impact on pedestrian, bicycle, and public transit access or movement and adopted policies, plans, and programs supporting them.

Mitigation Measure(s)

T-1 **Construction Traffic Control Plan**. (see full text above)

B.3.17 Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, State, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

B.3.17.1 Setting

Potable Water

The Proposed Project would obtain water from the City of San Diego's local water supplies, which consist of nine surface water reservoirs with more than 415,000 acre-feet of capacity, eight of which are connected directly or indirectly to the city's three water treatment facilities (City of San Diego Water, 2015). The geographic areas served by the three water treatment facilities are flexible, such that various areas within the City of San Diego can be supplied by more than one of the treatment plants.

Water Drainage Facilities

A small concrete-lined drainage designed for storm water conveyance is located on the west side of the proposed Vine Substation site. The channel is an approximately 12-inch wide concrete v-ditch. Standard curbs and gutters exist along the public streets in the Project area in which the distribution and telecommunication lines would be placed. No other drainage facilities are located in the Proposed Project area or in the immediate area surrounding the Proposed Project.

Electricity, Cable, and Telephone Service

Electricity at the proposed Vine Substation site is provided by SDG&E. Telephone, wireless phone, video/cable, and internet services are available from AT&T for residents within the Proposed Project area. Cox Communications and Time Warner Cable also provide cable, broadband, and phone services.

Sewer

The wastewater system in San Diego is comprised of two components: The Metropolitan Sewerage Sub-System and the Municipal Wastewater Collection Sub-System. With a population of over 2.2 million, the Metropolitan Sewerage Sub-System treats the wastewater from the City of San Diego and 15 other cities and districts (referred to as Participating Agencies) from a 450 square mile area (City of San Diego Wastewater, 2015).

The Municipal Wastewater Collection Sub-System is responsible for the collection and conveyance of wastewater from residences and businesses in the City of San Diego, serving a 330 square mile area with a population of 1.2 million people (City of San Diego Wastewater, 2015).

Solid Waste

Non-recyclable solid waste disposal in the City of San Diego is accommodated by the Miramar Landfill. The Miramar Landfill is the City of San Diego's only active landfill, and is located north of Highway 52 at 5180 Convoy Street. Approximately 910,000 tons of waste are disposed of yearly at this landfill and maximum capacity is expected to be reached by the year 2022 (City of San Diego Environmental Services Department, 2015). The Miramar Landfill is owned and operated by the City of San Diego, which also provides solid waste curbside pick-up service within City limits. Currently, only two other landfills provide disposal capacity within the urbanized region, Allied Waste's Sycamore and Otay landfills. The Sycamore Landfill is located to the east of the Proposed Project, within the City of San Diego's boundaries, and the Otay Landfill is located south of the Proposed Project in the City of Chula Vista.

Applicable Regulations

Federal

There are no federal regulations related to utilities and service systems applicable to the Proposed Project.

State

California Integrated Waste Management Act. In September 1989, the California Integrated Waste Management Act (AB 939) was passed, requiring each city in the State to divert at least 25 percent of its solid waste from landfill disposal through source reduction, recycling, and composting by the end of 1995. By 2000, cities were required to divert at least 50 percent of their waste stream from landfills. AB 939 further requires each city to conduct a Solid Waste Generation Study, and to prepare an annual Source Reduction and Recycling Element to describe how it will reach its goals.

San Diego Regional Water Quality Control Board (RWQCB). The San Diego RWQCB establishes water quality objectives that define the allowable limits or levels of water quality constituents or characteristics for protection of water; it also regulates permitting programs. All wastewater discharges are required to comply with waste discharge requirements; reuses of treated water are subject to water reclamation requirements and/or National Pollutant Discharge Elimination System (NPDES) permits.

Local

The following local plans and policies related to utilities and service systems, which are contained in the City of San Diego General Plan (City of San Diego, 2008), are applicable to the Proposed Project.

City of San Diego General Plan

- **Midway/Pacific Highway Corridor Community Plan and Local Coastal Program Land Use Plan**

  Community Facilities and Services

  Policy - Establish and maintain a high level of public facilities and services to meet the needs of the community.

  Further

  - Systematically improve water and sewer lines in the planning area.
  - Maintain adequate landscaping at all water and sewer facilities.
  - Systematically improve gas and electric facilities in the planning area to meet existing and future demands.
  - Maintain adequate landscaping or other means of screening at all gas regulator and electric substation facilities.

  Specific Recommendations

  Water and Sewer Service

  J. A comprehensive program of water and sewer line replacement should be timed and phased so as to adequately meet the community's water and sewer needs.

City of San Diego CEQA Significance Determination Thresholds (City of San Diego, 2011)

Public Utilities

1. Electrical Power and Natural Gas (Energy)

Electrical power and natural gas service is commonly provided by the San Diego Gas and Electric Company (SDG&E) throughout the San Diego metropolitan area. Power and gas requirements for upcoming development projects are handled on a case-by-case basis, and SDG&E consults with developers to incorporate energy saving devices into project design, where feasible.

Forecasting future electric power and natural gas consumption demand is performed on a continual basis by SDG&E. In situations where projects with large power loads are planned, these new large power loads are considered together with other existing or anticipated future loads in the project vicinity, and electrical substations are upgraded or new substations are built if the capacities of existing substations are exceeded. Direct impacts to electrical and natural gas facilities are addressed and mitigated by SDG&E at the time incoming development projects occur and are not typically evaluated by City staff.

An overall finding that the project would not have a significant environmental effect is not adequate for SDG&E to plan and implement an electric transmission or substation project in accordance with the permitting requirements of the California Public Utilities Commission's General Order 131-D. For SDG&E to be able to comply with GO 131-D and CEQA when its facilities are a component of a larger development project, the environmental document must make a separate finding that the proposed removal and/or construction or relocation of SDG&E's electric facilities as part of the larger project does not have the potential for significant effect on the environment.

4. Solid Waste Generation/Disposal

The California Public Resources Code requires each city in the state to divert at least 50% percent of its solid waste from landfill disposal through source reduction, recycling, composting, and transformation. The City has enacted codes and policies aimed at helping the City to achieve this diversion level, including the Refuse and Recyclable Materials Storage Regulations (Municipal Code Chapter 14, Article 2 Division 8), Recycling Ordinance (Municipal Code Chapter 6, Article 6, Division 7), and the Construction and Demolition (C & D) Debris Deposit Ordinance (Municipal Code Chapter 6, Article 6, Division 6). Projections indicate that diversion rates achieved by these regulations and ordinances alone will not be sufficient to achieve the 50% diversion level. To compound the problem, the City's Miramar Landfill is projected to close before 2016, making efforts that preserve landfill space especially important.

The following solid waste thresholds discuss the level at which compliance with regulations/ordinances is not sufficient, and therefore the inclusion of solid waste considerations in the review and preparation of environmental documents is necessary to address project construction, demolition, and ongoing waste generation. The Waste Management Plan would assure that the overall waste produced is reduced sufficiently to comply with waste reduction targets established in the Public Resources Code.

1. Would the proposed project have an effect upon, or result in a need for new or altered solid waste facilities?

B.3.17.2 Environmental Impacts and Mitigation Measures

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

LESS THAN SIGNIFICANT. The Project area is within the jurisdiction of the San Diego RWQCB. Currently, the proposed substation site is owned by SDG&E and has been leased for use as a Park 'N Fly Airport Parking lot that does not generate wastewater. Minimal wastewater would be generated by workers during construction, primarily for dust control. Portable toilets would be used in accordance with applicable sanitation regulations established by the Occupational Safety and Health Administration, which generally requires one portable toilet for every 10 workers. The licensed contractor would dispose of the waste at an offsite location and in compliance with standards established by the San Diego RWQCB. The construction-related increase in wastewater would be temporary and represents a very small fraction of the permitted flow for the wastewater treatment capability within the City of San Diego. Therefore, construction related to the proposed substation would not adversely affect the treatment plant that would receive the wastewater. Similarly, construction activities associated with relocation of the 12-kV distribution circuits, the loop-in of an existing 69-kV power line, and upgrades of an existing telecommunication system would also generate minimal wastewater as a result of watering for dust control. Upon completion of construction, the Proposed Project would not generate wastewater as the proposed substation would be an unstaffed, automated facility. Therefore, volume and quality of Project wastewater would not exceed the treatment requirements of the San Diego RWQCB, and this impact would be less than significant.

b. Would the project 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?

LESS THAN SIGNIFICANT. Construction of the Proposed Project would generate minimal water demand, primarily resulting from water used for dust control. Potable water would be used for fugitive dust control during construction and landscaping. The water would be obtained from the City of San Diego. In addition, as noted above under Section B.3.17(a), the wastewater generated by relocation of several 12-kV distribution circuits, the loop-in of an existing 69-kV power line, and upgrades of an existing telecommunication system would be less than significant.

Upon completion of construction, the Proposed Project would not generate a significant demand for water or wastewater treatment, as the proposed substation would be an unstaffed, automated facility; however, landscaping and irrigation would be installed. Water supply for the irrigation would be provided by a permitted municipal service connection to a water supply system that can provide an adequate supply to the site.

Existing wastewater and water treatment facilities are adequate to accommodate the demand generated by the Proposed Project. Thus, the Proposed Project would not require or result in the construction or expansion of water or wastewater treatment facilities, and this impact would be less than significant.

c. Would the project 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?

LESS THAN SIGNIFICANT. Construction-related activities would result in minor deviations to the existing drainage patterns at the proposed Vine Substation site, due to grading, and would have the potential to temporarily contribute additional runoff water to existing or planned storm water drainage systems during construction. The substation site is currently paved and relatively flat and would be graded with minimal slope, similar to the existing slope found on site. Therefore, such changes would not substantially increase the existing velocity or volume of storm water flows either on-site or in off-site areas. The existing concrete-lined drainage designed for storm water conveyance on the west side of the substation site would not be realigned or modified as part of the Proposed Project. Additionally, all areas outside of the proposed substation parcel that would be disturbed during grading would be restored to their original contours, and the surrounding area would be repaired, as appropriate. Additionally, SDG&E would implement measures from its Water Quality Construction BMP Manual, obtain coverage under the State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ, and prepare a SWPPP. Preparation of a SWPPP would include Project information, design features, and monitoring and reporting procedures. The SWPPP would be based on final engineering design for all of the Project components, which include the substation, 12-kV distribution circuit relocation, loop-in of an existing 69-kV power line, and upgrades of an existing telecommunication system.

As such, stormwater drainage features incorporated into the design of the Vine Substation, as well as compliance with the SWPPP, would manage all project-related stormwater without using off-site facilities. Therefore, no new or expanded drainage facilities would be required for the Proposed Project, and this impact would be less than significant.

d. Would the project have sufficient water supplies available to serve the proposed Project from existing entitlements and resources, or would new or expanded entitlements be needed?

LESS THAN SIGNIFICANT. During construction, the Proposed Project would generate minimal water demand. Potable water would be used for fugitive dust control during construction and landscaping. The water would be obtained from the City of San Diego. The amount of water for dust suppression during construction is considered to be minimal in comparison to available municipal water supplies, and water use for construction would be temporary.

Upon completion of construction, the Proposed Project would cause minimal daily water demand, resulting only from landscaping irrigation needs at the substation. Therefore, the Proposed Project (including the substation, relocation of several 12-kV distribution circuits, the loop-in of an existing 69-kV power line, and upgrades of an existing telecommunication system) would not be expected to exceed the existing available water supplies, and this impact would be less than significant.

e. Would the project result in a determination by the wastewater treatment provider that serves or may serve the Proposed Project that it has adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments?

LESS THAN SIGNIFICANT. The Proposed Project would generate minimal wastewater during construction. As discussed in Section B.3.17(a) above, existing wastewater facilities would adequately accommodate the minor demand caused by Project construction while serving existing commitments. Upon completion of construction, the Proposed Project would not generate wastewater as the proposed substation would be an unstaffed, automated facility. Therefore, this impact would be less than significant.

f. Would the project be served by a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs?

LESS THAN SIGNIFICANT. The Proposed Project would generate construction-related debris, including removed infrastructure components that may require disposal. SDG&E would recycle all materials as appropriate, and materials that could not be recycled would be disposed of in accordance with federal, State, and local regulations.

The Miramar Landfill or another approved facility would be used for disposal of solid waste during construction and operation of the Proposed Project. The amount of solid waste generated by construction and operation of the Proposed Project is not expected to exceed the capacity of the Miramar Landfill (currently at 18 percent – 15,527,878 CY) (CalRecycle, 2015). Therefore, the impact of solid waste disposal would be less than significant.

g. Would the project comply with federal, State, and local statutes and regulations related to solid waste?

NO IMPACT. The California Integrated Waste Management Act of 1989 emphasizes resource conservation through reduction, recycling, and reuse of solid waste, and guides solid waste management. This regulation requires that localities conduct a Solid Waste Generation Study and develop a Source Reduction Recycling Element. The Proposed Project would operate in accordance with these applicable Solid Waste Management Policy Plans by including recycling activities where feasible. During construction, all materials and debris would be removed from the area and recycled or properly disposed of at an off-site disposal facility in accordance with all applicable laws. In addition, as identified in Section B.3.14(f) above, the landfill serving the site would have sufficient capacity to accommodate the Project's construction and operations solid waste disposal needs, and would not require the need for new or expanded landfill facilities. Therefore, the Proposed Project would comply with federal, State, and local statutes and regulations related to solid waste disposal limits and landfill capacities. No impact would occur.

B.3.18 Mandatory Findings of Significance

MANDATORY FINDING OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? (*Cumulatively considerable* means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Significance criteria established by CEQA Guidelines, Appendix G.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Proposed Project is located within a highly urbanized area of San Diego. The Proposed Project footprint consists primarily of a parking lot and public roads. Vegetation communities are limited to ornamental landscaping and disturbed habitat. There is no aquatic habitat for fish species. As such, the Proposed Project would primarily impact paved areas, but would also affect small areas of disturbed habitat and ornamental landscaping. Common urban wildlife may utilize these areas, but the Proposed Project would not substantially reduce the habitat of any fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community.

As described in Section B.3.4 (Biological Resources), the Proposed Project would have no impact on special-status plants, critical habitat designated by the USFWS, or preserve areas designated under the City of San Diego MSCP Subarea Plan. With implementation of SDG&E's NCCP and APM BIO-1, the Proposed Project would have a less-than-significant impact on special-status wildlife. Therefore, the Proposed Project would not reduce the number or restrict the range of a rare or endangered plant or animal.

As discussed in Section B.3.5 (Cultural Resources), the Proposed Project would have a less-than-significant impact on historical resources with implementation of SDG&E's APM CUL-01 and Mitigation Measure C-4 (*Treatment of Human Remains*). Therefore, the Proposed Project would not eliminate important examples of the major periods of California history or prehistory. Impacts would be less than significant. In addition, with implementation of SDG&E's APM CUL-02 and Mitigation Measures C-1 (*Develop Paleontological Resource Mitigation Plan*), C-2 (*Train Construction Personnel*), and C-3 (*Monitor Construction for Paleontological Resources*), impacts to paleontological resources would be less than significant. No impact to tribal cultural resources would occur.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, effects of other current projects, and the effects of probable future projects.)

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Cumulative impacts have been assessed to determine if the Project's incremental contribution would be considerable, such that an environmental impact report would be required. Cumulative impacts were considered significant if Project-specific impacts would be significant. The determinations of significance for Project-level and cumulative impacts are summarized below.

Aesthetics. As discussed in the Proponent's Environmental Assessment (PEA – SDG&E, 2014), the construction schedule for the Proposed Project could overlap with the construction schedules for three planned and proposed projects listed in Table 4.18-1 (Planned and Proposed Projects Within One Mile). An additional seven projects have construction timelines that are unknown and could overlap with the Proposed Project. These projects would increase the potential for adverse cumulative impacts to occur from construction equipment, vehicles, materials, staging areas, and Project personnel. However, adverse visual impacts during construction would be temporary and would not be concentrated in one area for long periods of time. Therefore, the Project's contribution to cumulative visual impacts would be less than significant.

Permanent cumulative visual impacts could occur as a result of Project components being located near other proposed developments in the Project area. Expected visual changes associated with the future development in the Project area would result from a combination of the Proposed Project with other planned projects. Twelve of the projects identified in PEA Table 4.18-1 (Planned and Proposed Projects Within One Mile) are located within 0.5 mile of the Proposed Project. However, from many locations in the surrounding area, views of the Proposed Project would be partially or fully screened by intervening topography and structures. The Proposed Project would represent an incremental visual change to the urban landscape and would not stand out given the existing commercial and industrial setting. The introduction of landscaping along Vine Street would also result in a minor improvement to the streetscape. Further, the proposed earth-toned masonry perimeter wall (in place of the existing chain link fence) would reduce visual clutter within this predominantly industrial landscape. In addition, the Proposed Project would not substantially affect views of the San Diego Bay or the downtown San Diego skyline. For these reasons, the Proposed Project is not expected to result in a long-term cumulatively considerable impact to aesthetics.

Agriculture and Forestry Resources. There would be no impacts to agriculture or forestry resources under the Proposed Project. Therefore, the Proposed Project would not contribute to cumulative impacts to agriculture or forestry resources.

Air Quality. As described in Section B.3.3, construction of the Proposed Project would not result in emissions of criteria pollutants that exceed significance thresholds established in plans adopted by the County to achieve attainment with State and federal air quality standards. However, the Proposed Project may contribute significantly, along with other nearby projects, to a cumulatively considerable net increase of air pollutant emissions. If after a review of other cumulative projects there is the potential for the Proposed Project to create a considerable increase to a cumulative impact during construction, additional mitigation measures for off-road equipment and fugitive dust can be added to reduce those impacts to less than significant. Operating emissions would be minimal, and would not cause a considerable increase to cumulative air quality impacts.

Biological Resources. As described in Section B.3.4 (Biological Resources), with implementation of the SDG&E NCCP and APM BIO-1, effects of construction and O&M for the Proposed Project would be reduced to less-than-significant levels. Construction and O&M impacts to biological resources caused by the Proposed Project could potentially combine with similar effects of other projects in the area. However, the Proposed Project is located within a highly urbanized area and any resulting cumulative impacts to biological resources would not be cumulatively considerable.

Cultural Resources. While the Proposed Project would not impact significant known historical or archaeological resources, or human remains, there is a potential for unanticipated and previously unidentified cultural resources to be present within the Proposed Project area. However, this potential is considered to be low and the Proposed Project would implement mitigation measures, thus reducing the Proposed Project's impacts. Therefore, the Proposed Project's cumulative contribution to previously undetected cultural resources would be less than significant. In addition, the other projects identified within one-mile of the Proposed Project area would also be expected to have mitigation measures that would reduce potential impacts on cultural resources, reducing impacts to less than significant after mitigation. Therefore, impacts of the Proposed Project would not have the potential to combine with impacts from past, present, or future projects to result in a cumulative impact to historical or archaeological resources, or human remains.

With regard to impacts to paleontological resources, the Proposed Project would not contribute significantly to cumulative impacts within the region. Although no known paleontological resources have been identified within the Proposed Project area, the site is located in areas with a high to moderate potential for discovery of sensitive paleontological resources. However, due to the disturbed nature of the Proposed Project area, the potential to discover intact paleontological resources is low and the Proposed Project would implement mitigation measures, thus reducing the Proposed Project impacts. Therefore, the Proposed Project's cumulative contribution to previously undetected paleontological resources would be less than significant. In addition, the other projects identified within one-mile of the Proposed Project area would also be expected to have mitigation measures that would reduce potential impacts on paleontological resources, reducing impacts to less than significant after mitigation. Therefore, impacts of the Proposed Project would not have the potential to combine with impacts from past, present, or future projects to result in a cumulative impact to paleontological resources.

Geology and Soils. Geologic and soils impacts are typically site-specific. In order to be cumulatively considerable, adverse geologic conditions such as project-triggered slope instability or erosion would have to occur at the same time and in the same location as the same or similar conditions of the Proposed Project. Seismic impacts (groundshaking, earthquake-induced ground failure, and fault rupture) from the numerous local and regional faults in the Project area constitute an impact of the geologic environment on individual projects and not a Project impact, and therefore are not cumulatively considerable. Impacts from unsuitable soils (expansive or corrosive soils) would also represent an impact of the environment on individual projects and would not be cumulatively considerable. Therefore, adverse impacts from the Proposed Project would not be cumulatively considerable. In addition, development of each site would be subject to site development and construction guidelines and standards (local, State, and federal) that are designed to protect public safety.

Greenhouse Gas Emissions. The analysis of GHG emissions in Section B.3.7 considers cumulative global impacts. The Projects contribution to GHG emissions would not be cumulatively considerable.

Hazards and Hazardous Materials. Hazards and hazardous material cumulative impacts would occur if contaminated soil was encountered by the Proposed Project and other cumulative projects at the same time. A significant cumulative impact would only occur if both projects were to required large volumes of contaminated soil to be transported and treated exceeding local capacity. It is unlikely that the Proposed Project would encounter large volumes of contaminated soil requiring special handlings, transport, and treatment; therefore, it would not result in a cumulative impact. In addition, nearby projects at San Diego County Airport North Side (parking, Fixed-Base Operator Building, Car Rental Facilities) are nearing completion (2015) and the ground disturbance activities within the contaminated former General Dynamics site are complete. Furthermore, no cumulative impacts related to airport operations, FAA coordination, or emergency response plans would occur.

Hydrology and Water Quality. As described in Section B.3.8, all hydrology and water quality impacts from construction and operation of the Proposed Project would be less than significant or would not occur. For the impacts that were found to be less than significant (the violation of water quality standards, the depletion of groundwater, and the degradation of water quality), those impacts could combine with the impacts of other projects to result in a cumulatively significant impact. However, the incremental contribution of the Proposed Project to any cumulatively significant impact would not be cumulatively considerable.

Land Use and Planning. Upon approval of any required ministerial building and encroachment permits from the City, the Proposed Project would not conflict with applicable plans, policies, or ordinances. Therefore, the Project would not contribute to conflicts with applicable land use regulations and there would be no cumulative land use impact.

Mineral Resources. There would be no impacts to mineral resources under the Proposed Project. Therefore, the Project would not contribute to cumulative impacts to mineral resources.

Noise. Construction activities would result in temporary noise proximate to the work areas. The geographic area for cumulative noise impacts is generally limited to areas within approximately 0.5-mile of a noise source. This is because temporary construction noise impacts would be localized. At distances greater than 0.5-mile, impulse noise may be briefly audible and steady construction noise would attenuate such that the level of noise would blend in with background noise levels. Ground vibrations dissipate more rapidly than noise levels, limiting the geographic extent of ground vibration to the immediate vicinity of the vibration source. While it is possible for other construction projects to occur within 0.5-mile at the same time as construction of the Proposed Project, any cumulative noise increases would be temporary. Furthermore, with the implementation of mitigation discussed in Section B.3.12.2(a), the Project's contribution to temporary noise impacts would not be cumulatively considerable. As discussed in Section B.3.12.2(c), once operational, the Project's contribution to increasing ambient noise levels in the area would be minimal and would not be cumulatively considerable.

Population and Housing. SDG&E does not anticipate any construction workers would come from outside of San Diego County (SDG&E, 2015a). Once operational, maintenance activities would be performed by current SDG&E employees (SDG&E, 2015b). Therefore, construction and operation of the Proposed Project would not have any cumulative contribution to population growth within the area.

Public Services. The Proposed Project would result in less than significant impacts to the public services in the area, which would not be cumulatively considerable.

Recreation. There would be no impacts to recreational resources under the Proposed Project. Therefore, the Project would not contribute to cumulative impacts to recreational resources.

Transportation/Traffic. As discussed in Section B.3.16, the Proposed Project would contribution to traffic and transportation impacts during construction from temporary trip generation and temporary disruptions to travel lanes. For the purposes of cumulative transportation impacts, impacts would only occur if cumulative development also made an adverse contribution to traffic conditions along the same roadways utilized and affected by the Project during construction. While there is potential for such cumulative impacts, with the implementation of mitigation discussed in Section B.3.16.2(a), the Project's contribution to temporary traffic and transportation impacts would not be cumulatively considerable. As discussed in Section B.3.16.2(a), once operational, the Project would generate minimal traffic and therefore would not result in a cumulatively considerable impact to traffic levels in the area.

Utilities and Service Systems. The Proposed Project would result in less than significant impacts to the utilities and services in the area, which would not be cumulatively considerable.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The preceding sections of this Initial Study discuss various types of impacts that could have adverse effects on human beings, including:

- Degradation of existing views in the Project vicinity (see Section B.3.1, Aesthetics),
- Dust and air pollutant emissions during Project construction activities (see Section B.3.3, Air Quality),
- Potential release of gasoline, diesel fuel, oil, and lubricants associated with construction equipment and other vehicles (see Section B.3.8, Hazards and Hazardous Materials), and
- Noise generated by Project construction (see Section B.3.12, Noise).

These impacts are primarily temporary impacts associated with Project construction activities. Each type of impact with the potential to cause substantial adverse effects on human beings has been evaluated, and this Initial Study concludes that all of these potential impacts are either less than significant or can be mitigated to a less-than-significant level with implementation of mitigation measures. Therefore, the Proposed Project would not involve any activities, either during construction or operation, which would cause significant adverse effects on human beings that cannot be readily mitigated to a less-than-significant level.

C. Mitigation Monitoring Plan

San Diego Gas & Electric (SDG&E) proposes to construct and operate the Vine Substation Project ("Proposed Project"). An Initial Study was prepared to assess the Proposed Project's potential environmental effects. The Initial Study was prepared based on information in the Proponent's Environmental Assessment (PEA), project site visits, and supplemental research. The majority of the Proposed Project's impacts would occur during construction. Within SDG&E's application, Applicant Proposed Measures (APMs) were proposed to reduce potentially significant adverse impacts related to construction and operation.

The purpose of this Mitigation Monitoring Plan is to ensure effective implementation of each APM, as well as the mitigation measures identified by the Initial Study and imposed by the California Public Utilities Commission (CPUC) as part of Project approval.

This Mitigation Monitoring Plan includes:

- The Applicant Proposed Measures and mitigation measures that SDG&E must implement as part of the Proposed Project;
- The actions required to implement these measures;
- The monitoring requirements; and
- The timing of implementation for each measure.

A CPUC-designated environmental monitor will carry out all construction field monitoring to ensure full implementation of all measures. If a non-compliance were to occur, the CPUC will issue a warning to SDG&E's contract administrator or lead environmental monitor and SDG&E's project manager. Continued non-compliance shall be reported to the CPUC's designated project manager. Any decisions to halt work due to non-compliance will be made by the CPUC. The CPUC's designated environmental monitor will keep a record of any incidents of non-compliance with mitigation measures, APMs, or other conditions of project approval. Copies of these documents shall be supplied to SDG&E and the CPUC.

Minor Project Changes or Variances. The CPUC along with its environmental monitors will ensure that any minor project change that may be necessary due to final engineering or project variance or deviation from the procedures identified under the monitoring program is consistent with CEQA requirements; no minor project changes or variances will be approved by the CPUC if they are located outside of the geographic boundary of the project study area or create new or substantially more severe significant impacts. A variance should be strictly limited to minor project changes that will not trigger other permit requirements unless the appropriate agency has approved the change, that does not increase the severity of an impact or create a new impact without appropriate agency approval, and that clearly and strictly complies with the intent of the mitigation measure or applicable law or policy. SDG&E shall seek any other project refinements by a petition to modify.

If a proposed change to the project has the potential for creating significant environmental effects, it will be evaluated to determine whether a petition to modify and/or supplemental CEQA review is required. Any proposed deviation from the approved project, adopted mitigation measures, and APMs, and correction of such deviation, shall be reported immediately to the CPUC and the environmental monitor assigned to the construction spread for their review and approval. The CPUC and the environmental monitor will review the variance request to ensure that all of the information required to process the minor project change is included. The CPUC may request a site visit, or may need additional information to process the variance. In some cases, project refinements may also require approval by another agency. Requests for staff approval of a refinement must be made in writing and should include the following:

- A detailed description of the proposed refinements, including an explanation of why the refinements are necessary.
- Identification of the mitigation measures, APMs, project parameter, or other project stipulation for which the refinements are being requested, and a reference to the approved documents.
- Photos, maps, and other supporting documentation illustrating the difference between: the existing conditions in the area, the approved project, and the proposed refinements.
- The potential impacts of the proposed refinements, including a discussion of each environmental issue area that could be affected by the refinements with accompanying verification that there will be no substantial increase in significant impacts to resources affected by the project and no new significant impacts, after application of previously adopted mitigation.
- Whether the refinements conflict with any APMs or mitigation measures.
- Whether the refinements conflict with any applicable guideline, ordinance, code, rule, regulation, order, decision, statute or policy.
- Water/wetland/storm water related resource information if the refinements would result in any additional land disturbance, road distance or width, changes to impacts on jurisdictional waters, or changes to water protection best management practices.
- Date of expected construction at the refined project area.

Dispute Resolution. It is expected that the Mitigation Monitoring Plan will reduce or eliminate many potential disputes. However, even with the best preparation, disputes may occur.

Issues should be first addressed at the field level informally between the CPUC-designated environmental monitor(s) and SDG&E's environmental monitor(s) at the regular progress meetings. Questions may be raised to the SDG&E Project Environmental Manager or SDG&E Project Construction Manager. Should the issue persist or not be resolved at these levels, the following procedure will be observed:

- **Step 1.** Disputes unresolved in the field and complaints (including those from the public) should be directed first to the CPUC-designated Project Manager for resolution. The Project Manager will attempt to resolve the dispute informally. Should this informal process fail, the CPUC Project Manager will inform SDG&E prior to initiating Step 2.
- **Step 2.** Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring Plan.
- **Step 3.** If a dispute or complaint regarding the implementation or evaluation of the Mitigation Monitoring Plan cannot be resolved informally or through enforcement or compliance action by the CPUC and any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.

- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties may also seek review by the Commission through existing procedures specified in the CPUC Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	Air Quality		
Construction-Phase Air Quality	**AQ-1 Control Off-road Equipment Emissions.** Off-road equipment with engines larger than 50 horsepower shall have engines that meet or exceed U.S. Environmental Protection Agency/California Air Resources Board Tier 3 Emissions Standards. Exceptions will be allowed only on a case-by-case basis for two specific situations: (1) an off-road equipment item that is a specialty, or unique, piece of equipment that cannot be found with a Tier 3 or better engine after a due diligence search; and/or (2) an off-road equipment item that will be used for a total of no more than 10 days. Additionally, off-road equipment engine idling shall not exceed five (5) minutes unless required for proper operation and all engines shall be maintained in good operating condition and in tune per manufacturers' specification.	Perform on-site inspections during construction to ensure control measures are properly implemented.	During construction
Construction-Phase Air Quality	**AQ-2 Control On-road Equipment Emissions**. All construction on-road vehicle engines, with the exception of personal vehicles, shall be turned off when not in use. Engine idling shall not exceed five (5) minutes, unless required for proper operation or personnel health and safety (e.g., shelter from the elements). All construction on-road vehicle engines, with the exception of personal vehicles, shall be maintained in good operating condition and in tune per manufacturers' specification.	Perform on-site inspections during construction to ensure control measures are properly implemented.	During construction
Construction-Phase Air Quality	**AQ-3 Implement Fugitive Dust Control Plan for the Vine Substation.** The Applicant shall develop a Fugitive Dust Control Plan to reduce Particulate Matter (PM) 10 and PM2.5 emissions during construction of the Vine Substation. The implementation of this Plan shall be considered complete when the Vine Substation's final surfacing, as required in part c.viii below, is done. The Fugitive Dust Control Plan shall include: a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the Plan; b. Listing of all fugitive dust emissions sources included in the construction of the substation. c. The following on-site dust control measures, and any other proposed control measures, that will be implemented: i. All on-site unpaved areas used by on-road vehicles shall be watered or stabilized with an Air Resources Board-certified soil stabilizer at a sufficient frequency such that no visible dust emissions occur when on-road vehicles traverse unpaved areas on the substation site. ii. All material excavated or graded shall be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. Excavated soil piles shall be watered as needed and in compliance with San Diego Air Pollution Control District (SDAPCD) Rule 55 requirements for the duration of construction or covered with temporary	Perform on-site inspections during construction to ensure control measures are properly implemented.	Submit Fugitive Dust Control Plan at least 30 days prior to construction to CPUC for review and approval; Implement during construction.

Table C-1. Mitigation Monitoring Plan			
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Timing of Action**
	coverings. iii. Construction activities, but not dust control activities, which occur on unpaved surfaces shall be discontinued during windy conditions when those activities cause visible dust plumes that extend beyond the substation fence line, or in violation with SDAPCD Rule 55 requirements. iv. Track-out shall be removed at the conclusion of each workday. v. Shaker plates and gravel beds, or equivalently or more effective track-out control, shall be used and maintained throughout the construction period until the site is paved to remove bulk material from tires and vehicle undercarriages before vehicles exit the Vine Substation property. vi. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions) or watered, and shall maintain at least two feet of freeboard to reduce spillage from the haul truck. vii. Traffic speeds for on-road vehicles and off-road equipment on unpaved areas/temporary roads shall be limited to 15 miles per hour. viii. The substation's interior asphalt access road shall be paved as soon as practical during construction. The remaining surface of the substation site shall consist of concrete pads or be graveled, so that there are no open soil areas other than those that are within any vegetated professionally landscaped areas of the site. Concrete and gravel surfaces shall be completed as soon as practical during construction. ix. Other fugitive dust control measures as necessary to comply with SDAPCD Rule 55 requirements.		
	Biological Resources		
APM BIO-1	A nighttime emergent bat survey will be conducted no more than five days prior to the removal of the palm trees located on the proposed Vine Substation Site. During This survey, an AnaBat System will be used to detect bat activity in the vicinity of the trees, and the trees will be visually monitored for the emergence of bats. This survey will be conducted from 30 minutes prior to sunset to 90 minutes after sunset. Following the survey, the tree removal will proceed as follows: • If no bats are detected during the emergent survey, the trees will be removed within five days. If the trees are not removed within five days, the emergent survey will be repeated. • If bats are detected in the trees outside of the pupping season (typically April through July), emergent surveys will be repeated. If no bats are detected for two consecutive nights, the trees will be removed within five days. If the trees are not removed within five days, the emergent survey will be repeated.	Review bat survey results and ensure recommendations are implemented	Prior to construction

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	• If bats are detected in the trees during the pupping season, tree removal will wait until the end of pupping season and the emergent surveys will be repeated. In addition to the above pre-construction survey San Diego Gas & Electric will perform quarterly day/night emergent surveys (one night each quarter) between now and the start of construction to confirm presence/absence of bats at each palm tree.		
	Cultural Resources		
APM CUL-01	An archaeological monitor(s) familiar with the types of prehistoric and historic resources that could be encountered within the Project area will be present during initial ground-disturbing activities associated with the Vine Substation. In addition, an archaeological monitor(s) will be present during all trenching activities associated with the underground 12-kilovolt lines along Kettner Boulevard. In the event that cultural resources are discovered, the archaeological monitor will have the authority to divert or temporarily halt ground disturbance to allow evaluation of the potentially significant cultural resources. The archaeological monitor will contact San Diego Gas & Electric's (SDG&E's) Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeological monitor, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program would be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the history of the area. Faunal material will be identified to the species level. If locomotive and/or electric rails are discovered during construction and fall within a recommended period of significance, and cannot be preserved in place, they will be immediately documented using standard documentation. All materials that cannot be preserved in place will be offered to the Pacific Southwest Railway Museum for preservation. If preservation is not feasible, the monitor will photograph, map and document the location of the resource and summarize the results in a Department of Parks and Recreation (DPR 523) form that will be submitted to the South Coastal Information Center (SCIC). A monitoring results report—which includes appropriate graphics and describes the results, analyses, and conclusions of the monitoring program—will be prepared and submitted to SDG&E's Cultural Resource Specialist and Environmental Project Manager following completion of the program. Any cultural sites or features encountered will be recorded on appropriate Department of Parks and Recreation forms. All forms and reports will be submitted to the SCIC at San Diego State University and to the City of San Diego Development Services Department.	On-site archaeologist monitors during construction	During construction

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
APM CUL-02	A paleontological monitor will be on site to observe excavation operations that involve the original cutting of deposits with high paleontological resource sensitivity (i.e., Bay Point Formation) to depths greater than 3.5 feet. In the event that fossils are encountered, the paleontological monitor will have the authority to divert or temporarily halt construction activities in the area of discovery to allow the recovery of fossil remains. The paleontological monitor will contact San Diego Gas & Electric's (SDG&E's) Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. When fossils are discovered, a paleontologist (or the paleontological monitor) will recover them, along with pertinent stratigraphic data. Fossil remains collected during monitoring and salvage would be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections.	Monitoring by Paleontologic Resource Specialist during construction excavations	During construction
Paleontological Resources	**C-1 Paleontological Resource Mitigation Plan.** A Paleontological Resource Mitigation Plan (PRMP) shall be prepared by a Qualified Paleontologist in accordance with Society of Vertebrate Paleontology Guidelines (2010). The PRMP shall identify construction impact areas with the potential of encountering significant resources and the approximate depths at which those resources are likely to be encountered. The PRMP shall outline a coordination strategy to ensure that one or more qualified paleontological monitors will conduct full-time monitoring of all ground disturbance in sediments determined to have a high to moderate sensitivity (i.e., the Bay Point Formation, and the underlying Lindavista and San Diego Formations, if encountered). The PRMP shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The PRMP shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at an accredited repository, data analysis, and reporting. The PRMP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction.	Review plan and monitor implementation during construction	Submit PRMP at least 30 days prior to construction to CPUC for review and approval
	C-2 Train Construction Personnel. Prior to the start of construction, all field personnel shall receive a worker's environmental awareness training module on paleontological resources. The training shall provide a description of the fossil resources that may be encountered in the Project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Qualified Paleontologist and onsite monitor(s). The training shall be developed by the Qualified Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.). The training may also be videotaped or presented in an informational brochure for future use by field personnel not present at the start of the Project.	Training provided by Qualified Paleontologist	Prior to construction

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	C-3 Monitor Construction for Paleontological Resources. Consistent with Mitigation Measure C-1 (Paleontological Resource Mitigation Plan), full-time construction monitoring shall be conducted by the qualified paleontological monitor(s) within previously undisturbed sediments in areas determined to have high to moderate sensitivity (i.e., the Bay Point Formation, and the underlying Lindavista and San Diego Formations, if encountered). Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. The monitor may also screen sediments to check for the presence of microvertebrates, if they are believed to be present. In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance, and collected.	Monitoring by Paleontologic Resource Specialist during construction excavations	During construction
Human Remains	**C-4 Treatment of Human Remains.** If human remains are unearthed during construction activities, construction work in the immediate area of the discovery shall be halted and directed away from the discovery until the county coroner can determine whether the remains are those of a Native American. If they are those of a Native American, the following would apply: a. The coroner shall contact the Native American Heritage Commission. b. If discovered human remains are determined to be Native American remains, and are released by the coroner, these remains shall be left in situ and covered by fabric or other temporary barriers. c. The human remains shall be protected until SDG&E and the Most Likely Descendant, as designated by the Native American Heritage Commission, come to a decision on the final disposition of the remains. According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).	Any discovered human remains are treated according to agency-approved mitigation and in compliance with State and federal regulations.	During construction
	Hazards and Hazardous Materials		
APM HAZ-01	Prior to approval of the final construction plans for the Proposed Project, a project-specific Hazardous Materials and Waste Management Plan will be prepared for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations. The Hazardous Materials and Waste Management Plan will reduce or avoid the use of potentially hazardous materials for the purposes of worker safety, protection from groundwater contamination, and proper disposal of hazardous materials. The plan will include the following information related to hazardous materials and waste, as applicable: • A list of the hazardous materials that will be present on site during construction, including information regarding their storage, use, and transportation; • Any secondary containment and countermeasures that will be required for onsite hazardous materials, as well as the required responses for different quantities of	Review plan and monitor implementation during construction.	During construction

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	potential spills; • A list of spill response materials and the locations of such materials at the Proposed Project site during construction; • A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials; • A description of the waste-specific management and disposal procedures that will be conducted for any hazardous materials that will be used or are discovered during construction of the Project; and • A description of the waste minimization procedures to be implemented during construction of the Project.		
Emergency Access	**T-1 Construction Traffic Control Plan** (see full text of measure below under Traffic/Transportation)	Review Traffic Control Plan; monitor requirements of the plan	During construction
	Noise		
Construction Noise	**N-1 Municipal Code Non-Compliance Approval or Prepare Construction Noise Control Plan.** Prior to a Notice to Proceed, SDG&E shall complete one of the following (a) or (b): (a) Obtain written authorization(s) from the City of San Diego allowing construction of the Project to exceed the noise performance standards identified in Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404(b). Official copies of the written authorization(s) shall be submitted to the CPUC. (b) Prepare a detailed Construction Noise Control Plan (Plan) for review by the CPUC and City of San Diego. The Plan is intended to minimize noise from construction activities to the maximum extent feasible at work areas within 130 feet of residences. The Plan must include, but not be limited to: • Methods to reduce mobile and stationary construction noise levels, to the maximum extent feasible, occurring within 200 feet of sensitive receptors (i.e., residences) or expected to exceed 75 A-Weighted sound level (dBA) during the 12-hour period from 7:00 a.m. to 7:00 p.m. • Methods to reduce mobile and stationary construction noise levels, to the maximum extent feasible, occurring outside the 12-hour period from 7:00 a.m. to 7:00 p.m. assuming the requirements of Mitigation Measure N-2 are met. Any conditions or performance standards required by the City of San Diego or CPUC through the implementation of Mitigation Measure N-2 shall be met. • • Identification of heavy truck trip routes accessing the Vine Substation site, construction staging yards, 12-kilovolt distribution circuits, and telecommunication	Review City of San Diego authorization(s) or Construction Noise Control Plan; monitor requirements of the authorization(s) or plan; Review public complaints logs monthly	During construction

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	routes to reduce travel on residential streets and avoid noise sensitive receptors to the maximum extent feasible. • The Plan shall detail how SDG&E and its contractor(s) will respond to noise complaints, and how to document the resolution of those complaints. In addition to completing either (a) or (b) above, SDG&E shall: • Establish a telephone number for use by the public to report any nuisance noise conditions associated with construction activities. SDG&E shall ensure that a public liaison is assigned to respond to all public construction complaints in a timely manner, and either (a) the telephone number is staffed by the public liaison during construction hours; or (b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. Public complaints shall be forwarded to the CPUC within 48 hours. This telephone number shall be posted at entrances to work areas and construction yards in a manner visible to passersby. • SDG&E and its contractor(s) shall respond to public complaints and document the resolution of those complaints. • Methods for conflict resolution shall be documented in the event a noise complaint cannot be resolved. • A log of all complaints and the current status shall be provided to the CPUC monthly.		
	N-2 Construction Work Hours Authorization. Construction activities shall not occur during the following hours and days without obtaining all necessary authorization(s) from the City of San Diego allowing for construction to occur outside the hours allowable within Municipal Code Chapter 5, Article 9.5, Division 4, Section 59.5.0404(a). SDG&E shall provide copies of City authorizations to the CPUC for review. • Between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, on legal holidays as specified in Section 21.04 of the City of San Diego Municipal Code, or on Sundays.	On-site monitoring	During construction
	Traffic/Transportation		
Construction Traffic and Emergency Response	**T-1 Construction Traffic Control Plan.** Prior to the start of construction, SDG&E shall prepare and submit a Construction Traffic Control Plan for review and/or approval to the CPUC and all agencies with jurisdiction over public roads and transportation facilities that would be directly affected by the construction activities and/or would require permits and approvals. The Construction Traffic Control Plan shall include, but not be limited to: • The locations and use of flaggers, warning signs, lights, barricades, delineators,	Review Traffic Control Plan; monitor requirements of the plan	Prior to and during construction

Table C-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	cones, arrow boards, etc. according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual. • Additional methods to reduce temporary traffic delays to the maximum extent feasible. • Defining methods to coordinate with all agencies responsible for encroachment permits throughout construction to minimize cumulative lane disruption impacts should simultaneous construction projects affect shared segments/portions of the circulation system. • Prior to the start of construction, provide (or identify the timing to provide) copies of all approved permits and agreements to the CPUC and methods to comply with all specified requirements, including but not limited to: — Public Right-of-Way Permit from the City of San Diego. — Right-of-Entry Permit(s) from the North County Transit District (NCTD) and San Diego Metropolitan Transit System (MTS). — License Agreement from the MTS. — Temporary Occupancy Agreement and a Utility Agreement License from Burlington Northern Santa Fe Railway. • Plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Police departments and fire departments shall be notified in advance by SDG&E of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions that could impact their effectiveness. At locations where roads will be blocked, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. Documentation of the coordination with police and fire departments shall be provided to the CPUC prior to the start of construction. • Provisions for ensuring detours or safe movement through all affected pedestrian and bicycle facilities. • Plans to coordinate with affected bus transit agencies (where applicable) at least one month prior to construction to minimize the impacts associated with the interruption of bus transit service. Documentation of the coordination with bus transit companies shall be provided to the CPUC prior to the start of construction.		

Note: Applicant Proposed Measures (APMs) appear in the Proponent's Environmental Assessment (A.14-05-021), with the exception of APM-BIO-01 which was provided by SDG&E in response to Energy Division Deficiency Request 01 dated February 2, 2015. APM CUL-01 was revised by SDG&E September 4, 2015.

Appendix 1

List of Preparers

Appendix 1. List of Preparers

A consultant team headed by Aspen Environmental Group prepared this document under the direction of the California Public Utilities Commission. The preparers and technical reviewers of this document are presented below.

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California Public Utilities Commission, Energy Division

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Project Management and Document Production

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Appendix 2

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Appendix 2. References

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Appendix 3

Air Pollutant Emissions Calculation

Vine Substation Project - Data Request #2

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2017
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 - The proposed Vine Substation site will be approximately 1.5 acres

Construction Phase - Construction schedule take from the original PEA and PEA Supplement.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Trips and VMT - Truck trip requirements taken from Attachment A: Construction Equipment and Vehicle Summary

On-road Fugitive Dust - All on-road travel will be 100-percent paved with the exception of vendor and hauling trips during construction of the proposed Vine Substation.

Grading - Import and export requirements taken from the original PEA. Entire site assumed to be distrubed during both processes.

Vehicle Trips - Assume a maximum of 10 vehicles could visit the site daily.

Construction Off-road Equipment Mitigation - Tier 3 or better will be a mitigation measure for the project

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	24.1458	227.8605	155.6874	0.3181	25.1631	12.5089	31.9849	7.0209	11.9355	13.4253	0.0000	31,096.1359	31,096.1359	5.6598	0.0000	31,214.9927
2017	26.0984	250.0242	175.3435	0.3636	7.3235	13.2394	20.5629	1.5275	12.6013	14.1288	0.0000	35,208.6866	35,208.6866	6.6478	0.0000	35,348.2913
Total	**50.2441**	**477.8847**	**331.0308**	**0.6817**	**32.4866**	**25.7482**	**52.5478**	**8.5485**	**24.5368**	**27.5541**	**0.0000**	**66,304.8226**	**66,304.8226**	**12.3077**	**0.0000**	**66,563.2840**

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	7.5082	132.0635	171.5404	0.3181	10.4124	6.7768	13.3474	3.3127	6.7583	8.0618	0.0000	31,096.1359	31,096.1359	5.6598	0.0000	31,214.9926
2017	8.6375	151.7633	196.8085	0.3636	5.4575	7.8251	13.2826	1.3413	7.8078	9.1491	0.0000	35,208.6866	35,208.6866	6.6478	0.0000	35,348.2913
Total	**16.1457**	**283.8268**	**368.3488**	**0.6817**	**15.8699**	**14.6019**	**26.6301**	**4.6540**	**14.5661**	**17.2109**	**0.0000**	**66,304.8225**	**66,304.8225**	**12.3077**	**0.0000**	**66,563.2840**

	ROG	**NOx**	**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	**67.87**	**40.61**	**-11.27**	**0.00**	**51.15**	**43.29**	**49.32**	**45.56**	**40.64**	**37.54**	**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	Vine - Site Development and Grading	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Retaining/Boundary Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below-Grade Construction	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Substation Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Daytime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Nighttime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/16/2016	11/30/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	12 kV - Jack-and-Bore Installation	Trenching	1/1/2017	1/20/2017	6	17	
10	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
11	Energize - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Duct Bank and Vault Installation	Trenching	4/1/2017	4/29/2017	6	25	
13	12 kV - Cable Installation and Cutover	Building Construction	4/1/2017	6/30/2017	6	78	

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
Vine - Site Development and Grading	Excavators	1	6.00	162	0.38

Vine - Site Development and Grading	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development and Grading	Pavers	1	6.00	125	0.42
Vine - Site Development and Grading	Rollers	2	7.00	80	0.38
Vine - Site Development and Grading	Rollers	2	6.00	80	0.38
Vine - Site Development and Grading	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development and Grading	Rubber Tired Loaders -	2	6.00	199	0.36
Site Development and Grading	Scrapers	2	7.00	361	0.48
Vine - Site Development and Grading	Skid Steer Loaders	2	3.00	64	0.37
Site Development and Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development/Grading	Trenchers	1	6.00	80	0.50
Vine - Retaining/Boundary Wall Construction	Excavators	1	9.00	162	0.38
Vine - Retaining/Boundary Wall Construction	Graders	1	9.00	174	0.41
Vine - Retaining/Boundary Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Retaining/Boundary Wall Construction	Rollers	1	9.00	80	0.38
Vine - Retaining/Boundary Wall Construction	Rubber Tired Loaders	3	9.00	199	0.36

Vine - Below-Grade Construction	Rubber Tired Loaders	2	6.00	199	0.36
Vine - Below-Grade Construction	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below-Grade Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below-Grade Construction	Trenchers	1	6.00	80	0.50
Substation Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Substation Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Substation Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Substation Equipment Installation	Generator Sets	1	24.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Daytime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Daytime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Daytime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Daytime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Daytime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Daytime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Daytime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37

12 kV - Daytime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Nighttime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Nighttime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Nighttime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Nighttime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Nighttime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Nighttime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Signal Boards	8	8.00	6	0.82
12 kV - Nighttime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20
69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	6.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38
12 kV - Jack-and-Bore Installation	Pumps	1	6.00	84	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31

69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Other Construction Equipment	1	7.00	171	0.42
Telecom - Duct Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation and Cutover	Other Construction Equipment	1	2.00	171	0.42

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
Vine - Site Development and Gra	18	48.00	7.00	1,106.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Retaining/Boundary W	9	20.00	7.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Below-Grade Construction	5	27.00	4.00	198.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Substation Equipment Installation	8	37.00	5.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Daytime Duct Bank and Vault Install	28	40.00	4.00	685.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Nighttime Duct Bank and Vault Install	36	40.00	4.00	1,037.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	53.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Remo	3	5.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	76.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	0.00	1.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Energize - Testing and Commissioning	0	0.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Telecom - Duct Bank and Vault Installation	2	0.00	0.00	40.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation and Cutov	1	15.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Vine - Site Development and 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					9.0732	0.0000	9.0732	4.9705	0.0000	4.9705			0.0000			0.0000
Off-Road	8.5462	97.2545	60.2150	0.0847		4.6990	4.6990		4.3230	4.3230		8,807.4408	8,807.4408	2.6566		8,863.2301
Total	**8.5462**	**97.2545**	**60.2150**	**0.0847**	**9.0732**	**4.6990**	**13.7721**	**4.9705**	**4.3230**	**9.2936**		**8,807.4408**	**8,807.4408**	**2.6566**		**8,863.2301**

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	0.3871	5.9925	4.1323	0.0158	6.6284	0.0812	6.7096	0.7254	0.0747	0.8002		1,587.6032	1,587.6032	0.0112		1,587.8373
Vendor	0.1818	2.7079	1.6504	7.4700e-003	3.8264	0.0466	3.8730	0.4227	0.0429	0.4656		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.2889	0.6552	5.8269	0.0149	1.2768	8.7400e-003	1.2855	0.3385	8.0400e-003	0.3466		1,243.9802	1,243.9802	0.0637		1,245.3179
Total	**0.8578**	**9.3556**	**11.6096**	**0.0381**	**11.7316**	**0.1366**	**11.8681**	**1.4867**	**0.1256**	**1.6123**		**3,583.2305**	**3,583.2305**	**0.0802**		**3,584.9141**

3.2 Vine - Site Development and 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					4.0829	0.0000	4.0829	2.2367	0.0000	2.2367			0.0000			0.0000
Off-Road	2.0797	41.6919	50.6075	0.0847		1.9289	1.9289		1.9289	1.9289	0.0000	8,807.4408	8,807.4408	2.6566		8,863.2301
Total	**2.0797**	**41.6919**	**50.6075**	**0.0847**	**4.0829**	**1.9289**	**6.0118**	**2.2367**	**1.9289**	**4.1656**	**0.0000**	**8,807.4408**	**8,807.4408**	**2.6566**		**8,863.2301**

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	0.3871	5.9925	4.1323	0.0158	2.0926	0.0812	2.1739	0.2726	0.0747	0.3473		1,587.6032	1,587.6032	0.0112		1,587.8373
Vendor	0.1818	2.7079	1.6504	7.4700e-003	1.2140	0.0466	1.2606	0.1619	0.0429	0.2048		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.2889	0.6552	5.8269	0.0149	1.2768	8.7400e-003	1.2855	0.3385	8.0400e-003	0.3466		1,243.9802	1,243.9802	0.0637		1,245.3179
Total	**0.8578**	**9.3556**	**11.6096**	**0.0381**	**4.5834**	**0.1366**	**4.7200**	**0.7730**	**0.1256**	**0.8987**		**3,583.2305**	**3,583.2305**	**0.0802**		**3,584.9141**

3.3 Vine - Retaining/Boundary Wall 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	3.7740	42.8247	18.5683	0.0382		1.9361	1.9361		1.7838	1.7838		3,919.907 9	3,919.907 9	1.1594		3,944.254 5
Total	**3.7740**	**42.8247**	**18.5683**	**0.0382**		**1.9361**	**1.9361**		**1.7838**	**1.7838**		**3,919.907 9**	**3,919.907 9**	**1.1594**		**3,944.254 5**

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	0.1818	2.7079	1.6504	7.4700e-003	3.8264	0.0466	3.8730	0.4227	0.0429	0.4656		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.1204	0.2730	2.4279	6.2100e-003	0.5320	3.6400e-003	0.5356	0.1411	3.3500e-003	0.1444		518.3251	518.3251	0.0265		518.8825
Total	**0.3022**	**2.9809**	**4.0783**	**0.0137**	**4.3584**	**0.0502**	**4.4086**	**0.5638**	**0.0462**	**0.6100**		**1,269.972 2**	**1,269.972 2**	**0.0319**		**1,270.641 3**

3.3 Vine - Retaining/Boundary Wall 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	1.0359	18.5119	23.7862	0.0382		0.8194	0.8194		0.8194	0.8194	0.0000	3,919.9079	3,919.9079	1.1594		3,944.2545
Total	**1.0359**	**18.5119**	**23.7862**	**0.0382**		**0.8194**	**0.8194**		**0.8194**	**0.8194**	**0.0000**	**3,919.9079**	**3,919.9079**	**1.1594**		**3,944.2545**

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	0.1818	2.7079	1.6504	7.4700e-003	1.2140	0.0466	1.2606	0.1619	0.0429	0.2048		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.1204	0.2730	2.4279	6.2100e-003	0.5320	3.6400e-003	0.5356	0.1411	3.3500e-003	0.1444		518.3251	518.3251	0.0265		518.8825
Total	**0.3022**	**2.9809**	**4.0783**	**0.0137**	**1.7460**	**0.0502**	**1.7962**	**0.3030**	**0.0462**	**0.3492**		**1,269.9722**	**1,269.9722**	**0.0319**		**1,270.6413**

3.4 Vine - Below-Grade 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					
Fugitive Dust					0.0119	0.0000	0.0119	1.3600e-003	0.0000	1.3600e-003			0.0000			0.0000
Off-Road	1.4747	16.5259	7.3667	0.0151		0.8463	0.8463		0.7786	0.7786		1,572.8389	1,572.8389	0.4744		1,582.8018
Total	**1.4747**	**16.5259**	**7.3667**	**0.0151**	**0.0119**	**0.8463**	**0.8582**	**1.3600e-003**	**0.7786**	**0.7799**		**1,572.8389**	**1,572.8389**	**0.4744**		**1,582.8018**

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	0.0344	0.5330	0.3675	1.4000e-003	0.5895	7.2200e-003	0.5968	0.0645	6.6500e-003	0.0712		141.2040	141.2040	9.9000e-004		141.2248
Vendor	0.1039	1.5474	0.9431	4.2700e-003	2.1865	0.0266	2.2131	0.2415	0.0245	0.2660		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.1625	0.3685	3.2777	8.3800e-003	0.7182	4.9200e-003	0.7231	0.1904	4.5200e-003	0.1949		699.7388	699.7388	0.0358		700.4913
Total	**0.3008**	**2.4489**	**4.5883**	**0.0141**	**3.4942**	**0.0388**	**3.5330**	**0.4965**	**0.0357**	**0.5321**		**1,270.4555**	**1,270.4555**	**0.0399**		**1,271.2926**

3.4 Vine - Below-Grade Construction - 2016

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	6.1000e-004	0.0000	6.1000e-004			0.0000			0.0000
Off-Road	0.3730	7.7198	9.4146	0.0151		0.3996	0.3996		0.3996	0.3996	0.0000	1,572.8389	1,572.8389	0.4744		1,582.8018
Total	**0.3730**	**7.7198**	**9.4146**	**0.0151**	**5.3600e-003**	**0.3996**	**0.4050**	**6.1000e-004**	**0.3996**	**0.4002**	**0.0000**	**1,572.8389**	**1,572.8389**	**0.4744**		**1,582.8018**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0344	0.5330	0.3675	1.4000e-003	0.1861	7.2200e-003	0.1934	0.0243	6.6500e-003	0.0309		141.2040	141.2040	9.9000e-004		141.2248
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.6937	0.0266	0.7203	0.0925	0.0245	0.1170		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.1625	0.3685	3.2777	8.3800e-003	0.7182	4.9200e-003	0.7231	0.1904	4.5200e-003	0.1949		699.7388	699.7388	0.0358		700.4913
Total	**0.3008**	**2.4489**	**4.5883**	**0.0141**	**1.5980**	**0.0388**	**1.6368**	**0.3072**	**0.0357**	**0.3428**		**1,270.4555**	**1,270.4555**	**0.0399**		**1,271.2926**

3.5 Vine - Substation Equipment Installation - 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	3.1798	30.3006	19.4132	0.0336		1.7203	1.7203		1.6640	1.6640		3,306.1458	3,306.1458	0.6045		3,318.8401
Total	**3.1798**	**30.3006**	**19.4132**	**0.0336**		**1.7203**	**1.7203**		**1.6640**	**1.6640**		**3,306.1458**	**3,306.1458**	**0.6045**		**3,318.8401**

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	0.1299	1.9342	1.1789	5.3300e-003	2.7331	0.0333	2.7664	0.3019	0.0306	0.3325		536.8908	536.8908	3.8000e-003		536.9706
Worker	0.2227	0.5050	4.4916	0.0115	0.9842	6.7400e-003	0.9909	0.2610	6.1900e-003	0.2671		958.9014	958.9014	0.0491		959.9326
Total	**0.3526**	**2.4393**	**5.6705**	**0.0168**	**3.7173**	**0.0400**	**3.7573**	**0.5629**	**0.0368**	**0.5997**		**1,495.7922**	**1,495.7922**	**0.0529**		**1,496.9032**

3.5 Vine - Substation Equipment Installation - 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	0.7349	16.0530	20.7535	0.0336		0.9956	0.9956		0.9956	0.9956	0.0000	3,306.1458	3,306.1458	0.6045		3,318.8401
Total	**0.7349**	**16.0530**	**20.7535**	**0.0336**		**0.9956**	**0.9956**		**0.9956**	**0.9956**	**0.0000**	**3,306.1458**	**3,306.1458**	**0.6045**		**3,318.8401**

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	0.1299	1.9342	1.1789	5.3300e-003	0.8671	0.0333	0.9004	0.1156	0.0306	0.1463		536.8908	536.8908	3.8000e-003		536.9706
Worker	0.2227	0.5050	4.4916	0.0115	0.9842	6.7400e-003	0.9909	0.2610	6.1900e-003	0.2671		958.9014	958.9014	0.0491		959.9326
Total	**0.3526**	**2.4393**	**5.6705**	**0.0168**	**1.8513**	**0.0400**	**1.8914**	**0.3766**	**0.0368**	**0.4134**		**1,495.7922**	**1,495.7922**	**0.0529**		**1,496.9032**

3.5 Vine - Substation Equipment Installation - 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	2.8394	27.5361	18.9632	0.0336		1.5075	1.5075		1.4590	1.4590		3,283.9820	3,283.9820	0.5848		3,296.2629
Total	**2.8394**	**27.5361**	**18.9632**	**0.0336**		**1.5075**	**1.5075**		**1.4590**	**1.4590**		**3,283.9820**	**3,283.9820**	**0.5848**		**3,296.2629**

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	0.1192	1.7090	1.1005	5.3200e-003	2.7331	0.0289	2.7621	0.3019	0.0266	0.3285		527.8030	527.8030	3.5500e-003		527.8776
Worker	0.1969	0.4594	4.0338	0.0115	0.9842	6.5100e-003	0.9907	0.2610	6.0000e-003	0.2670		921.8163	921.8163	0.0455		922.7722
Total	**0.3161**	**2.1684**	**5.1343**	**0.0168**	**3.7173**	**0.0354**	**3.7528**	**0.5629**	**0.0326**	**0.5955**		**1,449.6193**	**1,449.6193**	**0.0491**		**1,450.6497**

3.5 Vine - Substation Equipment Installation - 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	0.7349	16.0530	20.7535	0.0336		0.9956	0.9956		0.9956	0.9956	0.0000	3,283.9820	3,283.9820	0.5848		3,296.2629
Total	**0.7349**	**16.0530**	**20.7535**	**0.0336**		**0.9956**	**0.9956**		**0.9956**	**0.9956**	**0.0000**	**3,283.9820**	**3,283.9820**	**0.5848**		**3,296.2629**

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	0.1192	1.7090	1.1005	5.3200e-003	0.8672	0.0289	0.8961	0.1156	0.0266	0.1422		527.8030	527.8030	3.5500e-003		527.8776
Worker	0.1969	0.4594	4.0338	0.0115	0.9842	6.5100e-003	0.9907	0.2610	6.0000e-003	0.2670		921.8163	921.8163	0.0455		922.7722
Total	**0.3161**	**2.1684**	**5.1343**	**0.0168**	**1.8513**	**0.0354**	**1.8868**	**0.3766**	**0.0326**	**0.4092**		**1,449.6193**	**1,449.6193**	**0.0491**		**1,450.6497**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	8.1808	76.7440	48.0343	0.0876		4.5421	4.5421		4.3300	4.3300		8,806.8473	8,806.8473	2.0517		8,849.9333
Total	**8.1808**	**76.7440**	**48.0343**	**0.0876**		**4.5421**	**4.5421**		**4.3300**	**4.3300**		**8,806.8473**	**8,806.8473**	**2.0517**		**8,849.9333**

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	0.1199	1.8557	1.2797	4.8800e-003	0.1996	0.0252	0.2248	0.0522	0.0231	0.0754		491.6402	491.6402	3.4500e-003		491.7127
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
Total	**0.4645**	**3.9491**	**7.0785**	**0.0216**	**1.3905**	**0.0591**	**1.4496**	**0.3705**	**0.0543**	**0.4249**		**1,957.8030**	**1,957.8030**	**0.0596**		**1,959.0541**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	2.0038	42.3021	53.8799	0.0876		2.3763	2.3763		2.3763	2.3763	0.0000	8,806.8473	8,806.8473	2.0517		8,849.9333
Total	**2.0038**	**42.3021**	**53.8799**	**0.0876**		**2.3763**	**2.3763**		**2.3763**	**2.3763**	**0.0000**	**8,806.8473**	**8,806.8473**	**2.0517**		**8,849.9333**

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	0.1199	1.8557	1.2797	4.8800e-003	0.1996	0.0252	0.2248	0.0522	0.0231	0.0754		491.6402	491.6402	3.4500e-003		491.7127
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
Total	**0.4645**	**3.9491**	**7.0785**	**0.0216**	**1.3905**	**0.0591**	**1.4496**	**0.3705**	**0.0543**	**0.4249**		**1,957.8030**	**1,957.8030**	**0.0596**		**1,959.0541**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	7.4633	70.2140	46.9367	0.0876		4.0626	4.0626		3.8708	3.8708		8,718.8434	8,718.8434	2.0189		8,761.2404
Total	**7.4633**	**70.2140**	**46.9367**	**0.0876**		**4.0626**	**4.0626**		**3.8708**	**3.8708**		**8,718.8434**	**8,718.8434**	**2.0189**		**8,761.2404**

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	0.1122	1.6519	1.2266	4.8700e-003	0.2041	0.0221	0.2262	0.0533	0.0203	0.0737		483.2693	483.2693	3.3000e-003		483.3385
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
Total	**0.4204**	**3.5158**	**6.4679**	**0.0215**	**1.3950**	**0.0523**	**1.4473**	**0.3716**	**0.0481**	**0.4197**		**1,902.0698**	**1,902.0698**	**0.0554**		**1,903.2321**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	2.0038	42.3021	53.8799	0.0876		2.3763	2.3763		2.3763	2.3763	0.0000	8,718.8434	8,718.8434	2.0189		8,761.2404
Total	**2.0038**	**42.3021**	**53.8799**	**0.0876**		**2.3763**	**2.3763**		**2.3763**	**2.3763**	**0.0000**	**8,718.8434**	**8,718.8434**	**2.0189**		**8,761.2404**

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	0.1122	1.6519	1.2266	4.8700e-003	0.2041	0.0221	0.2262	0.0533	0.0203	0.0737		483.2693	483.2693	3.3000e-003		483.3385
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
Total	**0.4204**	**3.5158**	**6.4679**	**0.0215**	**1.3950**	**0.0523**	**1.4473**	**0.3716**	**0.0481**	**0.4197**		**1,902.0698**	**1,902.0698**	**0.0554**		**1,903.2321**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	8.6397	79.6193	50.4424	0.0932		4.6539	4.6539		4.4418	4.4418		9,201.3556	9,201.3556	2.0927		9,245.3018
Total	**8.6397**	**79.6193**	**50.4424**	**0.0932**		**4.6539**	**4.6539**		**4.4418**	**4.4418**		**9,201.3556**	**9,201.3556**	**2.0927**		**9,245.3018**

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	0.1815	2.8093	1.9372	7.3800e-003	0.3022	0.0381	0.3402	0.0791	0.0350	0.1141		744.2787	744.2787	5.2300e-003		744.3885
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
Total	**0.5261**	**4.9027**	**7.7361**	**0.0241**	**1.4931**	**0.0720**	**1.5651**	**0.3974**	**0.0662**	**0.4636**		**2,210.4415**	**2,210.4415**	**0.0614**		**2,211.7299**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	2.4627	45.1775	56.2880	0.0932		2.4880	2.4880		2.4880	2.4880	0.0000	9,201.3556	9,201.3556	2.0927		9,245.3017
Total	**2.4627**	**45.1775**	**56.2880**	**0.0932**		**2.4880**	**2.4880**		**2.4880**	**2.4880**	**0.0000**	**9,201.3556**	**9,201.3556**	**2.0927**		**9,245.3017**

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	0.1815	2.8093	1.9372	7.3800e-003	0.3022	0.0381	0.3402	0.0791	0.0350	0.1141		744.2787	744.2787	5.2300e-003		744.3885
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
Total	**0.5261**	**4.9027**	**7.7361**	**0.0241**	**1.4931**	**0.0720**	**1.5651**	**0.3974**	**0.0662**	**0.4636**		**2,210.4415**	**2,210.4415**	**0.0614**		**2,211.7299**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	7.9222	73.0893	49.3448	0.0932		4.1744	4.1744		3.9825	3.9825		9,113.3517	9,113.3517	2.0599		9,156.6089
Total	**7.9222**	**73.0893**	**49.3448**	**0.0932**		**4.1744**	**4.1744**		**3.9825**	**3.9825**		**9,113.3517**	**9,113.3517**	**2.0599**		**9,156.6089**

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	0.1699	2.5008	1.8569	7.3700e-003	0.3089	0.0335	0.3424	0.0808	0.0308	0.1115		731.6063	731.6063	4.9900e-003		731.7110
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
Total	**0.4781**	**4.3647**	**7.0982**	**0.0240**	**1.4999**	**0.0636**	**1.5635**	**0.3990**	**0.0586**	**0.4576**		**2,150.4068**	**2,150.4068**	**0.0570**		**2,151.6046**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	2.4627	45.1775	56.2880	0.0932		2.4880	2.4880		2.4880	2.4880	0.0000	9,113.3517	9,113.3517	2.0599		9,156.6089
Total	**2.4627**	**45.1775**	**56.2880**	**0.0932**		**2.4880**	**2.4880**		**2.4880**	**2.4880**	**0.0000**	**9,113.3517**	**9,113.3517**	**2.0599**		**9,156.6089**

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	0.1699	2.5008	1.8569	7.3700e-003	0.3089	0.0335	0.3424	0.0808	0.0308	0.1115		731.6063	731.6063	4.9900e-003		731.7110
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
Total	**0.4781**	**4.3647**	**7.0982**	**0.0240**	**1.4999**	**0.0636**	**1.5635**	**0.3990**	**0.0586**	**0.4576**		**2,150.4068**	**2,150.4068**	**0.0570**		**2,151.6046**

3.8 69 kV - Foundation Installation - 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	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350		1,680.2971	1,680.2971	0.4414		1,689.5660
Total	**1.2214**	**13.4673**	**6.9069**	**0.0165**		**0.6755**	**0.6755**		**0.6350**	**0.6350**		**1,680.2971**	**1,680.2971**	**0.4414**		**1,689.5660**

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	0.1113	1.7230	1.1881	4.5300e-003	0.1065	0.0234	0.1299	0.0292	0.0215	0.0507		456.4718	456.4718	3.2100e-003		456.5391
Vendor	0.0520	0.7737	0.4715	2.1300e-003	0.0635	0.0133	0.0768	0.0181	0.0123	0.0303		214.7563	214.7563	1.5200e-003		214.7882
Worker	0.0421	0.0956	0.8498	2.1700e-003	0.1862	1.2800e-003	0.1875	0.0494	1.1700e-003	0.0505		181.4138	181.4138	9.2900e-003		181.6089
Total	**0.2054**	**2.5922**	**2.5094**	**8.8300e-003**	**0.3562**	**0.0379**	**0.3941**	**0.0966**	**0.0349**	**0.1315**		**852.6419**	**852.6419**	**0.0140**		**852.9362**

3.8 69 kV - Foundation Installation - 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	0.3916	7.9990	9.6073	0.0165		0.3934	0.3934		0.3934	0.3934	0.0000	1,680.297 1	1,680.297 1	0.4414		1,689.566 0
Total	**0.3916**	**7.9990**	**9.6073**	**0.0165**		**0.3934**	**0.3934**		**0.3934**	**0.3934**	**0.0000**	**1,680.297 1**	**1,680.297 1**	**0.4414**		**1,689.566 0**

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	0.1113	1.7230	1.1881	4.5300e-003	0.1065	0.0234	0.1299	0.0292	0.0215	0.0507		456.4718	456.4718	3.2100e-003		456.5391
Vendor	0.0520	0.7737	0.4715	2.1300e-003	0.0635	0.0133	0.0768	0.0181	0.0123	0.0303		214.7563	214.7563	1.5200e-003		214.7882
Worker	0.0421	0.0956	0.8498	2.1700e-003	0.1862	1.2800e-003	0.1875	0.0494	1.1700e-003	0.0505		181.4138	181.4138	9.2900e-003		181.6089
Total	**0.2054**	**2.5922**	**2.5094**	**8.8300e-003**	**0.3562**	**0.0379**	**0.3941**	**0.0966**	**0.0349**	**0.1315**		**852.6419**	**852.6419**	**0.0140**		**852.9362**

3.9 69 kV - Pole Installation and Removal - 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	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532		1,133.0957	1,133.0957	0.2728		1,138.8252
Total	**1.2674**	**12.6173**	**6.5818**	**0.0113**		**0.6872**	**0.6872**		**0.6532**	**0.6532**		**1,133.0957**	**1,133.0957**	**0.2728**		**1,138.8252**

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	0.0779	1.1605	0.7073	3.2000e-003	0.0952	0.0200	0.1152	0.0271	0.0184	0.0455		322.1345	322.1345	2.2800e-003		322.1824
Worker	0.0301	0.0683	0.6070	1.5500e-003	0.1330	9.1000e-004	0.1339	0.0353	8.4000e-004	0.0361		129.5813	129.5813	6.6400e-003		129.7206
Total	**0.1080**	**1.2288**	**1.3143**	**4.7500e-003**	**0.2282**	**0.0209**	**0.2491**	**0.0624**	**0.0192**	**0.0816**		**451.7158**	**451.7158**	**8.9200e-003**		**451.9030**

3.9 69 kV - Pole Installation and Removal - 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	0.2586	5.4199	6.7029	0.0113		0.2936	0.2936		0.2936	0.2936	0.0000	1,133.0957	1,133.0957	0.2728		1,138.8252
Total	**0.2586**	**5.4199**	**6.7029**	**0.0113**		**0.2936**	**0.2936**		**0.2936**	**0.2936**	**0.0000**	**1,133.0957**	**1,133.0957**	**0.2728**		**1,138.8252**

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	0.0779	1.1605	0.7073	3.2000e-003	0.0952	0.0200	0.1152	0.0271	0.0184	0.0455		322.1345	322.1345	2.2800e-003		322.1824
Worker	0.0301	0.0683	0.6070	1.5500e-003	0.1330	9.1000e-004	0.1339	0.0353	8.4000e-004	0.0361		129.5813	129.5813	6.6400e-003		129.7206
Total	**0.1080**	**1.2288**	**1.3143**	**4.7500e-003**	**0.2282**	**0.0209**	**0.2491**	**0.0624**	**0.0192**	**0.0816**		**451.7158**	**451.7158**	**8.9200e-003**		**451.9030**

3.9 69 kV - Pole Installation and Removal - 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	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727		1,121.4317	1,121.4317	0.2682		1,127.0648
Total	**1.1394**	**11.4076**	**6.3265**	**0.0113**		**0.6024**	**0.6024**		**0.5727**	**0.5727**		**1,121.4317**	**1,121.4317**	**0.2682**		**1,127.0648**

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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0266	0.0621	0.5451	1.5500e-003	0.1330	8.8000e-004	0.1339	0.0353	8.1000e-004	0.0361		124.5698	124.5698	6.1500e-003		124.6989
Total	**0.0981**	**1.0875**	**1.2054**	**4.7400e-003**	**0.2282**	**0.0182**	**0.2464**	**0.0624**	**0.0168**	**0.0792**		**441.2516**	**441.2516**	**8.2800e-003**		**441.4255**

3.9 69 kV - Pole Installation and Removal - 2017

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	0.2586	5.4199	6.7029	0.0113		0.2936	0.2936		0.2936	0.2936	0.0000	1,121.4317	1,121.4317	0.2682		1,127.0648
Total	**0.2586**	**5.4199**	**6.7029**	**0.0113**		**0.2936**	**0.2936**		**0.2936**	**0.2936**	**0.0000**	**1,121.4317**	**1,121.4317**	**0.2682**		**1,127.0648**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0266	0.0621	0.5451	1.5500e-003	0.1330	8.8000e-004	0.1339	0.0353	8.1000e-004	0.0361		124.5698	124.5698	6.1500e-003		124.6989
Total	**0.0981**	**1.0875**	**1.2054**	**4.7400e-003**	**0.2282**	**0.0182**	**0.2464**	**0.0624**	**0.0168**	**0.0792**		**441.2516**	**441.2516**	**8.2800e-003**		**441.4255**

3.10 12 kV - Jack-and-Bore Installation - 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	3.9575	39.2568	22.7560	0.0456		2.0044	2.0044		1.8992	1.8992		4,538.8603	4,538.8603	1.1153		4,562.2809
Total	**3.9575**	**39.2568**	**22.7560**	**0.0456**		**2.0044**	**2.0044**		**1.8992**	**1.8992**		**4,538.8603**	**4,538.8603**	**1.1153**		**4,562.2809**

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	0.1143	1.6818	1.2489	4.9600e-003	0.1168	0.0225	0.1393	0.0320	0.0207	0.0527		492.0259	492.0259	3.3600e-003		492.0963
Vendor	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0479	0.1118	0.9812	2.7900e-003	0.2394	1.5800e-003	0.2410	0.0635	1.4600e-003	0.0649		224.2256	224.2256	0.0111		224.4581
Total	**0.2337**	**2.8190**	**2.8904**	**0.0109**	**0.4514**	**0.0414**	**0.4928**	**0.1226**	**0.0381**	**0.1607**		**1,032.9332**	**1,032.9332**	**0.0166**		**1,033.2810**

3.10 12 kV - Jack-and-Bore Installation - 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	1.2816	21.9704	27.2423	0.0456		1.1278	1.1278		1.1278	1.1278	0.0000	4,538.8603	4,538.8603	1.1153		4,562.2809
Total	**1.2816**	**21.9704**	**27.2423**	**0.0456**		**1.1278**	**1.1278**		**1.1278**	**1.1278**	**0.0000**	**4,538.8603**	**4,538.8603**	**1.1153**		**4,562.2809**

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	0.1143	1.6818	1.2489	4.9600e-003	0.1168	0.0225	0.1393	0.0320	0.0207	0.0527		492.0259	492.0259	3.3600e-003		492.0963
Vendor	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0479	0.1118	0.9812	2.7900e-003	0.2394	1.5800e-003	0.2410	0.0635	1.4600e-003	0.0649		224.2256	224.2256	0.0111		224.4581
Total	**0.2337**	**2.8190**	**2.8904**	**0.0109**	**0.4514**	**0.0414**	**0.4928**	**0.1226**	**0.0381**	**0.1607**		**1,032.9332**	**1,032.9332**	**0.0166**		**1,033.2810**

3.11 69 kV - Conductor Installation - 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	1.2063	14.2231	8.0001	0.0132		0.6713	0.6713		0.6176	0.6176		1,350.3763	1,350.3763	0.4138		1,359.0651
Total	**1.2063**	**14.2231**	**8.0001**	**0.0132**		**0.6713**	**0.6713**		**0.6176**	**0.6176**		**1,350.3763**	**1,350.3763**	**0.4138**		**1,359.0651**

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	0.0238	0.3418	0.2201	1.0600e-003	0.0317	5.7800e-003	0.0375	9.0400e-003	5.3200e-003	0.0144		105.5606	105.5606	7.1000e-004		105.5755
Worker	0.0000	0.0000	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	**0.0238**	**0.3418**	**0.2201**	**1.0600e-003**	**0.0317**	**5.7800e-003**	**0.0375**	**9.0400e-003**	**5.3200e-003**	**0.0144**		**105.5606**	**105.5606**	**7.1000e-004**		**105.5755**

3.11 69 kV - Conductor Installation - 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	0.3256	6.5433	8.9256	0.0132		0.3270	0.3270		0.3270	0.3270	0.0000	1,350.3763	1,350.3763	0.4138		1,359.0651
Total	**0.3256**	**6.5433**	**8.9256**	**0.0132**		**0.3270**	**0.3270**		**0.3270**	**0.3270**	**0.0000**	**1,350.3763**	**1,350.3763**	**0.4138**		**1,359.0651**

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	0.0238	0.3418	0.2201	1.0600e-003	0.0317	5.7800e-003	0.0375	9.0400e-003	5.3200e-003	0.0144		105.5606	105.5606	7.1000e-004		105.5755
Worker	0.0000	0.0000	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	**0.0238**	**0.3418**	**0.2201**	**1.0600e-003**	**0.0317**	**5.7800e-003**	**0.0375**	**9.0400e-003**	**5.3200e-003**	**0.0144**		**105.5606**	**105.5606**	**7.1000e-004**		**105.5755**

3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0000	0.0000	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	**0.0715**	**1.0254**	**0.6603**	**3.1900e-003**	**0.0952**	**0.0174**	**0.1125**	**0.0271**	**0.0160**	**0.0431**		**316.6818**	**316.6818**	**2.1300e-003**		**316.7265**

3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0000	0.0000	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	**0.0715**	**1.0254**	**0.6603**	**3.1900e-003**	**0.0952**	**0.0174**	**0.1125**	**0.0271**	**0.0160**	**0.0431**		**316.6818**	**316.6818**	**2.1300e-003**		**316.7265**

3.13 Telecom - Duct Bank and Vault Installation - 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	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044		197.3953	197.3953	0.0605		198.6654
Total	**0.1588**	**1.6561**	**1.4174**	**1.9300e-003**		**0.1135**	**0.1135**		**0.1044**	**0.1044**		**197.3953**	**197.3953**	**0.0605**		**198.6654**

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	0.0409	0.6019	0.4470	1.7700e-003	0.0418	8.0600e-003	0.0499	0.0115	7.4100e-003	0.0189		176.0935	176.0935	1.2000e-003		176.1187
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	0.0000	0.0000	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	**0.0409**	**0.6019**	**0.4470**	**1.7700e-003**	**0.0418**	**8.0600e-003**	**0.0499**	**0.0115**	**7.4100e-003**	**0.0189**		**176.0935**	**176.0935**	**1.2000e-003**		**176.1187**

3.13 Telecom - Duct Bank and Vault Installation - 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	0.0473	1.0795	1.4578	1.9300e-003		0.0757	0.0757		0.0757	0.0757	0.0000	197.3953	197.3953	0.0605		198.6654
Total	**0.0473**	**1.0795**	**1.4578**	**1.9300e-003**		**0.0757**	**0.0757**		**0.0757**	**0.0757**	**0.0000**	**197.3953**	**197.3953**	**0.0605**		**198.6654**

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	0.0409	0.6019	0.4470	1.7700e-003	0.0418	8.0600e-003	0.0499	0.0115	7.4100e-003	0.0189		176.0935	176.0935	1.2000e-003		176.1187
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	0.0000	0.0000	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	**0.0409**	**0.6019**	**0.4470**	**1.7700e-003**	**0.0418**	**8.0600e-003**	**0.0499**	**0.0115**	**7.4100e-003**	**0.0189**		**176.0935**	**176.0935**	**1.2000e-003**		**176.1187**

3.14 12 kV - Cable Installation and Cutover - 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	0.1585	1.7399	1.0570	1.5300e-003		0.0919	0.0919		0.0846	0.0846		157.0475	157.0475	0.0481		158.0580
Total	**0.1585**	**1.7399**	**1.0570**	**1.5300e-003**		**0.0919**	**0.0919**		**0.0846**	**0.0846**		**157.0475**	**157.0475**	**0.0481**		**158.0580**

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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0798	0.1863	1.6353	4.6500e-003	0.3990	2.6400e-003	0.4016	0.1058	2.4300e-003	0.1082		373.7093	373.7093	0.0185		374.0968
Total	**0.1513**	**1.2117**	**2.2956**	**7.8400e-003**	**0.4942**	**0.0200**	**0.5142**	**0.1329**	**0.0184**	**0.1513**		**690.3911**	**690.3911**	**0.0206**		**690.8234**

3.14 12 kV - Cable Installation and Cutover - 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	0.0380	0.7347	1.1717	1.5300e-003		0.0355	0.0355		0.0355	0.0355	0.0000	157.0475	157.0475	0.0481		158.0580
Total	**0.0380**	**0.7347**	**1.1717**	**1.5300e-003**		**0.0355**	**0.0355**		**0.0355**	**0.0355**	**0.0000**	**157.0475**	**157.0475**	**0.0481**		**158.0580**

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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0798	0.1863	1.6353	4.6500e-003	0.3990	2.6400e-003	0.4016	0.1058	2.4300e-003	0.1082		373.7093	373.7093	0.0185		374.0968
Total	**0.1513**	**1.2117**	**2.2956**	**7.8400e-003**	**0.4942**	**0.0200**	**0.5142**	**0.1329**	**0.0184**	**0.1513**		**690.3911**	**690.3911**	**0.0206**		**690.8234**

Vine Substation Project - Data Request #2

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2017
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 - The proposed Vine Substation site will be approximately 1.5 acres

Construction Phase - Construction schedule take from the original PEA and PEA Supplement.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

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Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Trips and VMT - Truck trip requirements taken from Attachment A: Construction Equipment and Vehicle Summary

On-road Fugitive Dust - All on-road travel will be 100-percent paved with the exception of vendor and hauling trips during construction of the proposed Vine Substation.

Grading - Import and export requirements taken from the original PEA. Entire site assumed to be distrubed during both processes.

Vehicle Trips - Assume a maximum of 10 vehicles could visit the site daily.

Construction Off-road Equipment Mitigation - Tier 3 or better will be a mitigation measure for the project

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	1.5354	15.4894	10.3183	0.0206	1.4202	0.7903	2.2105	0.3567	0.7442	1.1009	0.0000	1,835.2448	1,835.2448	0.3540	0.0000	1,842.6795
2017	0.9853	9.3674	6.8879	0.0145	0.4085	0.4980	0.9065	0.0797	0.4753	0.5549	0.0000	1,263.0200	1,263.0200	0.2186	0.0000	1,267.6106
Total	**2.5207**	**24.8567**	**17.2062**	**0.0351**	**1.8286**	**1.2883**	**3.1169**	**0.4364**	**1.2195**	**1.6559**	**0.0000**	**3,098.2648**	**3,098.2648**	**0.5726**	**0.0000**	**3,110.2901**

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	0.4822	8.3384	10.7948	0.0206	0.6954	0.3988	1.0942	0.1971	0.3974	0.5945	0.0000	1,835.2432	1,835.2432	0.3540	0.0000	1,842.6779
2017	0.3290	5.7932	7.6370	0.0145	0.2797	0.3020	0.5817	0.0668	0.3012	0.3680	0.0000	1,263.0189	1,263.0189	0.2186	0.0000	1,267.6095
Total	**0.8112**	**14.1316**	**18.4317**	**0.0351**	**0.9751**	**0.7008**	**1.6759**	**0.2639**	**0.6986**	**0.9625**	**0.0000**	**3,098.2621**	**3,098.2621**	**0.5726**	**0.0000**	**3,110.2873**

	ROG	**NOx**	**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	**67.82**	**43.15**	**-7.12**	**0.00**	**46.68**	**45.60**	**46.23**	**39.51**	**42.72**	**41.87**	**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	Vine - Site Development and Grading	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Retaining/Boundary Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below-Grade Construction	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Substation Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Daytime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Nighttime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/16/2016	11/30/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	12 kV - Jack-and-Bore Installation	Trenching	1/1/2017	1/20/2017	6	17	
10	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
11	Energize - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Duct Bank and Vault Installation	Trenching	4/1/2017	4/29/2017	6	25	
13	12 kV - Cable Installation and Cutover	Building Construction	4/1/2017	6/30/2017	6	78	

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
Vine - Site Development and Grading	Excavators	1	6.00	162	0.38

Vine - Site Development and Grading	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development and Grading	Pavers	1	6.00	125	0.42
Vine - Site Development and Grading	Rollers	2	7.00	80	0.38
Vine - Site Development and Grading	Rollers	2	6.00	80	0.38
Vine - Site Development and Grading	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development and Grading	Rubber Tired Loaders	2	6.00	199	0.36
Vine - Site Development and Grading	Scrapers	2	7.00	361	0.48
Vine - Site Development and Grading	Skid Steer Loaders	2	3.00	64	0.37
Vine - Site Development and Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development and Grading	Trenchers	1	6.00	80	0.50
Vine - Retaining/Boundary Wall Construction	Excavators	1	9.00	162	0.38
Vine - Retaining/Boundary Wall Construction	Graders	1	9.00	174	0.41
Vine - Retaining/Boundary Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Retaining/Boundary Wall Construction	Rollers	1	9.00	80	0.38
Vine - Retaining/Boundary Wall Construction	Rubber Tired Loaders	3	9.00	199	0.36

Vine - Below-Grade Construction	Rubber Tired Loaders	2	6.00	199	0.36
Vine - Below-Grade Construction	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below-Grade Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below-Grade Construction	Trenchers	1	6.00	80	0.50
Vine Substation Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Vine - Substation Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Substation Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Substation Equipment Installation	Generator Sets	1	24.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Daytime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Daytime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Daytime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Daytime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Daytime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Daytime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Daytime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37

12 kV - Daytime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Nighttime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Nighttime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Nighttime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Nighttime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Nighttime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Nighttime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Signal Boards	8	8.00	6	0.82
12 kV - Nighttime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20
69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	6.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38
12 kV - Jack-and-Bore Installation	Pumps	1	6.00	84	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31

69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Other Construction Equipment	1	7.00	171	0.42
Telecom - Duct Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation and Cutover	Other Construction Equipment	1	2.00	171	0.42

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
Vine - Site Development and Gra	18	48.00	7.00	1,106.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Retaining/Boundary W	9	20.00	7.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Below-Grade Construction	5	27.00	4.00	198.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Substation Equipment Installation	8	37.00	5.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Daytime Duct Bank and Vault Install	28	40.00	4.00	685.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Nighttime Duct Bank and Vault Install	36	40.00	4.00	1,037.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	53.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Remo	3	5.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	76.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	0.00	1.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Energize - Testing and Commissioning	0	0.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Telecom - Duct Bank and Vault Installation	2	0.00	0.00	40.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation and Cutov	1	15.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Vine - Site Development and 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					0.3539	0.0000	0.3539	0.1939	0.0000	0.1939	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3333	3.7929	2.3484	3.3000e-003		0.1833	0.1833		0.1686	0.1686	0.0000	311.6091	311.6091	0.0940	0.0000	313.5829
Total	**0.3333**	**3.7929**	**2.3484**	**3.3000e-003**	**0.3539**	**0.1833**	**0.5371**	**0.1939**	**0.1686**	**0.3625**	**0.0000**	**311.6091**	**311.6091**	**0.0940**	**0.0000**	**313.5829**

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	0.0146	0.2345	0.1506	6.1000e-004	0.2315	3.1600e-003	0.2346	0.0256	2.9100e-003	0.0285	0.0000	56.2212	56.2212	3.9000e-004	0.0000	56.2294
Vendor	6.9100e-003	0.1060	0.0609	2.9000e-004	0.1337	1.8100e-003	0.1355	0.0149	1.6700e-003	0.0166	0.0000	26.6197	26.6197	1.9000e-004	0.0000	26.6236
Worker	0.0108	0.0252	0.2286	5.9000e-004	0.0486	3.4000e-004	0.0490	0.0129	3.1000e-004	0.0132	0.0000	44.4551	44.4551	2.2500e-003	0.0000	44.5024
Total	**0.0323**	**0.3658**	**0.4401**	**1.4900e-003**	**0.4137**	**5.3100e-003**	**0.4190**	**0.0534**	**4.8900e-003**	**0.0583**	**0.0000**	**127.2960**	**127.2960**	**2.8300e-003**	**0.0000**	**127.3555**

3.2 Vine - Site Development and 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					0.1592	0.0000	0.1592	0.0872	0.0000	0.0872	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0811	1.6260	1.9737	3.3000e-003		0.0752	0.0752		0.0752	0.0752	0.0000	311.6087	311.6087	0.0940	0.0000	313.5825
Total	**0.0811**	**1.6260**	**1.9737**	**3.3000e-003**	**0.1592**	**0.0752**	**0.2345**	**0.0872**	**0.0752**	**0.1625**	**0.0000**	**311.6087**	**311.6087**	**0.0940**	**0.0000**	**313.5825**

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	0.0146	0.2345	0.1506	6.1000e-004	0.0739	3.1600e-003	0.0771	9.8200e-003	2.9100e-003	0.0127	0.0000	56.2212	56.2212	3.9000e-004	0.0000	56.2294
Vendor	6.9100e-003	0.1060	0.0609	2.9000e-004	0.0429	1.8100e-003	0.0447	5.8500e-003	1.6700e-003	7.5200e-003	0.0000	26.6197	26.6197	1.9000e-004	0.0000	26.6236
Worker	0.0108	0.0252	0.2286	5.9000e-004	0.0486	3.4000e-004	0.0490	0.0129	3.1000e-004	0.0132	0.0000	44.4551	44.4551	2.2500e-003	0.0000	44.5024
Total	**0.0323**	**0.3658**	**0.4401**	**1.4900e-003**	**0.1655**	**5.3100e-003**	**0.1708**	**0.0286**	**4.8900e-003**	**0.0335**	**0.0000**	**127.2960**	**127.2960**	**2.8300e-003**	**0.0000**	**127.3555**

3.3 Vine - Retaining/Boundary Wall 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	0.1000	1.1349	0.4921	1.0100e-003		0.0513	0.0513		0.0473	0.0473	0.0000	94.2361	94.2361	0.0279	0.0000	94.8214
Total	**0.1000**	**1.1349**	**0.4921**	**1.0100e-003**		**0.0513**	**0.0513**		**0.0473**	**0.0473**	**0.0000**	**94.2361**	**94.2361**	**0.0279**	**0.0000**	**94.8214**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6900e-003	0.0721	0.0414	2.0000e-004	0.0908	1.2300e-003	0.0920	0.0101	1.1300e-003	0.0113	0.0000	18.0878	18.0878	1.3000e-004	0.0000	18.0904
Worker	3.0500e-003	7.1300e-003	0.0647	1.7000e-004	0.0138	1.0000e-004	0.0139	3.6600e-003	9.0000e-005	3.7400e-003	0.0000	12.5861	12.5861	6.4000e-004	0.0000	12.5995
Total	**7.7400e-003**	**0.0792**	**0.1061**	**3.7000e-004**	**0.1046**	**1.3300e-003**	**0.1059**	**0.0138**	**1.2200e-003**	**0.0150**	**0.0000**	**30.6739**	**30.6739**	**7.7000e-004**	**0.0000**	**30.6899**

3.3 Vine - Retaining/Boundary Wall 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	0.0275	0.4906	0.6303	1.0100e-003		0.0217	0.0217		0.0217	0.0217	0.0000	94.2360	94.2360	0.0279	0.0000	94.8213
Total	**0.0275**	**0.4906**	**0.6303**	**1.0100e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**94.2360**	**94.2360**	**0.0279**	**0.0000**	**94.8213**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6900e-003	0.0721	0.0414	2.0000e-004	0.0292	1.2300e-003	0.0304	3.9700e-003	1.1300e-003	5.1100e-003	0.0000	18.0878	18.0878	1.3000e-004	0.0000	18.0904
Worker	3.0500e-003	7.1300e-003	0.0647	1.7000e-004	0.0138	1.0000e-004	0.0139	3.6600e-003	9.0000e-005	3.7400e-003	0.0000	12.5861	12.5861	6.4000e-004	0.0000	12.5995
Total	**7.7400e-003**	**0.0792**	**0.1061**	**3.7000e-004**	**0.0429**	**1.3300e-003**	**0.0443**	**7.6300e-003**	**1.2200e-003**	**8.8500e-003**	**0.0000**	**30.6739**	**30.6739**	**7.7000e-004**	**0.0000**	**30.6899**

3.4 Vine - Below-Grade 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					
Fugitive Dust					9.3000e-004	0.0000	9.3000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1158	1.2973	0.5783	1.1900e-003		0.0664	0.0664		0.0611	0.0611	0.0000	112.0082	112.0082	0.0338	0.0000	112.7177
Total	**0.1158**	**1.2973**	**0.5783**	**1.1900e-003**	**9.3000e-004**	**0.0664**	**0.0674**	**1.1000e-004**	**0.0611**	**0.0612**	**0.0000**	**112.0082**	**112.0082**	**0.0338**	**0.0000**	**112.7177**

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	2.6200e-003	0.0420	0.0270	1.1000e-004	0.0414	5.7000e-004	0.0420	4.5700e-003	5.2000e-004	5.0900e-003	0.0000	10.0649	10.0649	7.0000e-005	0.0000	10.0664
Vendor	7.9400e-003	0.1220	0.0701	3.4000e-004	0.1537	2.0900e-003	0.1558	0.0171	1.9200e-003	0.0191	0.0000	30.6175	30.6175	2.2000e-004	0.0000	30.6221
Worker	0.0122	0.0285	0.2588	6.6000e-004	0.0550	3.9000e-004	0.0554	0.0146	3.5000e-004	0.0150	0.0000	50.3326	50.3326	2.5500e-003	0.0000	50.3862
Total	**0.0227**	**0.1925**	**0.3558**	**1.1100e-003**	**0.2502**	**3.0500e-003**	**0.2532**	**0.0363**	**2.7900e-003**	**0.0391**	**0.0000**	**91.0150**	**91.0150**	**2.8400e-003**	**0.0000**	**91.0746**

3.4 Vine - Below-Grade 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					
Fugitive Dust					4.2000e-004	0.0000	4.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.6060	0.7391	1.1900e-003		0.0314	0.0314		0.0314	0.0314	0.0000	112.0080	112.0080	0.0338	0.0000	112.7175
Total	**0.0293**	**0.6060**	**0.7391**	**1.1900e-003**	**4.2000e-004**	**0.0314**	**0.0318**	**5.0000e-005**	**0.0314**	**0.0314**	**0.0000**	**112.0080**	**112.0080**	**0.0338**	**0.0000**	**112.7175**

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	2.6200e-003	0.0420	0.0270	1.1000e-004	0.0132	5.7000e-004	0.0138	1.7600e-003	5.2000e-004	2.2800e-003	0.0000	10.0649	10.0649	7.0000e-005	0.0000	10.0664
Vendor	7.9400e-003	0.1220	0.0701	3.4000e-004	0.0494	2.0900e-003	0.0515	6.7300e-003	1.9200e-003	8.6500e-003	0.0000	30.6175	30.6175	2.2000e-004	0.0000	30.6221
Worker	0.0122	0.0285	0.2588	6.6000e-004	0.0550	3.9000e-004	0.0554	0.0146	3.5000e-004	0.0150	0.0000	50.3326	50.3326	2.5500e-003	0.0000	50.3862
Total	**0.0227**	**0.1925**	**0.3558**	**1.1100e-003**	**0.1177**	**3.0500e-003**	**0.1207**	**0.0231**	**2.7900e-003**	**0.0259**	**0.0000**	**91.0150**	**91.0150**	**2.8400e-003**	**0.0000**	**91.0746**

3.5 Vine - Substation Equipment Installation - 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	0.1669	1.5908	1.0192	1.7600e-003		0.0903	0.0903		0.0874	0.0874	0.0000	157.4625	157.4625	0.0288	0.0000	158.0671
Total	**0.1669**	**1.5908**	**1.0192**	**1.7600e-003**		**0.0903**	**0.0903**		**0.0874**	**0.0874**	**0.0000**	**157.4625**	**157.4625**	**0.0288**	**0.0000**	**158.0671**

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	6.6400e-003	0.1020	0.0586	2.8000e-004	0.1285	1.7500e-003	0.1303	0.0143	1.6100e-003	0.0159	0.0000	25.5959	25.5959	1.8000e-004	0.0000	25.5997
Worker	0.0112	0.0261	0.2372	6.1000e-004	0.0504	3.5000e-004	0.0508	0.0134	3.3000e-004	0.0137	0.0000	46.1293	46.1293	2.3400e-003	0.0000	46.1784
Total	**0.0178**	**0.1281**	**0.2957**	**8.9000e-004**	**0.1790**	**2.1000e-003**	**0.1810**	**0.0277**	**1.9400e-003**	**0.0297**	**0.0000**	**71.7252**	**71.7252**	**2.5200e-003**	**0.0000**	**71.7781**

3.5 Vine - Substation Equipment Installation - 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	0.0386	0.8428	1.0896	1.7600e-003		0.0523	0.0523		0.0523	0.0523	0.0000	157.4623	157.4623	0.0288	0.0000	158.0669
Total	**0.0386**	**0.8428**	**1.0896**	**1.7600e-003**		**0.0523**	**0.0523**		**0.0523**	**0.0523**	**0.0000**	**157.4623**	**157.4623**	**0.0288**	**0.0000**	**158.0669**

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	6.6400e-003	0.1020	0.0586	2.8000e-004	0.0413	1.7500e-003	0.0430	5.6200e-003	1.6100e-003	7.2300e-003	0.0000	25.5959	25.5959	1.8000e-004	0.0000	25.5997
Worker	0.0112	0.0261	0.2372	6.1000e-004	0.0504	3.5000e-004	0.0508	0.0134	3.3000e-004	0.0137	0.0000	46.1293	46.1293	2.3400e-003	0.0000	46.1784
Total	**0.0178**	**0.1281**	**0.2957**	**8.9000e-004**	**0.0917**	**2.1000e-003**	**0.0938**	**0.0190**	**1.9400e-003**	**0.0210**	**0.0000**	**71.7252**	**71.7252**	**2.5200e-003**	**0.0000**	**71.7781**

3.5 Vine - Substation Equipment Installation - 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	0.2201	2.1341	1.4697	2.6000e-003		0.1168	0.1168		0.1131	0.1131	0.0000	230.8863	230.8863	0.0411	0.0000	231.7498
Total	**0.2201**	**2.1341**	**1.4697**	**2.6000e-003**		**0.1168**	**0.1168**		**0.1131**	**0.1131**	**0.0000**	**230.8863**	**230.8863**	**0.0411**	**0.0000**	**231.7498**

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	9.0000e-003	0.1330	0.0805	4.1000e-004	0.1897	2.2400e-003	0.1919	0.0212	2.0600e-003	0.0232	0.0000	37.1449	37.1449	2.5000e-004	0.0000	37.1502
Worker	0.0146	0.0351	0.3151	9.0000e-004	0.0745	5.0000e-004	0.0750	0.0198	4.7000e-004	0.0202	0.0000	65.4627	65.4627	3.2000e-003	0.0000	65.5299
Total	**0.0236**	**0.1681**	**0.3956**	**1.3100e-003**	**0.2642**	**2.7400e-003**	**0.2669**	**0.0409**	**2.5300e-003**	**0.0435**	**0.0000**	**102.6076**	**102.6076**	**3.4500e-003**	**0.0000**	**102.6801**

3.5 Vine - Substation Equipment Installation - 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	0.0570	1.2441	1.6084	2.6000e-003		0.0772	0.0772		0.0772	0.0772	0.0000	230.8860	230.8860	0.0411	0.0000	231.7495
Total	**0.0570**	**1.2441**	**1.6084**	**2.6000e-003**		**0.0772**	**0.0772**		**0.0772**	**0.0772**	**0.0000**	**230.8860**	**230.8860**	**0.0411**	**0.0000**	**231.7495**

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	9.0000e-003	0.1330	0.0805	4.1000e-004	0.0609	2.2400e-003	0.0632	8.3000e-003	2.0600e-003	0.0104	0.0000	37.1449	37.1449	2.5000e-004	0.0000	37.1502
Worker	0.0146	0.0351	0.3151	9.0000e-004	0.0745	5.0000e-004	0.0750	0.0198	4.7000e-004	0.0202	0.0000	65.4627	65.4627	3.2000e-003	0.0000	65.5299
Total	**0.0236**	**0.1681**	**0.3956**	**1.3100e-003**	**0.1354**	**2.7400e-003**	**0.1381**	**0.0281**	**2.5300e-003**	**0.0306**	**0.0000**	**102.6076**	**102.6076**	**3.4500e-003**	**0.0000**	**102.6801**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	0.3231	3.0314	1.8974	3.4600e-003		0.1794	0.1794		0.1710	0.1710	0.0000	315.5828	315.5828	0.0735	0.0000	317.1267
Total	**0.3231**	**3.0314**	**1.8974**	**3.4600e-003**		**0.1794**	**0.1794**		**0.1710**	**0.1710**	**0.0000**	**315.5828**	**315.5828**	**0.0735**	**0.0000**	**317.1267**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5800e-003	0.0736	0.0472	1.9000e-004	7.7000e-003	9.9000e-004	8.6900e-003	2.0200e-003	9.1000e-004	2.9300e-003	0.0000	17.6335	17.6335	1.2000e-004	0.0000	17.6361
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
Total	**0.0177**	**0.1562**	**0.2754**	**8.6000e-004**	**0.0536**	**2.3300e-003**	**0.0560**	**0.0143**	**2.1400e-003**	**0.0165**	**0.0000**	**70.5606**	**70.5606**	**2.1300e-003**	**0.0000**	**70.6054**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	0.0792	1.6709	2.1283	3.4600e-003		0.0939	0.0939		0.0939	0.0939	0.0000	315.5824	315.5824	0.0735	0.0000	317.1263
Total	**0.0792**	**1.6709**	**2.1283**	**3.4600e-003**		**0.0939**	**0.0939**		**0.0939**	**0.0939**	**0.0000**	**315.5824**	**315.5824**	**0.0735**	**0.0000**	**317.1263**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5800e-003	0.0736	0.0472	1.9000e-004	7.7000e-003	9.9000e-004	8.6900e-003	2.0200e-003	9.1000e-004	2.9300e-003	0.0000	17.6335	17.6335	1.2000e-004	0.0000	17.6361
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
Total	**0.0177**	**0.1562**	**0.2754**	**8.6000e-004**	**0.0536**	**2.3300e-003**	**0.0560**	**0.0143**	**2.1400e-003**	**0.0165**	**0.0000**	**70.5606**	**70.5606**	**2.1300e-003**	**0.0000**	**70.6054**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	0.2873	2.7032	1.8071	3.3700e-003		0.1564	0.1564		0.1490	0.1490	0.0000	304.5197	304.5197	0.0705	0.0000	306.0005
Total	**0.2873**	**2.7032**	**1.8071**	**3.3700e-003**		**0.1564**	**0.1564**		**0.1490**	**0.1490**	**0.0000**	**304.5197**	**304.5197**	**0.0705**	**0.0000**	**306.0005**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1900e-003	0.0638	0.0441	1.9000e-004	7.6700e-003	8.5000e-004	8.5200e-003	2.0100e-003	7.8000e-004	2.7900e-003	0.0000	16.8944	16.8944	1.1000e-004	0.0000	16.8968
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
Total	**0.0156**	**0.1355**	**0.2453**	**8.3000e-004**	**0.0525**	**2.0100e-003**	**0.0545**	**0.0140**	**1.8500e-003**	**0.0159**	**0.0000**	**66.8135**	**66.8135**	**1.9300e-003**	**0.0000**	**66.8541**

3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	0.0772	1.6286	2.0744	3.3700e-003		0.0915	0.0915		0.0915	0.0915	0.0000	304.5193	304.5193	0.0705	0.0000	306.0001
Total	**0.0772**	**1.6286**	**2.0744**	**3.3700e-003**		**0.0915**	**0.0915**		**0.0915**	**0.0915**	**0.0000**	**304.5193**	**304.5193**	**0.0705**	**0.0000**	**306.0001**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1900e-003	0.0638	0.0441	1.9000e-004	7.6700e-003	8.5000e-004	8.5200e-003	2.0100e-003	7.8000e-004	2.7900e-003	0.0000	16.8944	16.8944	1.1000e-004	0.0000	16.8968
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
Total	**0.0156**	**0.1355**	**0.2453**	**8.3000e-004**	**0.0525**	**2.0100e-003**	**0.0545**	**0.0140**	**1.8500e-003**	**0.0159**	**0.0000**	**66.8135**	**66.8135**	**1.9300e-003**	**0.0000**	**66.8541**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	0.3413	3.1450	1.9925	3.6800e-003		0.1838	0.1838		0.1755	0.1755	0.0000	329.7195	329.7195	0.0750	0.0000	331.2943
Total	**0.3413**	**3.1450**	**1.9925**	**3.6800e-003**		**0.1838**	**0.1838**		**0.1755**	**0.1755**	**0.0000**	**329.7195**	**329.7195**	**0.0750**	**0.0000**	**331.2943**

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	6.9400e-003	0.1114	0.0715	2.9000e-004	0.0117	1.5000e-003	0.0132	3.0500e-003	1.3800e-003	4.4400e-003	0.0000	26.6948	26.6948	1.9000e-004	0.0000	26.6987
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
Total	**0.0200**	**0.1940**	**0.2997**	**9.6000e-004**	**0.0576**	**2.8400e-003**	**0.0604**	**0.0154**	**2.6100e-003**	**0.0180**	**0.0000**	**79.6219**	**79.6219**	**2.2000e-003**	**0.0000**	**79.6680**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	0.0973	1.7845	2.2234	3.6800e-003		0.0983	0.0983		0.0983	0.0983	0.0000	329.7191	329.7191	0.0750	0.0000	331.2939
Total	**0.0973**	**1.7845**	**2.2234**	**3.6800e-003**		**0.0983**	**0.0983**		**0.0983**	**0.0983**	**0.0000**	**329.7191**	**329.7191**	**0.0750**	**0.0000**	**331.2939**

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	6.9400e-003	0.1114	0.0715	2.9000e-004	0.0117	1.5000e-003	0.0132	3.0500e-003	1.3800e-003	4.4400e-003	0.0000	26.6948	26.6948	1.9000e-004	0.0000	26.6987
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
Total	**0.0200**	**0.1940**	**0.2997**	**9.6000e-004**	**0.0576**	**2.8400e-003**	**0.0604**	**0.0154**	**2.6100e-003**	**0.0180**	**0.0000**	**79.6219**	**79.6219**	**2.2000e-003**	**0.0000**	**79.6680**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	0.3050	2.8139	1.8998	3.5900e-003		0.1607	0.1607		0.1533	0.1533	0.0000	318.2985	318.2985	0.0719	0.0000	319.8093
Total	**0.3050**	**2.8139**	**1.8998**	**3.5900e-003**		**0.1607**	**0.1607**		**0.1533**	**0.1533**	**0.0000**	**318.2985**	**318.2985**	**0.0719**	**0.0000**	**319.8093**

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	6.3400e-003	0.0966	0.0667	2.8000e-004	0.0116	1.2900e-003	0.0129	3.0400e-003	1.1800e-003	4.2200e-003	0.0000	25.5760	25.5760	1.7000e-004	0.0000	25.5796
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
Total	**0.0178**	**0.1683**	**0.2679**	**9.2000e-004**	**0.0564**	**2.4500e-003**	**0.0588**	**0.0150**	**2.2500e-003**	**0.0173**	**0.0000**	**75.4950**	**75.4950**	**1.9900e-003**	**0.0000**	**75.5368**

3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	0.0948	1.7393	2.1671	3.5900e-003		0.0958	0.0958		0.0958	0.0958	0.0000	318.2981	318.2981	0.0719	0.0000	319.8090
Total	**0.0948**	**1.7393**	**2.1671**	**3.5900e-003**		**0.0958**	**0.0958**		**0.0958**	**0.0958**	**0.0000**	**318.2981**	**318.2981**	**0.0719**	**0.0000**	**319.8090**

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	6.3400e-003	0.0966	0.0667	2.8000e-004	0.0116	1.2900e-003	0.0129	3.0400e-003	1.1800e-003	4.2200e-003	0.0000	25.5760	25.5760	1.7000e-004	0.0000	25.5796
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
Total	**0.0178**	**0.1683**	**0.2679**	**9.2000e-004**	**0.0564**	**2.4500e-003**	**0.0588**	**0.0150**	**2.2500e-003**	**0.0173**	**0.0000**	**75.4950**	**75.4950**	**1.9900e-003**	**0.0000**	**75.5368**

3.8 69 kV - Foundation Installation - 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	7.9400e-003	0.0875	0.0449	1.1000e-004		4.3900e-003	4.3900e-003		4.1300e-003	4.1300e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629
Total	**7.9400e-003**	**0.0875**	**0.0449**	**1.1000e-004**		**4.3900e-003**	**4.3900e-003**		**4.1300e-003**	**4.1300e-003**	**0.0000**	**9.9082**	**9.9082**	**2.6000e-003**	**0.0000**	**9.9629**

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	7.0000e-004	0.0112	7.2200e-003	3.0000e-005	6.8000e-004	1.5000e-004	8.3000e-004	1.9000e-004	1.4000e-004	3.3000e-004	0.0000	2.6941	2.6941	2.0000e-005	0.0000	2.6945
Vendor	3.3000e-004	5.0500e-003	2.9000e-003	1.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.2676	1.2676	1.0000e-005	0.0000	1.2678
Worker	2.6000e-004	6.1000e-004	5.5600e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0805	1.0805	5.0000e-005	0.0000	1.0817
Total	**1.2900e-003**	**0.0169**	**0.0157**	**5.0000e-005**	**2.2600e-003**	**2.5000e-004**	**2.5100e-003**	**6.2000e-004**	**2.3000e-004**	**8.5000e-004**	**0.0000**	**5.0423**	**5.0423**	**8.0000e-005**	**0.0000**	**5.0440**

3.8 69 kV - Foundation Installation - 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	2.5500e-003	0.0520	0.0625	1.1000e-004		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629
Total	**2.5500e-003**	**0.0520**	**0.0625**	**1.1000e-004**		**2.5600e-003**	**2.5600e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**9.9082**	**9.9082**	**2.6000e-003**	**0.0000**	**9.9629**

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	7.0000e-004	0.0112	7.2200e-003	3.0000e-005	6.8000e-004	1.5000e-004	8.3000e-004	1.9000e-004	1.4000e-004	3.3000e-004	0.0000	2.6941	2.6941	2.0000e-005	0.0000	2.6945
Vendor	3.3000e-004	5.0500e-003	2.9000e-003	1.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.2676	1.2676	1.0000e-005	0.0000	1.2678
Worker	2.6000e-004	6.1000e-004	5.5600e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0805	1.0805	5.0000e-005	0.0000	1.0817
Total	**1.2900e-003**	**0.0169**	**0.0157**	**5.0000e-005**	**2.2600e-003**	**2.5000e-004**	**2.5100e-003**	**6.2000e-004**	**2.3000e-004**	**8.5000e-004**	**0.0000**	**5.0423**	**5.0423**	**8.0000e-005**	**0.0000**	**5.0440**

3.9 69 kV - Pole Installation and Removal - 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	0.0254	0.2524	0.1316	2.3000e-004		0.0137	0.0137		0.0131	0.0131	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625
Total	**0.0254**	**0.2524**	**0.1316**	**2.3000e-004**		**0.0137**	**0.0137**		**0.0131**	**0.0131**	**0.0000**	**20.5585**	**20.5585**	**4.9500e-003**	**0.0000**	**20.6625**

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	1.5200e-003	0.0233	0.0134	6.0000e-005	1.8700e-003	4.0000e-004	2.2600e-003	5.3000e-004	3.7000e-004	9.0000e-004	0.0000	5.8505	5.8505	4.0000e-005	0.0000	5.8514
Worker	5.7000e-004	1.3500e-003	0.0122	3.0000e-005	2.6000e-003	2.0000e-005	2.6100e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.3747	2.3747	1.2000e-004	0.0000	2.3773
Total	**2.0900e-003**	**0.0247**	**0.0256**	**9.0000e-005**	**4.4700e-003**	**4.2000e-004**	**4.8700e-003**	**1.2200e-003**	**3.9000e-004**	**1.6100e-003**	**0.0000**	**8.2252**	**8.2252**	**1.6000e-004**	**0.0000**	**8.2286**

3.9 69 kV - Pole Installation and Removal - 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	5.1700e-003	0.1084	0.1341	2.3000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625
Total	**5.1700e-003**	**0.1084**	**0.1341**	**2.3000e-004**		**5.8700e-003**	**5.8700e-003**		**5.8700e-003**	**5.8700e-003**	**0.0000**	**20.5585**	**20.5585**	**4.9500e-003**	**0.0000**	**20.6625**

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	1.5200e-003	0.0233	0.0134	6.0000e-005	1.8700e-003	4.0000e-004	2.2600e-003	5.3000e-004	3.7000e-004	9.0000e-004	0.0000	5.8505	5.8505	4.0000e-005	0.0000	5.8514
Worker	5.7000e-004	1.3500e-003	0.0122	3.0000e-005	2.6000e-003	2.0000e-005	2.6100e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.3747	2.3747	1.2000e-004	0.0000	2.3773
Total	**2.0900e-003**	**0.0247**	**0.0256**	**9.0000e-005**	**4.4700e-003**	**4.2000e-004**	**4.8700e-003**	**1.2200e-003**	**3.9000e-004**	**1.6100e-003**	**0.0000**	**8.2252**	**8.2252**	**1.6000e-004**	**0.0000**	**8.2286**

3.9 69 kV - Pole Installation and Removal - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0285	0.2852	0.1582	2.8000e-004		0.0151	0.0151		0.0143	0.0143	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614
Total	**0.0285**	**0.2852**	**0.1582**	**2.8000e-004**		**0.0151**	**0.0151**		**0.0143**	**0.0143**	**0.0000**	**25.4336**	**25.4336**	**6.0800e-003**	**0.0000**	**25.5614**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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	0.0257	0.0156	8.0000e-005	2.3300e-003	4.3000e-004	2.7700e-003	6.7000e-004	4.0000e-004	1.0700e-003	0.0000	7.1893	7.1893	5.0000e-005	0.0000	7.1904
Worker	6.4000e-004	1.5300e-003	0.0137	4.0000e-005	3.2500e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.8537	2.8537	1.4000e-004	0.0000	2.8566
Total	**2.3800e-003**	**0.0273**	**0.0293**	**1.2000e-004**	**5.5800e-003**	**4.5000e-004**	**6.0400e-003**	**1.5300e-003**	**4.2000e-004**	**1.9500e-003**	**0.0000**	**10.0430**	**10.0430**	**1.9000e-004**	**0.0000**	**10.0469**

3.9 69 kV - Pole Installation and Removal - 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	6.4700e-003	0.1355	0.1676	2.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614
Total	**6.4700e-003**	**0.1355**	**0.1676**	**2.8000e-004**		**7.3400e-003**	**7.3400e-003**		**7.3400e-003**	**7.3400e-003**	**0.0000**	**25.4336**	**25.4336**	**6.0800e-003**	**0.0000**	**25.5614**

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	0.0257	0.0156	8.0000e-005	2.3300e-003	4.3000e-004	2.7700e-003	6.7000e-004	4.0000e-004	1.0700e-003	0.0000	7.1893	7.1893	5.0000e-005	0.0000	7.1904
Worker	6.4000e-004	1.5300e-003	0.0137	4.0000e-005	3.2500e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.8537	2.8537	1.4000e-004	0.0000	2.8566
Total	**2.3800e-003**	**0.0273**	**0.0293**	**1.2000e-004**	**5.5800e-003**	**4.5000e-004**	**6.0400e-003**	**1.5300e-003**	**4.2000e-004**	**1.9500e-003**	**0.0000**	**10.0430**	**10.0430**	**1.9000e-004**	**0.0000**	**10.0469**

3.10 12 kV - Jack-and-Bore Installation - 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	0.0336	0.3337	0.1934	3.9000e-004		0.0170	0.0170		0.0161	0.0161	0.0000	34.9995	34.9995	8.6000e-003	0.0000	35.1801
Total	**0.0336**	**0.3337**	**0.1934**	**3.9000e-004**		**0.0170**	**0.0170**		**0.0161**	**0.0161**	**0.0000**	**34.9995**	**34.9995**	**8.6000e-003**	**0.0000**	**35.1801**

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	9.4000e-004	0.0144	9.9000e-003	4.0000e-005	9.7000e-004	1.9000e-004	1.1600e-003	2.7000e-004	1.8000e-004	4.4000e-004	0.0000	3.7975	3.7975	3.0000e-005	0.0000	3.7981
Vendor	5.9000e-004	8.7500e-003	5.3000e-003	3.0000e-005	7.9000e-004	1.5000e-004	9.4000e-004	2.3000e-004	1.4000e-004	3.6000e-004	0.0000	2.4444	2.4444	2.0000e-005	0.0000	2.4447
Worker	3.9000e-004	9.4000e-004	8.4100e-003	2.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.7464	1.7464	9.0000e-005	0.0000	1.7482
Total	**1.9200e-003**	**0.0240**	**0.0236**	**9.0000e-005**	**3.7500e-003**	**3.5000e-004**	**4.1000e-003**	**1.0300e-003**	**3.3000e-004**	**1.3400e-003**	**0.0000**	**7.9883**	**7.9883**	**1.4000e-004**	**0.0000**	**7.9910**

3.10 12 kV - Jack-and-Bore Installation - 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	0.0109	0.1868	0.2316	3.9000e-004		9.5900e-003	9.5900e-003		9.5900e-003	9.5900e-003	0.0000	34.9994	34.9994	8.6000e-003	0.0000	35.1800
Total	**0.0109**	**0.1868**	**0.2316**	**3.9000e-004**		**9.5900e-003**	**9.5900e-003**		**9.5900e-003**	**9.5900e-003**	**0.0000**	**34.9994**	**34.9994**	**8.6000e-003**	**0.0000**	**35.1800**

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	9.4000e-004	0.0144	9.9000e-003	4.0000e-005	9.7000e-004	1.9000e-004	1.1600e-003	2.7000e-004	1.8000e-004	4.4000e-004	0.0000	3.7975	3.7975	3.0000e-005	0.0000	3.7981
Vendor	5.9000e-004	8.7500e-003	5.3000e-003	3.0000e-005	7.9000e-004	1.5000e-004	9.4000e-004	2.3000e-004	1.4000e-004	3.6000e-004	0.0000	2.4444	2.4444	2.0000e-005	0.0000	2.4447
Worker	3.9000e-004	9.4000e-004	8.4100e-003	2.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.7464	1.7464	9.0000e-005	0.0000	1.7482
Total	**1.9200e-003**	**0.0240**	**0.0236**	**9.0000e-005**	**3.7500e-003**	**3.5000e-004**	**4.1000e-003**	**1.0300e-003**	**3.3000e-004**	**1.3400e-003**	**0.0000**	**7.9883**	**7.9883**	**1.4000e-004**	**0.0000**	**7.9910**

3.11 69 kV - Conductor Installation - 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	0.0302	0.3556	0.2000	3.3000e-004		0.0168	0.0168		0.0154	0.0154	0.0000	30.6260	30.6260	9.3800e-003	0.0000	30.8231
Total	**0.0302**	**0.3556**	**0.2000**	**3.3000e-004**		**0.0168**	**0.0168**		**0.0154**	**0.0154**	**0.0000**	**30.6260**	**30.6260**	**9.3800e-003**	**0.0000**	**30.8231**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8000e-004	8.5800e-003	5.2000e-003	3.0000e-005	7.8000e-004	1.4000e-004	9.2000e-004	2.2000e-004	1.3000e-004	3.6000e-004	0.0000	2.3965	2.3965	2.0000e-005	0.0000	2.3968
Worker	0.0000	0.0000	0.0000	0.0000	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	**5.8000e-004**	**8.5800e-003**	**5.2000e-003**	**3.0000e-005**	**7.8000e-004**	**1.4000e-004**	**9.2000e-004**	**2.2000e-004**	**1.3000e-004**	**3.6000e-004**	**0.0000**	**2.3965**	**2.3965**	**2.0000e-005**	**0.0000**	**2.3968**

3.11 69 kV - Conductor Installation - 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	8.1400e-003	0.1636	0.2231	3.3000e-004		8.1800e-003	8.1800e-003		8.1800e-003	8.1800e-003	0.0000	30.6260	30.6260	9.3800e-003	0.0000	30.8230
Total	**8.1400e-003**	**0.1636**	**0.2231**	**3.3000e-004**		**8.1800e-003**	**8.1800e-003**		**8.1800e-003**	**8.1800e-003**	**0.0000**	**30.6260**	**30.6260**	**9.3800e-003**	**0.0000**	**30.8230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8000e-004	8.5800e-003	5.2000e-003	3.0000e-005	7.8000e-004	1.4000e-004	9.2000e-004	2.2000e-004	1.3000e-004	3.6000e-004	0.0000	2.3965	2.3965	2.0000e-005	0.0000	2.3968
Worker	0.0000	0.0000	0.0000	0.0000	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	**5.8000e-004**	**8.5800e-003**	**5.2000e-003**	**3.0000e-005**	**7.8000e-004**	**1.4000e-004**	**9.2000e-004**	**2.2000e-004**	**1.3000e-004**	**3.6000e-004**	**0.0000**	**2.3965**	**2.3965**	**2.0000e-005**	**0.0000**	**2.3968**

3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-003	0.0664	0.0402	2.1000e-004	6.0200e-003	1.1200e-003	7.1400e-003	1.7200e-003	1.0300e-003	2.7500e-003	0.0000	18.5485	18.5485	1.2000e-004	0.0000	18.5511
Worker	0.0000	0.0000	0.0000	0.0000	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	**4.5000e-003**	**0.0664**	**0.0402**	**2.1000e-004**	**6.0200e-003**	**1.1200e-003**	**7.1400e-003**	**1.7200e-003**	**1.0300e-003**	**2.7500e-003**	**0.0000**	**18.5485**	**18.5485**	**1.2000e-004**	**0.0000**	**18.5511**

3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-003	0.0664	0.0402	2.1000e-004	6.0200e-003	1.1200e-003	7.1400e-003	1.7200e-003	1.0300e-003	2.7500e-003	0.0000	18.5485	18.5485	1.2000e-004	0.0000	18.5511
Worker	0.0000	0.0000	0.0000	0.0000	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	**4.5000e-003**	**0.0664**	**0.0402**	**2.1000e-004**	**6.0200e-003**	**1.1200e-003**	**7.1400e-003**	**1.7200e-003**	**1.0300e-003**	**2.7500e-003**	**0.0000**	**18.5485**	**18.5485**	**1.2000e-004**	**0.0000**	**18.5511**

3.13 Telecom - Duct Bank and Vault Installation - 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	1.9800e-003	0.0207	0.0177	2.0000e-005		1.4200e-003	1.4200e-003		1.3100e-003	1.3100e-003	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528
Total	**1.9800e-003**	**0.0207**	**0.0177**	**2.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**2.2384**	**2.2384**	**6.9000e-004**	**0.0000**	**2.2528**

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	5.0000e-004	7.5500e-003	5.2100e-003	2.0000e-005	5.1000e-004	1.0000e-004	6.1000e-004	1.4000e-004	9.0000e-005	2.3000e-004	0.0000	1.9987	1.9987	1.0000e-005	0.0000	1.9990
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	0.0000	0.0000	0.0000	0.0000	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	**5.0000e-004**	**7.5500e-003**	**5.2100e-003**	**2.0000e-005**	**5.1000e-004**	**1.0000e-004**	**6.1000e-004**	**1.4000e-004**	**9.0000e-005**	**2.3000e-004**	**0.0000**	**1.9987**	**1.9987**	**1.0000e-005**	**0.0000**	**1.9990**

3.13 Telecom - Duct Bank and Vault Installation - 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	5.9000e-004	0.0135	0.0182	2.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528
Total	**5.9000e-004**	**0.0135**	**0.0182**	**2.0000e-005**		**9.5000e-004**	**9.5000e-004**		**9.5000e-004**	**9.5000e-004**	**0.0000**	**2.2384**	**2.2384**	**6.9000e-004**	**0.0000**	**2.2528**

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	5.0000e-004	7.5500e-003	5.2100e-003	2.0000e-005	5.1000e-004	1.0000e-004	6.1000e-004	1.4000e-004	9.0000e-005	2.3000e-004	0.0000	1.9987	1.9987	1.0000e-005	0.0000	1.9990
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	0.0000	0.0000	0.0000	0.0000	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	**5.0000e-004**	**7.5500e-003**	**5.2100e-003**	**2.0000e-005**	**5.1000e-004**	**1.0000e-004**	**6.1000e-004**	**1.4000e-004**	**9.0000e-005**	**2.3000e-004**	**0.0000**	**1.9987**	**1.9987**	**1.0000e-005**	**0.0000**	**1.9990**

3.14 12 kV - Cable Installation and Cutover - 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	6.1800e-003	0.0679	0.0412	6.0000e-005		3.5900e-003	3.5900e-003		3.3000e-003	3.3000e-003	0.0000	5.5564	5.5564	1.7000e-003	0.0000	5.5921
Total	**6.1800e-003**	**0.0679**	**0.0412**	**6.0000e-005**		**3.5900e-003**	**3.5900e-003**		**3.3000e-003**	**3.3000e-003**	**0.0000**	**5.5564**	**5.5564**	**1.7000e-003**	**0.0000**	**5.5921**

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	2.7200e-003	0.0402	0.0243	1.2000e-004	3.6400e-003	6.8000e-004	4.3100e-003	1.0400e-003	6.2000e-004	1.6600e-003	0.0000	11.2154	11.2154	8.0000e-005	0.0000	11.2170
Worker	2.9700e-003	7.1600e-003	0.0643	1.8000e-004	0.0152	1.0000e-004	0.0153	4.0300e-003	9.0000e-005	4.1300e-003	0.0000	13.3551	13.3551	6.5000e-004	0.0000	13.3688
Total	**5.6900e-003**	**0.0473**	**0.0886**	**3.0000e-004**	**0.0188**	**7.8000e-004**	**0.0196**	**5.0700e-003**	**7.1000e-004**	**5.7900e-003**	**0.0000**	**24.5705**	**24.5705**	**7.3000e-004**	**0.0000**	**24.5857**

3.14 12 kV - Cable Installation and Cutover - 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	1.4800e-003	0.0287	0.0457	6.0000e-005		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	5.5564	5.5564	1.7000e-003	0.0000	5.5921
Total	**1.4800e-003**	**0.0287**	**0.0457**	**6.0000e-005**		**1.3800e-003**	**1.3800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**5.5564**	**5.5564**	**1.7000e-003**	**0.0000**	**5.5921**

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	2.7200e-003	0.0402	0.0243	1.2000e-004	3.6400e-003	6.8000e-004	4.3100e-003	1.0400e-003	6.2000e-004	1.6600e-003	0.0000	11.2154	11.2154	8.0000e-005	0.0000	11.2170
Worker	2.9700e-003	7.1600e-003	0.0643	1.8000e-004	0.0152	1.0000e-004	0.0153	4.0300e-003	9.0000e-005	4.1300e-003	0.0000	13.3551	13.3551	6.5000e-004	0.0000	13.3688
Total	**5.6900e-003**	**0.0473**	**0.0886**	**3.0000e-004**	**0.0188**	**7.8000e-004**	**0.0196**	**5.0700e-003**	**7.1000e-004**	**5.7900e-003**	**0.0000**	**24.5705**	**24.5705**	**7.3000e-004**	**0.0000**	**24.5857**

Vine Substation Project

Operation and Maintenance Annual GHG Emissions Estimate

Assumptions

1) Emissions are calculated for incremental O&M and SF6 leakage. Incremental water use will be minimal and is not available for indirect GHG estimate.
2) Vehicle trips are based on summation of the increase in O&M activities described in Section B.1.12.
3) Incremental SF6 quantity and leak rate from SDG&E
4) Emissions factors from The Climate Registry (TCR 2015), and GWP based on IPCC AR4 values.

EMFAC model fuel efficiency mpg

Diesel Pickup MPG	19
Diesel Truck MPG	9

(values rounded)

Annual Vehicle Trip Assumption

	Trips	EMFAC Vehicle Type
Diesel Pickup	30	LHDT1
Diesel Line Truck	20	T6
Diesel Utility Truck	260	T6

All trips @ 15 miles/round trip

Vehicle Emissions Factors

	Pickup	Truck	
CO_2	10.21	10.21	kg/gallon
CH_4	0.001	0.0015	g/mile
N_2O	0.0051	0.0048	g/mile

Vehicle Emissions Results

	Pickup	Truck		
CO_2	533.20	10,506.09	11,039.29	lbs
CH_4	0.00	0.01	0.01	lbs
N_2O	0.01	0.04	0.05	lbs
CO_2e	534.74	10,519.68	11,054.42	Total lbs
			5.0	Total Metric Tons

SF6 Leakage Emissions Calculations

Assumptions

1) 33 lbs SF6 each in 9 Circuit Breakers
2) 0.1 annual leakage Rate
3) GWP = 22,800 based on IPPC AR4

SF6 Leakage Emissions Results

CO_2e	3.1	Metric Tons